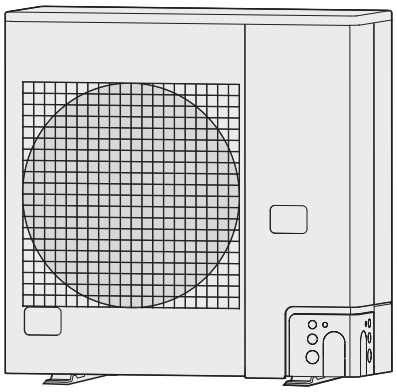
Panasonic

Order No. SBPAC1801002CE

TECHNICAL DATA

Mini VRF SYSTEM

R410A



Model No.

Outdoor Units				
Type	Outdoor Unit Type	Rated Capacity		
		4 HP	5 HP	6 HP
LE2	mini VRF System	U-4LE2E5	U-5LE2E5	U-6LE2E5
		U-4LE2E8	U-5LE2E8	U-6LE2E8

HP = horsepower

REFERENCE NO. **TD831202-00**

IMPORTANT!
Please Read Before Starting

This air conditioner must be installed by the sales dealer or installer.
This information is provided for use only by authorized persons.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- This air conditioner shall be installed in accordance with National Wiring Regulations.
- This product is intended for professional use. Permission from the power supplier is required when installing the U-4LE2E8, U-5LE2E8, U-6LE2E8 outdoor units that are connected to a 16 A distribution network.
- This equipment complies with EN/IEC 61000-3-12 provided that the short-circuit power Ssc is greater than or equal to the following table at the interface point between the user's supply and the public system. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the equipment is connected only to supply with a short-circuit power Ssc greater than or equal to the values in the table.

	U-4LE2E5	U-5LE2E5	U-6LE2E5
Ssc	3,000 kVA	4,550 kVA	4,750 kVA

- The product meets the technical requirements of EN/IEC 61000-3-3.
- Pay close attention to all warning and caution notices given in this manual.

WARNING This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

CAUTION This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

WARNING When Wiring

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death.**
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Provide a power outlet to be used exclusively for each unit.
- ELCB must be incorporated in the fixed wiring. Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations.

	U-4LE2E5	U-5LE2E5	U-6LE2E5
Circuit breaker	25 A	30 A	35 A

	U-4LE2E8	U-5LE2E8	U-6LE2E8
Circuit breaker	15 A	15 A	15 A

- Provide a power outlet exclusively for each unit, and full disconnection means having a contact separation by 3 mm in all poles must be incorporated in the fixed wiring in accordance with the wiring rules.
- To prevent possible hazards from insulation failure, the unit must be grounded.
- This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.

- When operating in emergency backup mode and switching from grid power to off-grid generator power or vice versa to provide power for the air conditioner, be sure to follow the guidelines below. Otherwise, the air conditioner may malfunction due to damage to the PCBs or other causes.
  (1) The electrical waveform of the generator must be a distortion free sine wave that is within the frequency and voltage tolerances defined by the equipment specifications.
  (2) When switching from grid power to off-grid generator power or vice versa, first reduce the supply voltage to 0V and confirm that the air conditioner has completely stopped before switching the power source.

When Transporting

- It may need two or more people to carry out the installation work.
- Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing…

Select an installation location which is rigid and strong enough to support or hold the unit, and select a location for easy maintenance.

…In a Room
Properly insulate any tubing run inside a room to prevent “sweating” that can cause dripping and water damage to walls and floors.

⚠ CAUTION Keep the fire alarm and the air outlet at least 1.5 m away from the unit.

…In Moist or Uneven Locations
Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

…In an Area with High Winds
Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

…In a Snowy Area (for Heat Pump-type Systems)
Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When Connecting Refrigerant Tubing

Pay particular attention to refrigerant leakages.

⚠ WARNING

- When performing piping work, do not mix air except for specified refrigerant (R410A) in refrigeration cycle. It causes capacity down, risk of explosion and injury due to high tension inside the refrigerant cycle.
- If the refrigerant comes in contact with a flame, it produces a toxic gas.
- Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury, etc.

- Ventilate the room immediately, in the event that is refrigerant gas leaks during the installation. Be careful not to allow contact of the refrigerant gas with a flame as this will cause the generation of toxic gas.
- Keep all tubing runs as short as possible.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

- Do not leak refrigerant while piping work for an installation or re-installation, and while repairing refrigeration parts. Handle liquid refrigerant carefully as it may cause frostbite.

When Servicing

- Turn the power OFF at the main power box (mains), wait at least 10 minutes until it is discharged, then open the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit.

WARNING

- This product must not be modified or disassembled under any circumstances. Modified or disassembled unit may cause fire, electric shock or injury.
- Do not clean inside the indoor and outdoor units by users. Engage authorized dealer or specialist for cleaning.
- In case of malfunction of this appliance, do not repair by yourself. Contact to the sales dealer or service dealer for a repair and disposal.

CAUTION

- Ventilate any enclosed areas when installing or testing the refrigeration system. Leaked refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.
- Confirm after installation that no refrigerant gas is leaking. If the gas comes in contact with a burning stove, gas water heater, electric room heater or other heat source, it can cause the generation of toxic gas.

Others

When disposal of the product, comply with national regulations.

WARNING

- Do not sit or step on the unit. You may fall down accidentally.

CAUTION

- Do not touch the air inlet or the sharp aluminum fins of the outdoor unit. You may get injured.
- Do not stick any object into the FAN CASE.
  You may be injured and the unit may be damaged.

Check of Density Limit

Check the amount of refrigerant in the system and floor space of the room according to the legislation on refrigerant drainage. If there is no applicable legislation, follow the standards described below.

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its density will not exceed a set limit.

The refrigerant (R410A), which is used in the air conditioner, is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws imposed to protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its density should rise excessively. Suffocation from leakage of refrigerant is almost non-existent. With the recent increase in the number of high density buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power, etc. Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared to conventional individual air conditioners. If a single unit of the multi air conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its density does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).
In a room where the density may exceed the limit, create an opening with adjacent rooms, or install mechanical ventilation combined with a gas leak detection device. The density is as given below.

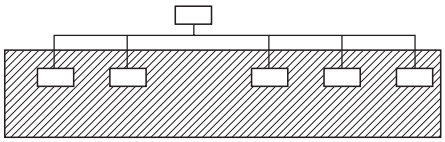
$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room (m}^3\text{)}} \leq \text{Density limit (kg/m}^3\text{)}$$

The density limit of refrigerant which is used in multi air conditioners is 0.44 kg/m^3 (ISO 5149).

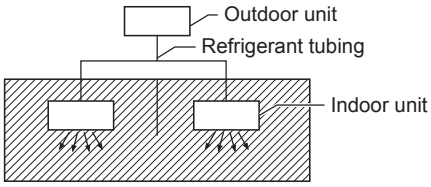
NOTE

1. The standards for minimum room volume are as follows.

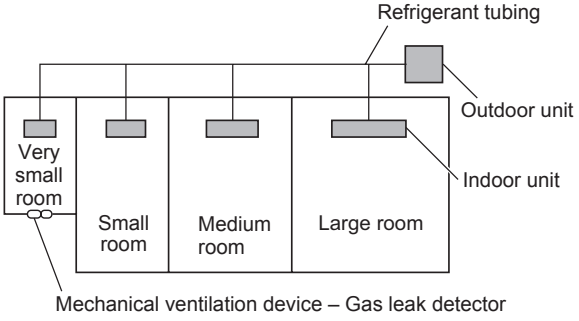
(1) No partition (shaded portion)



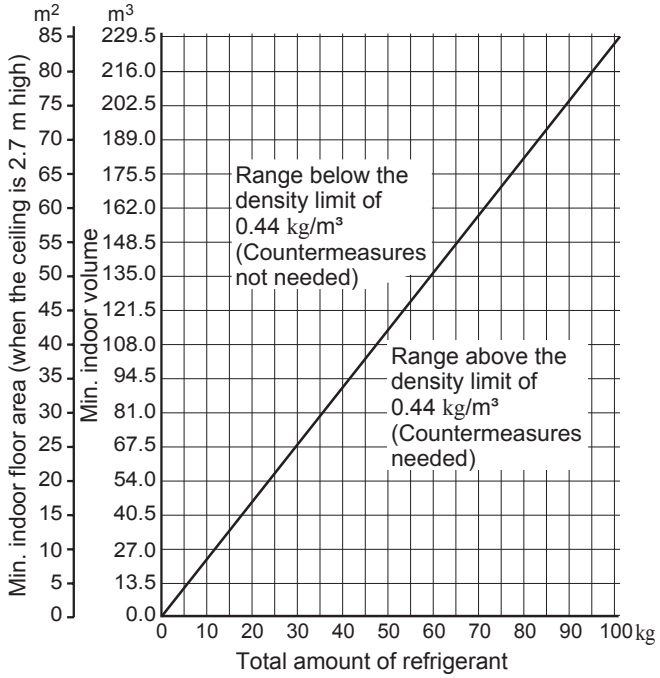
(2) When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas (opening without a door, or an opening 0.15% or larger than the respective floor spaces at the top or bottom of the door).



(3) If an indoor unit is installed in each partitioned room and the refrigerant tubing is interconnected, the smallest room of course becomes the object. But when mechanical ventilation is installed interlocked with a gas leakage detector in the smallest room where the density limit is exceeded, the volume of the next smallest room becomes the object.



2. The minimum indoor floor space compared with the amount of refrigerant is roughly as follows: (When the ceiling is 2.7 m high)



Precautions for Installation Using New Refrigerant

1. Care regarding tubing

1-1. Process tubing

- Material: Use seamless phosphorous deoxidized copper tube for refrigeration. Wall thickness shall comply with the applicable legislation. The minimal wall thickness must be in accordance with the table below.
- **Tubing size: Be sure to use the sizes indicated in the table below.**
  For the renewal tubing size, refer to the Technical Data.
- Use a tube cutter when cutting the tubing, and be sure to remove any flash. This also applies to distribution joints (optional).
- When bending tubing, use a bending radius that is 4 times the outer diameter of the tubing or larger.

⚠ **CAUTION** **Use sufficient care in handling the tubing. Seal the tubing ends with caps or tape to prevent dirt, moisture, or other foreign substances from entering. These substances can result in system malfunction.**

Unit: mm

Material		Temper - O (Soft copper tube)				
Copper tube	Outer diameter	6.35	9.52	12.7	15.88	19.05
	Wall thickness	0.8	0.8	0.8	1.0	1.2

1-2. Prevent impurities including water, dust and oxide from entering the tubing. Impurities can cause R410A refrigerant deterioration and compressor defects. Due to the features of the refrigerant and refrigerating machine oil, the prevention of water and other impurities becomes more important than ever.

2. Be sure to recharge the refrigerant only in liquid form.

2-1. Since R410A is a non-azeotrope, recharging the refrigerant in gas form can lower performance and cause defects in the unit.

2-2. Since refrigerant composition changes and performance decreases when gas leaks, collect the remaining refrigerant and recharge the required total amount of new refrigerant after fixing the leak.

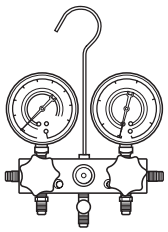
3. Different tools required

3-1. Tool specifications have been changed due to the characteristics of R410A.
Some tools for R22- and R407C-type refrigerant systems cannot be used.

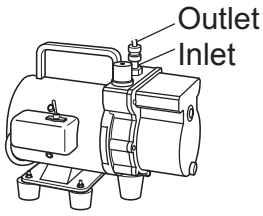
Item	New tool?	R407C tools compatible with R410A?	Remarks
Manifold gauge	Yes	No	Types of refrigerant, refrigerating machine oil, and pressure gauge are different.
Charge hose	Yes	No	To resist higher pressure, material must be changed.
Vacuum pump	Yes	Yes	Use a conventional vacuum pump if it is equipped with a check valve. If it has no check valve, purchase and attach a vacuum pump adapter.
Leak detector	Yes	No	Leak detectors for CFC and HCFC that react to chlorine do not function because R410A contains no chlorine. Leak detectors for HFC134a can be used for R410A.
Flaring oil	Yes	No	For systems that use R22, apply mineral oil (Suniso oil) to the flare nuts on the tubing to prevent refrigerant leakage. For machines that use R407C or R410A, apply synthetic oil (ether oil) to the flare nuts.

* Using tools for R22 and R407C and new tools for R410A together can cause defects.

Manifold gauge

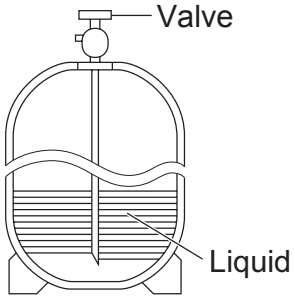


Vacuum pump



3-2. Use R410A exclusive cylinder only.

Single-outlet valve
(with siphon tube)
Liquid refrigerant should be recharged with the cylinder standing on end as shown.



Important Information Regarding The Refrigerant Used

This product contains fluorinated greenhouse gases. Do not vent gases into the atmosphere.

Refrigerant type: R410A

GWP[(1)] value: 2088

[(1)]GWP = global warming potential

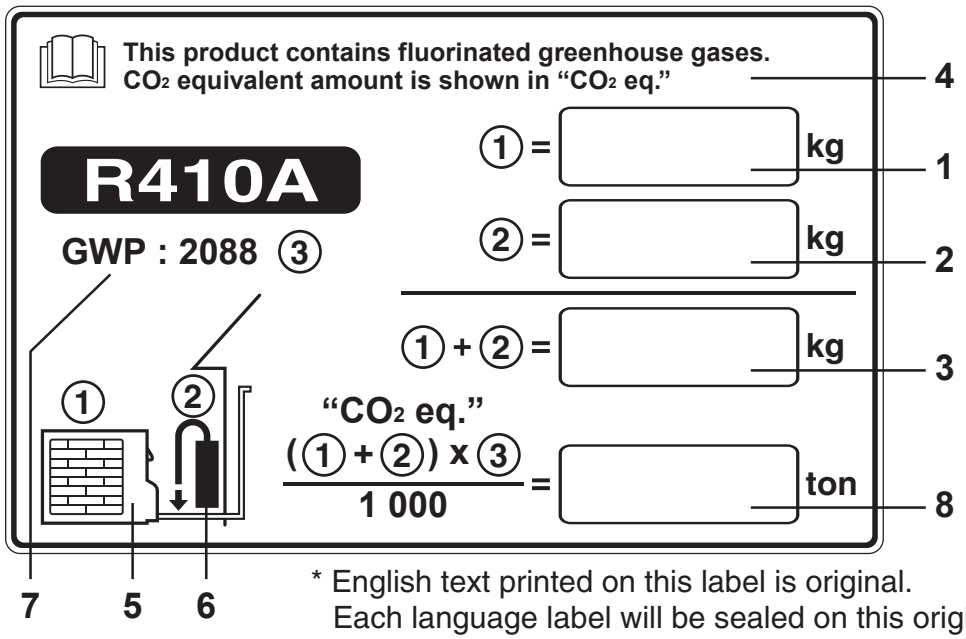
Periodical inspections for refrigerant leaks may be required depending on European or local legislation.
Please contact your local dealer for more information.

Please fill in with indelible ink,

- ①: the factory refrigerant charge of the product
- ②: the additional refrigerant amount charged in the field
- ① + ②: the total refrigerant charge
- (① + ②) x ③/1000: CO_2 equivalent in tons; multiply the total refrigerant charge by GWP value, then divided by 1000.

on the refrigerant charge label supplied with the product.

The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the service cover).



* English text printed on this label is original.
Each language label will be sealed on this original text.

1. Factory refrigerant charge of the product: see unit name plate
2. Additional refrigerant amount charged in the field*
3. Total refrigerant charge
4. Contains fluorinated greenhouse gases
5. Outdoor unit
6. Refrigerant cylinder and manifold for charging
7. GWP(global warming potential) of the refrigerant used in this product
8. CO_2 equivalent of fluorinated greenhouse gases contained in this product

* See the section 2 "Additional Refrigerant Charge" on page 2-7.

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1. Line-up

Outdoor Units

Type	Outdoor Unit Type	Rated Capacity		
		4 HP	5 HP	6 HP
LE2	mini VRF System	U-4LE2E5	U-5LE2E5	U-6LE2E5
		U-4LE2E8	U-5LE2E8	U-6LE2E8

HP = horsepower

Connecting Indoor Units

Indoor Units

Type	Indoor Unit Type	Rated Capacity						
		15	22	28	36	45	56	60
D1	1-Way Cassette			S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	
L1	2-Way Cassette		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	
U2	4-Way Cassette		S-22MU2E5A	S-28MU2E5A	S-36MU2E5A	S-45MU2E5A	S-56MU2E5A	S-60MU2E5A
Y2	4-Way Cassette 60 × 60	S-15MY2E5A	S-22MY2E5A	S-28MY2E5A	S-36MY2E5A	S-45MY2E5A	S-56MY2E5A	
K2	Wall-Mounted	S-15MK2E5A	S-22MK2E5A	S-28MK2E5A	S-36MK2E5A	S-45MK2E5A	S-56MK2E5A	
T2	Ceiling				S-36MT2E5A	S-45MT2E5A	S-56MT2E5A	
F2	Low Silhouette Ducted	S-15MF2E5A	S-22MF2E5A	S-28MF2E5A	S-36MF2E5A	S-45MF2E5A	S-56MF2E5A	S-60MF2E5A
M1	Slim Low Static Ducted	S-15MM1E5A	S-22MM1E5A	S-28MM1E5A	S-36MM1E5A	S-45MM1E5A	S-56MM1E5A	
P1	Floor Standing		S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	
R1	Concealed Floor Standing		S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	

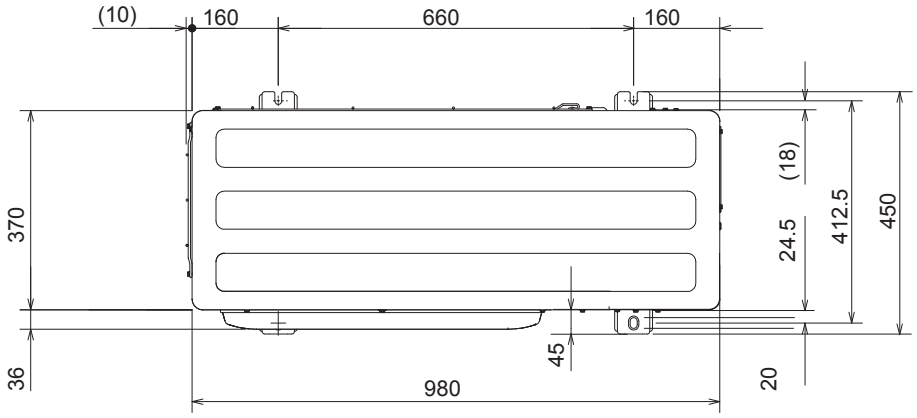
Type	Indoor Unit Type	Rated Capacity				
		71 / 73	90	106	140	160
D1	1-Way Cassette	S-73MD1E5				
L1	2-Way Cassette	S-73ML1E5				
U2	4-Way Cassette	S-73MU2E5A	S-90MU2E5A	S-106MU2E5A	S-140MU2E5A	S-160MU2E5A
K2	Wall-Mounted	S-73MK2E5A		S-106MK2E5A		
T2	Ceiling	S-73MT2E5A		S-106MT2E5A	S-140MT2E5A	
F2	Low Silhouette Ducted	S-73MF2E5A	S-90MF2E5A	S-106MF2E5A	S-140MF2E5A	S-160MF2E5A
P1	Floor Standing	S-71MP1E5				
R1	Concealed Floor Standing	S-71MR1E5				

1. Line-up

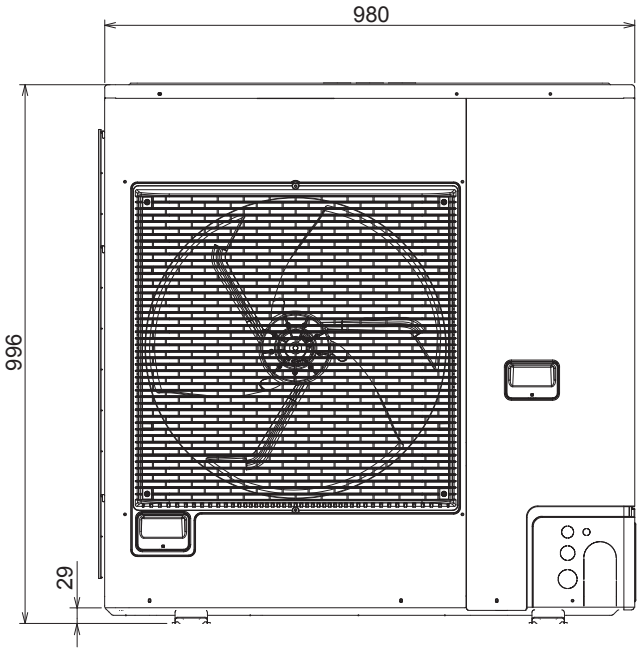
Outdoor units

Model	U-4LE2E5 U-4LE2E8	U-5LE2E5 U-5LE2E8	U-6LE2E5 U-6LE2E8
Capacity: kW Cooling / Heating	12.1 / 12.5	14.0 / 16.0	15.5 / 16.5

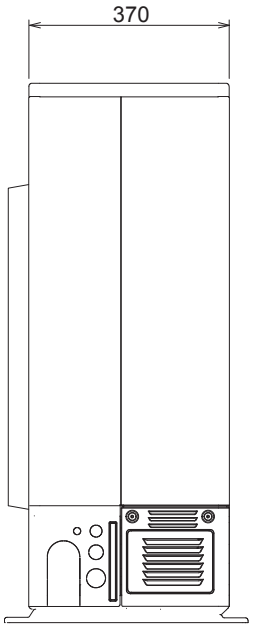
unit: mm



Top view



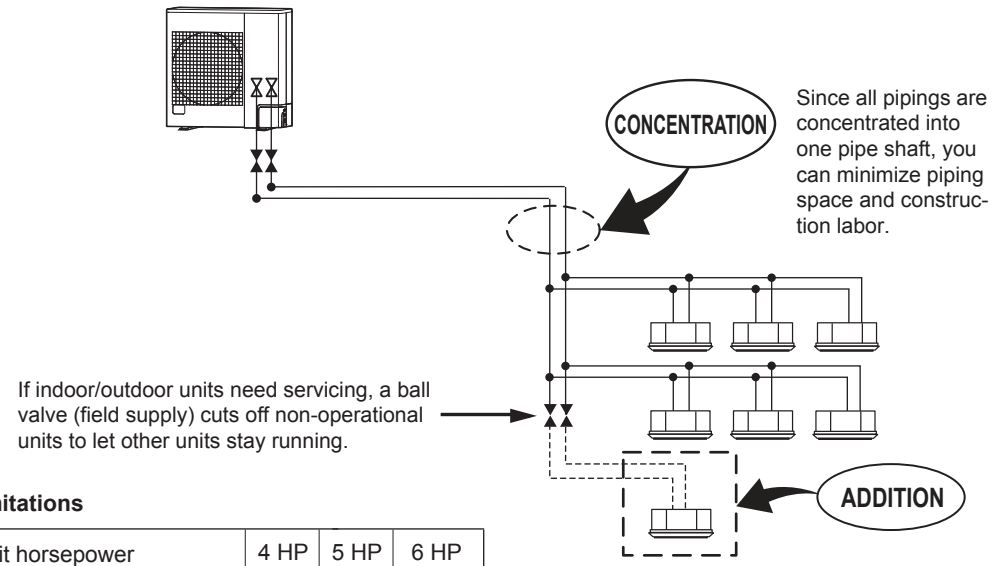
Front view



Side view

2. Features of Mini VRF SYSTEM

■ Outline of Mini VRF SYSTEM



■ System limitations

Outdoor unit horsepower	4 HP	5 HP	6 HP
Number of max. connectable indoor units	7 (10)	8 (12)	9 (12)
Max. allowable indoor/outdoor capacity ratio	50-130%		

Note : The numbers in parenthesis available with the capacity of 1.5 kW indoor unit connection.

If your indoor capacity load changes in the future, it's easy to add on indoor units using the same pipings.

* If the additional installment of indoor units are expected, the size of refrigerant piping should be decided according to the total capacity after the addition.

■ Capacity control

Realization of smooth capacity control from 0.5 to 4HP or 5HP, or 0.5 to 6HP

Capacity control is possible smoothly with a DC inverter compressor.

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8-1. Dimensions of Air-discharge Chamber 2-52
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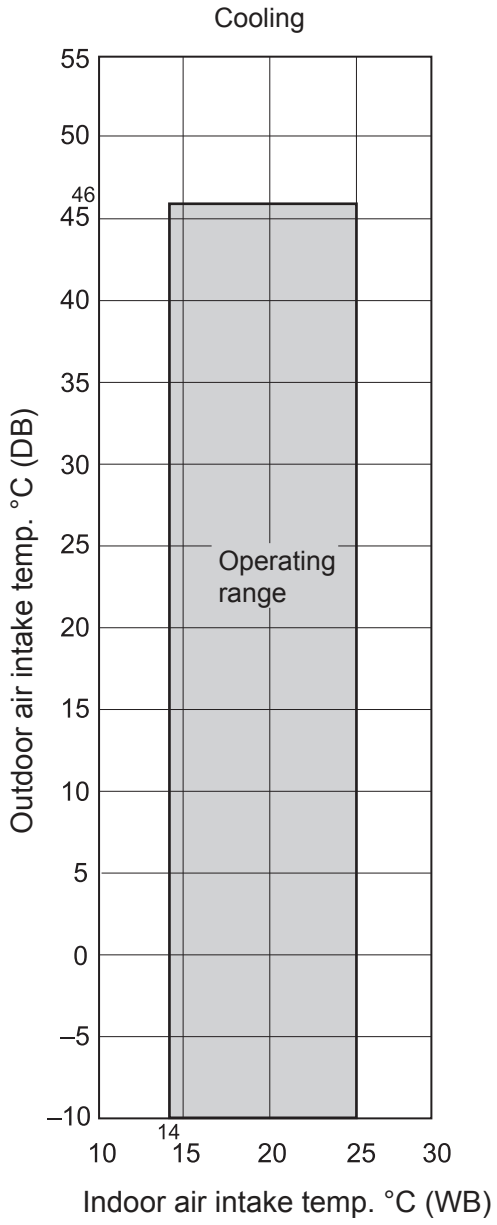
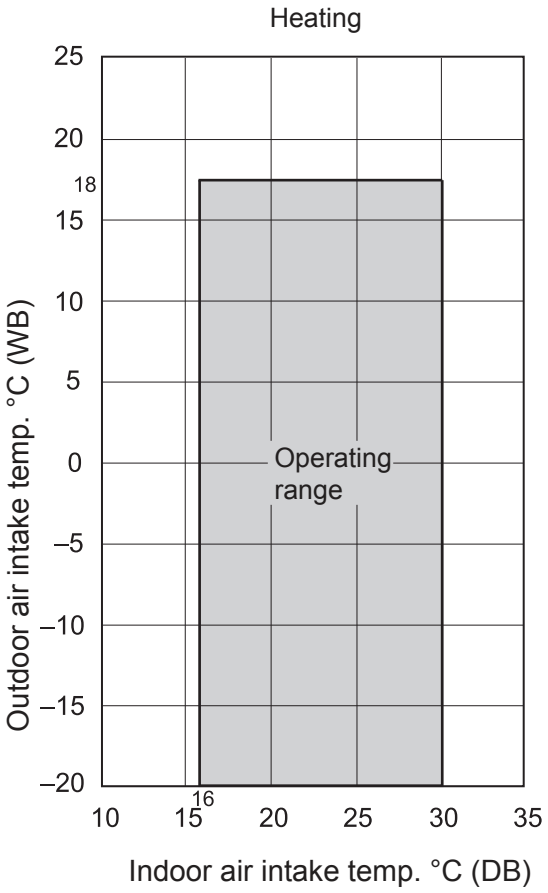
1. Model Selection and Capacity Calculator

1-1. Operating Range





1. Model Selection and Capacity Calculator

1-2. Procedure for Selecting Models and Calculating Capacity

■ Model Selection Procedure

Select the model and calculate the capacity for each refrigerant system according to the procedure shown below.

Calculation of the indoor air-conditioning load
- Calculate the maximum air-conditioning load for each room or zone.

↓

Selection of an air conditioning system
- Select the ideal air conditioning system for air conditioning of each room or zone.

↓

Design of the control system
- Design a suitable control system for the selected air conditioning system.

↓

Preliminary selection of indoor and outdoor units
- Make preliminary selections that are within the allowable range for the system. ..... 2-4 ~ 2-9

↓

Check of the tubing length and elevation difference
- Check that the length of refrigerant tubing and the elevation difference are within the allowable ranges..... 2-4

↓

Calculation of actual capacity of indoor units

1. Outdoor unit capacity correction 2-11
   - Capacity correction for the outdoor unit temperature conditions, indoor unit temperature and indoor/ outdoor ratio.
   - Capacity correction coefficient for outdoor unit tubing length and elevation difference.
   - Surplus capacity correction coefficient for outdoor unit temperature conditions.
   - Capacity correction coefficient for outdoor unit frosting and defrosting during heating operation.
2. Indoor unit capacity correction 2-12
   - Capacity correction for the indoor unit temperature conditions.
   - Calculate the Capacity distribution ratio.
   - Distribute the outdoor unit capacity among each indoor unit.
   - Capacity correction coefficient for tubing length and elevation difference.
   - Capacity correction coefficient for outdoor unit.

↓

Recheck of actual capacity of each indoor unit
- If the capacity is inadequate, reexamine the unit combinations.
  Example 1 : Increasing the indoor unit capacity
  Example 2 : Increasing the outdoor unit capacity

↓

Design of tubing
- Create a tubing design which minimizes the amount of additional refrigerant charge as much as possible. ..... 2-4 ~ 2-9
- If tubing extension for additional unit is expected in the future, create the tubing design with adequate consideration for this extension.
- Select the tubing size for the main tube (LA) up to the 1st distribution joint based on the rated cooling capacity of the outdoor unit. Select tubing sizes after the distribution point based on the total rated cooling capacity of the connected indoor units.

↓

Calculation of additional refrigerant charge amount
- Calculate the additional refrigerant charge from the diameters and lengths of the refrigerant tubing. Even if the wide tubing diameter was increased, determine the additional refrigerant charge based only on the narrow tubing size. 2-7, 2-9
- Check the minimum indoor unit capacity (limit density) with respect to the amount of refrigerant. If the limit density is exceeded, be sure to install ventilation equipment or take other corrective steps. 2-10

↓

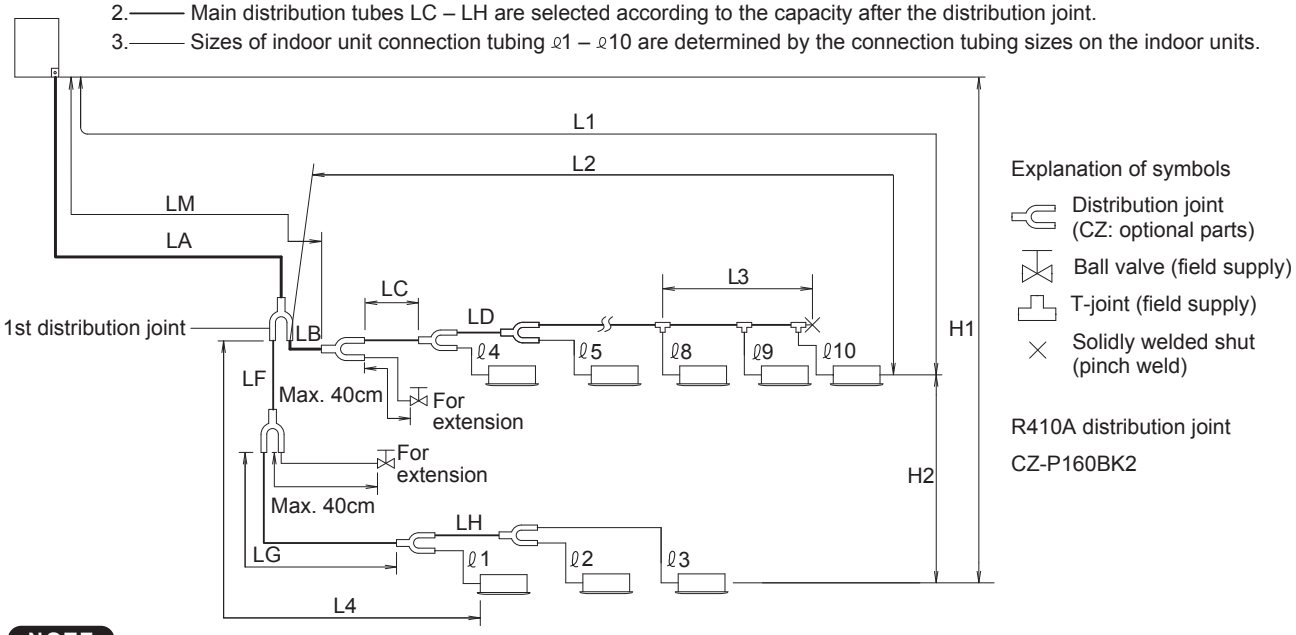
Design of electrical wiring capacity
- Select a wiring capacity according to the method of power supply. 2-20

1. Model Selection and Capacity Calculator

1-3. Tubing Length

Select the installation location so that the length and size of refrigerant tubing are within the allowable range shown in the figure below.

1.—— Main tubing length (maximum tubing size) LM = LA + LB …
2.—— Main distribution tubes LC – LH are selected according to the capacity after the distribution joint.
3.—— Sizes of indoor unit connection tubing ℓ1 – ℓ10 are determined by the connection tubing sizes on the indoor units.



NOTE

* Be sure to use special R410A distribution joints (CZ: optional parts) for tubing branches.

Table 2-1 : Ranges that Apply to Refrigerant Tubing Lengths and to Differences in Installation Heights Unit: m

Item	Mark	Contents		Length
Allowable tubing length	L1	Max. tubing length	Actual length	≤ 150
			Equivalent length	≤ 175
	ΔL (L2 – L4)	Difference between max. length and min. length from the 1st distribution joint		≤ 50*1
	LM	Max. length of main tubing (at maximum size) * Even after 1st distribution joint, LM is allowed if at maximum tubing length.		—
	ℓ1, ℓ2~ ℓ10	Max. length of each distribution tube		≤ 50*2
	L1 + ℓ1 + ℓ2~ℓ9 + LF + LG + LH	Total max. tubing length including length of each distribution tube (only liquid tubing)		≤ 180
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit		≤ 50
		When outdoor unit is installed lower than indoor unit		≤ 40
	H2	Max. difference between indoor units		≤ 15
Allowable length of joint tubing	L3	T-joint tubing (field-supply); Max. tubing length between the first T-joint and solidly welded-shut end point		≤ 2

L = Length H = Height

NOTE

*1: If the tubing length exceeds 40 m, some parts of both the liquid and gas tubes should be increased by 1 rank. There is the possibility that these sizes of tubes will be 1 rank larger than main tubes. Refer to the Technical Data for the details.

*2: If any of the tubing length exceeds 30m, increase the size of both the liquid and gas tubes by 1 rank. If the size is larger than the main tubing size, it is not necessary to further increase the size.

* If the total amount of refrigerant for the system exceeds 14.4 kg, change the length of the tubing to reduce the amount of refrigerant.

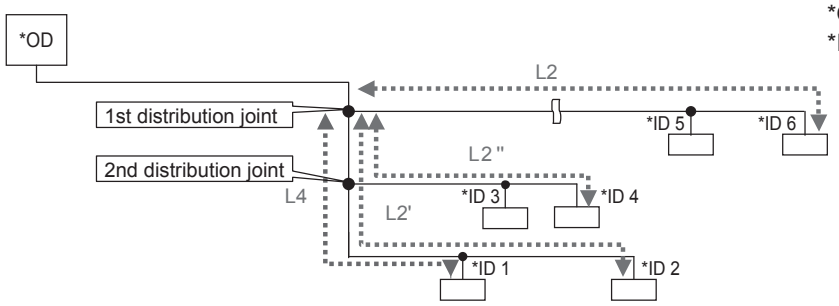
1. Model Selection and Capacity Calculator

■ Refrigerant Pipe

Tubing size increase [Difference △L from the first distribution joint between maximum and minimum length]

If the △L exceeds 40m, it is necessary to increase both the liquid and gas tubes by one size. Follow the steps below to increase the size.

*OD is the abbreviation of outdoor unit.
*ID is the abbreviation of indoor unit.



1. Check the combined indoor units which the △L exceeds 40m.
   Calculate the △L of each combined indoor unit after 1st distribution joint (L2 {L2', L2" ....} -L4).
   The L2 (L2 {L2', L2" ....}) indicates the pipe length connected to the farthest indoor unit among each combined indoor unit from 1st distribution joint. The L4 indicates the pipe length connected from the 1st distribution joint to the nearest indoor unit among all connected indoor units to the system. If the calculated △L exceeds 40m, it is necessary to increase by one size of both the liquid and gas tubes. Follow the steps to increase the size.
2. Check the total capacity of each combined indoor unit system.
   Calculate the total capacity of indoor units from the 1st distribution joint.
   Example: L2": Total capacity of indoor unit 3 and 4
3. Check the portion for increasing the pipe size and length.
   Portion to increase the pipe by one size: Increase the pipe size to be directed towards the indoor units from the 1st distribution joint against the indoor unit which the △L exceeds 40m. Pipe length for sizing up: Pipe length becomes different according to the total capacity of indoor units.

Total capacity of indoor units and pipe length for sizing up

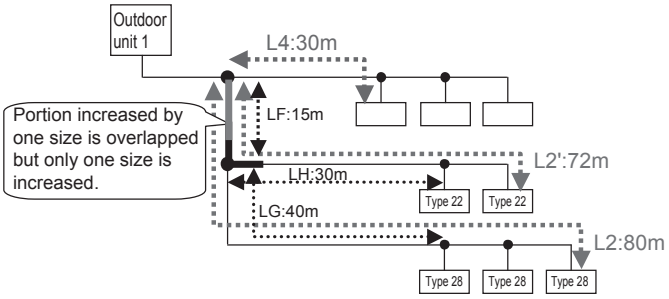
Total capacity of combined indoor units	Length for sizing up
Less than 22.4kW	12m

* The larger the total capacity, the more it is necessary to increase the pipe length for sizing up.
* If the range of size up portion is improper, it is available to extend the length for sizing up until the next distribution joint is reached.

NOTE:
1. Be sure to use the reducer (field supply) at joint portion between the original pipe and the pipe increased by one size.
2. If there is the necessity to increase by one size from the original pipe size, there can be only one time effective to increase by one size even though the portion for sizing up is overlapped.
3. It may sometimes happen that the diameter of pipe when sized up becomes wider than that of the main pipe LA.

1. Model Selection and Capacity Calculator

Example 1



1. Check the portion for one size increase.

	ΔL	Total capacity of indoor units	Length for sizing up
L2 system	50m	8.4kW	12m
L2' system	42m	4.4kW	12m

L2 combined indoor units

Increase the gas and liquid tubes 12m by one size from the 1st distribution joint to be directed towards L2 indoor units.

LF: Increase 12m by one size among 15m.

LG: No increase by one size.

L2' combined indoor units

Increase the gas and liquid tubes 12m by one size from the 1st distribution joint to be directed towards L2' indoor units.

LF: Increase 12m by one size among 15m.

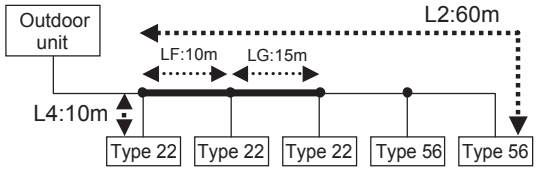
LH: No increase by one size.

2. Final result

	Before sizing up	After sizing up	Tube length	Size up length
LF	ø 9.52 / ø 15.88	ø 12.7 / ø 19.05	15m	12m
LG	ø 9.52 / ø 15.88	No size up	40m	0m
LH	ø 9.52 / ø 15.88	No size up	30m	0m

* The size increased portion is overlapped at the LF but it has only one size increase.

Example 2



1. Checking the portion for one size increase

	Δ L	Total capacity of indoor units	Length for sizing up
L2 system	50m	17.8kW	12m

- L2 combined indoor units

Increase the gas and liquid tubes 12m by one size from the 1st distribution joint to be directed towards L2 indoor units.

LF: Increase 12m by one size.

LG: Increase 2m by one size among 15m.

2. Final result

	Before sizing up	After sizing up	Tube length	Size up length
LF	ø 9.52 / ø 15.88	ø 12.7 / ø 19.05	10m	10m
LG	ø 9.52 / ø 15.88	ø 12.7 / ø 19.05	15m	2m

* The LG is only 2m from the 2nd distribution joint.LG

* It is possible to increase the LG to 10m by one size.

1. Model Selection and Capacity Calculator

Additional Refrigerant Charge

Additional refrigerant charge amount is calculated below.

• Total tubing length ≤ 50 m

No additional charge will be necessary.

• Total tubing length > 50 m

Required amount of additional refrigerant charge = [(Amount of additional refrigerant charge per meter of each size of liquid tube × its tube length) + (...) - 2,800]

In the case of the required amount of additional refrigerant charge < 0, the additional refrigerant charge should be 0 kg.

Table 2-2 : Amount of Additional Refrigerant Charge Per Meter, According to Liquid Tubing Size

Liquid tubing size (mm)	6.35	9.52	12.7
Amount of additional refrigerant charge / m (g/m)	26	56	128

Table 2-3 : Refrigerant Charge Amount at Shipment (for Outdoor Unit)

4 HP	5 HP	6 HP
6.7 kg		

System Limitations

Table 2-4 : System Limitations

Outdoor unit horsepower	4 HP	5 HP	6 HP
Number of max. connectable indoor units	7 (10)	8 (12)	9 (12)
Max. allowable indoor/outdoor capacity ratio	50-130%		

Note : The numbers in parenthesis are available with the capacity of 1.5 kW indoor unit connection.

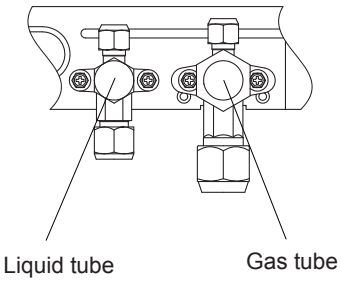
1. Model Selection and Capacity Calculator

1-4. Tubing Size

Table 2-5 : Main Tubing Size (LA)

Unit: mm

Outdoor unit horsepower	4 HP	5 HP	6 HP
Gas tube	ø15.88		
	Flare connection		
Liquid tube	ø9.52		
	Flare connection		



* The refrigerant tubing should be used with R410A refrigerant.

Table 2-6 : Main Tubing Size After Distribution (LB, LC...)

Unit: mm

Total capacity after distribution	Below kW	7.1 (2.5 HP)	–
	Over kW	–	7.1 (2.5 HP)
Tubing size	Gas tube	ø12.7	ø15.88
	Liquid tube	ø9.52	ø9.52

Note: In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the main tubing size for the capacity of the outdoor unit.

Table 2-7 : Indoor Unit Tubing Connection Size

Indoor unit type	**15**	**22**	**28**	**36**	**45**	**56**	**60**	**71 73**	**90**	**106**	**140**	**160**
Gas tube (mm)	ø12.7						ø15.88					
Liquid tube (mm)	ø6.35						ø9.52					

1. Model Selection and Capacity Calculator

Table 2-8 : Refrigerant Tubing Size

Tubing size (mm)	
Material Temper - O	
ø6.35	t0.8
ø9.52	t0.8
ø12.7	t0.8
ø15.88	t1.0
ø19.05	t1.2

* When bending the tubes, use a bending radius that is at least 4 times the outer diameter of the tubes.
In addition, take sufficient care to avoid crushing or damaging the tubes when bending them.

1-5. Straight Equivalent Length of Joints

Design the tubing system by referring to the following table for the straight equivalent length of joints.

Table 2-9 : Straight Equivalent Length of Joints

Gas tubing size (mm)	**12.7**	**15.88**	**19.05**
90° elbow 	0.30	0.35	0.42
45° elbow 	0.23	0.26	0.32
U-shape tube bent (R60-100 mm) 	0.90	1.05	1.26
Trap bend 	2.30	2.80	3.20
Y-branch distribution joint 	Equivalent length conversion not needed.		
Ball valve for service	Equivalent length conversion not needed.		

2

1. Model Selection and Capacity Calculator

■ Check of limit density

WARNING **Always check the gas density limit for the room in which the unit is installed.**

1-6. Check of Limit Density

When installing an air conditioner in a room, it is necessary to ensure that even if the refrigerant gas accidentally leaks out, its density does not exceed the limit level for that room.
If the density could exceed the limit level, it is necessary to provide an opening between the unit and the adjacent room, or to install mechanical ventilation which is interlocked with a leak detector.

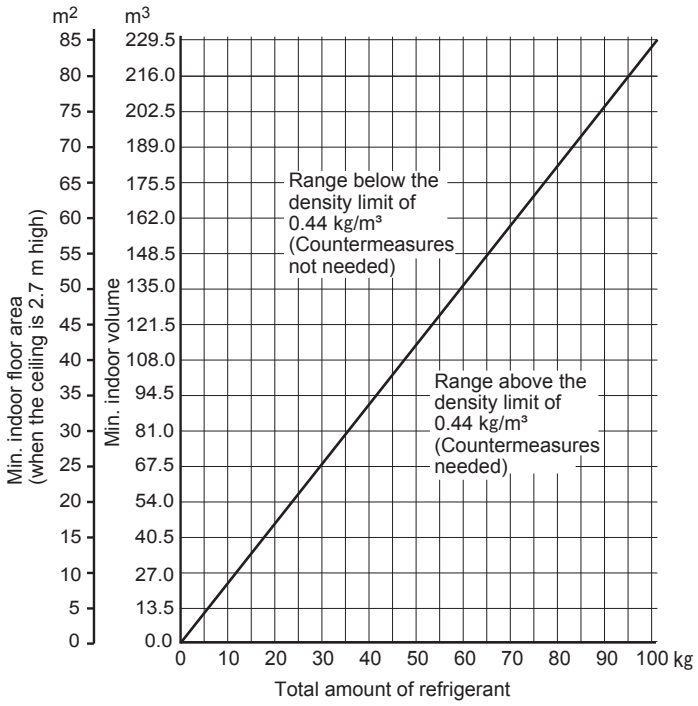
(Total refrigerant charged amount: kg)

(Min. indoor volume where the indoor unit is installed: m³)

≤ Limit density 0.44 (kg/m³)

The limit density of refrigerant R410A which is used in this unit is 0.44 kg/m³ (ISO 5149).
The shipped outdoor unit comes charged with the amount of refrigerant fixed for each type, so add it to the amount that is charged in the field. (For the refrigerant charge amount at shipment, refer to the unit's nameplate.)

Minimum indoor volume & floor area as against the amount of refrigerant is roughly as given in the following figure.



CAUTION **Pay special attention to any location, such as a basement, etc., where leaking refrigerant can accumulate, since refrigerant gas is heavier than air.**

2

1. Model Selection and Capacity Calculator

1-7. Calculation of Actual Capacity of Indoor Unit

■ Calculating the actual capacity of each indoor unit

Because the capacity of a multi air-conditioner changes according to the temperature conditions, tubing length, elevation difference and other factors, select the correct model after taking into account the various correction values. When selecting the model, calculate the corrected capacities of the outdoor unit and each indoor unit.
Use the corrected outdoor unit capacity and the total corrected capacity of all the indoor units to calculate the actual final capacity of each indoor unit.

1. Outdoor unit capacity correction

Outdoor unit capacity correction (kW) = (A) × (B) × (C) × (D)

(A) Capacity correction for the outdoor unit temperature conditions, indoor unit temperature and indoor/ outdoor ratio (kW)

Read the capacity correction for outdoor unit temperature, indoor unit temperature and indoor/ outdoor ratio as shown in the section “8. CAPACITY TABLE”, “1. Capacity of Outdoor Unit” and “2. Cooling Capacity of Indoor Unit”.

* Indoor unit temperature is indoor unit rated capacity - weighted average temperature.

Example

Cooling operation

No.	(a) Rated capacity	(b) Intake temperature	(a) × (b)
1	2.2 kW	19 WB	41.8
2	2.8 kW	18 WB	50.4
3	3.6 kW	17 WB	61.2
4	4.5 kW	16 WB	72.0

Rated capacity-weighted average temperature = $\frac{\sum((a)\times(b))}{\sum(a)}$ = 17.2WB

* The indoor/ outdoor ratio should be selected according to the real rated capacity.

Example

There are 4 indoor units for class 22, 28, 36, 45 and the outdoor unit HP is 6 (15.5kW in the cooling-mode, 16.5kW in the heating-mode).

No.	Rated cooling capacity	Rated heating capacity
1	2.2 kW	2.5 kW
2	2.8 kW	3.2 kW
3	3.6 kW	4.5 kW
4	4.5 kW	5.0 kW
Total	13.1 kW	15.2 kW
I/O ratio	84.5%	90.3 %

(B) Capacity correction coefficient for outdoor unit tubing length and elevation difference (%)

From the graph of capacity change characteristics resulting from tubing length and elevation difference on page “ 2-14 ”, read the capacity correction coefficient.

* Use the lowest capacity changing ratio. Usually, the furthest and highest or the lowest indoor unit is used.

(C) Surplus capacity correction coefficient for outdoor unit temperature conditions (%)

From the graph of surplus capacity characteristics resulting from outdoor temperature on page “ 2-13 ”, read the capacity correction coefficient.

(D) Capacity correction coefficient for outdoor unit frosting and defrosting during heating operation (%)

From the outdoor unit heating capacity correction coefficient during frosting / defrosting on page “ 2-13 ”, read the capacity correction coefficient.

1. Model Selection and Capacity Calculator

2. Indoor unit capacity correction coefficient

Indoor unit capacity correction (kW) = (G) × (I) × (D)

* Indoor unit capacity correction ≤ (G)

(E) Capacity correction for the indoor unit temperature conditions (kW)

From the graph of indoor unit capacity characteristics on page " 2-14 ", read the capacity correction coefficient for indoor unit temperature conditions.

(E) = Capacity correction coefficient for indoor unit temperature conditions × Rated capacity

(F) Calculate the Capacity distribution ratio (%)

$$(F) = \frac{(E)}{\sum(E)}$$

(G) Distribute the outdoor unit capacity among each indoor unit (kW)

(G) = (A) × (F)

(H) Capacity correction coefficient for tubing length and elevation difference (%)

From the graph of capacity change characteristics resulting from tubing length and elevation difference on page " 2-14 ", read the capacity correction coefficient.

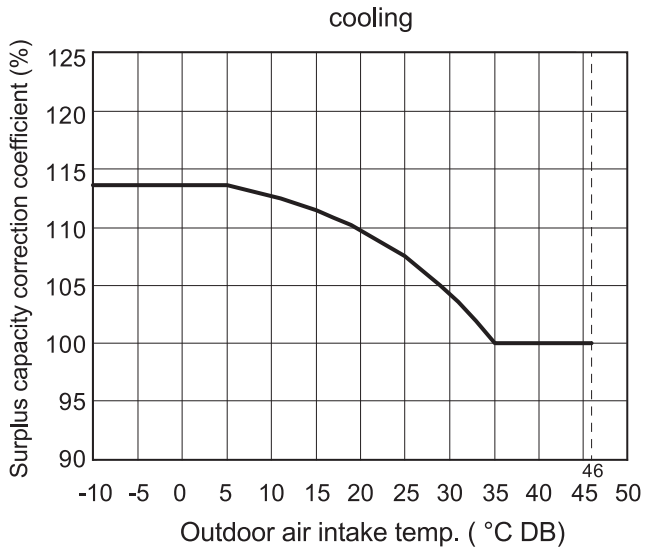
(I) Capacity correction coefficient for outdoor unit (%)

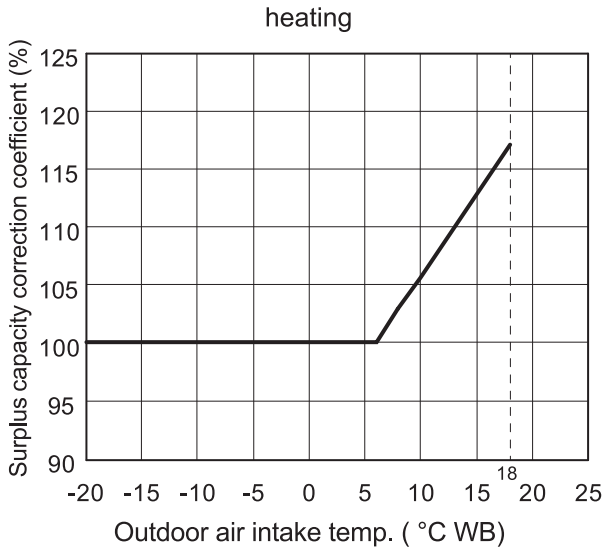
(I) = (H) × (C)

- In the case of (I) ≤ 100%, loss of capacity resulting from the tubing length can be supplied by the outdoor unit capacity.
  - When the outdoor air temperature is lower in cooling mode
  - When the outdoor air temperature is higher in heating mode

1. Model Selection and Capacity Calculator

Surplus capacity correction coefficient (%)





3. Graph of capacity correction coefficients

■ **Outdoor unit heating capacity correction coefficient during frosting/defrosting (1 – (4))**

Outdoor intake air temp. (°CWB, RH85%)	–20	–15	–10	–8	–6	–5	–4	–2	–1
Correction coefficient	0.97	0.97	0.97	0.96	0.94	0.91	0.89	0.87	0.87

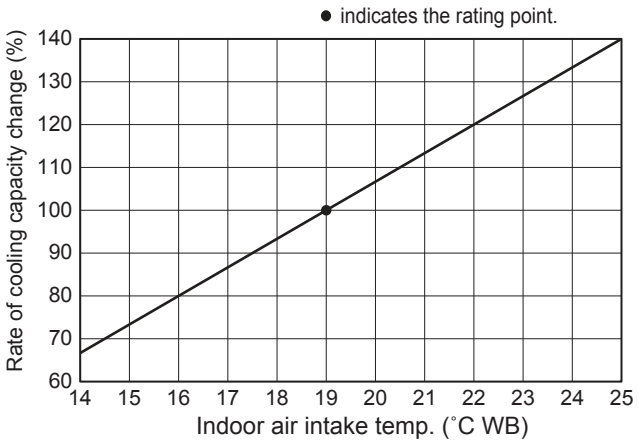
Outdoor intake air temp. (°CWB, RH85%)	0	1	2	3	4	5	6
Correction coefficient	0.87	0.88	0.89	0.91	0.92	0.95	1.0

* To calculate the heating capacity with consideration for frosting/defrosting operation, multiply the heating capacity found from the capacity graph by the correction coefficient from the table above.

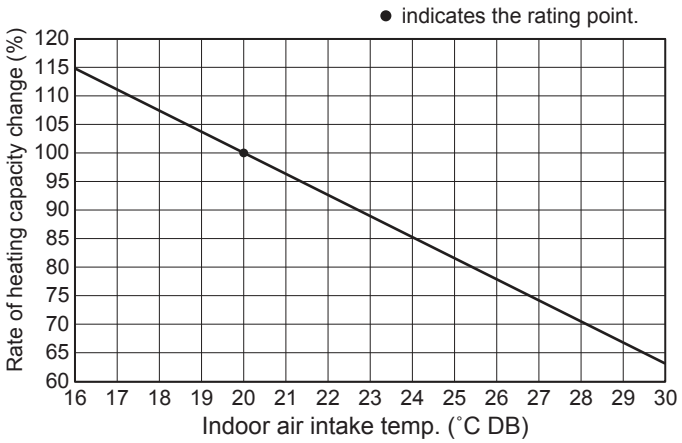
1. Model Selection and Capacity Calculator

■ Graph of indoor unit capacity characteristics (2 – (2))

Indoor unit cooling capacity characteristics



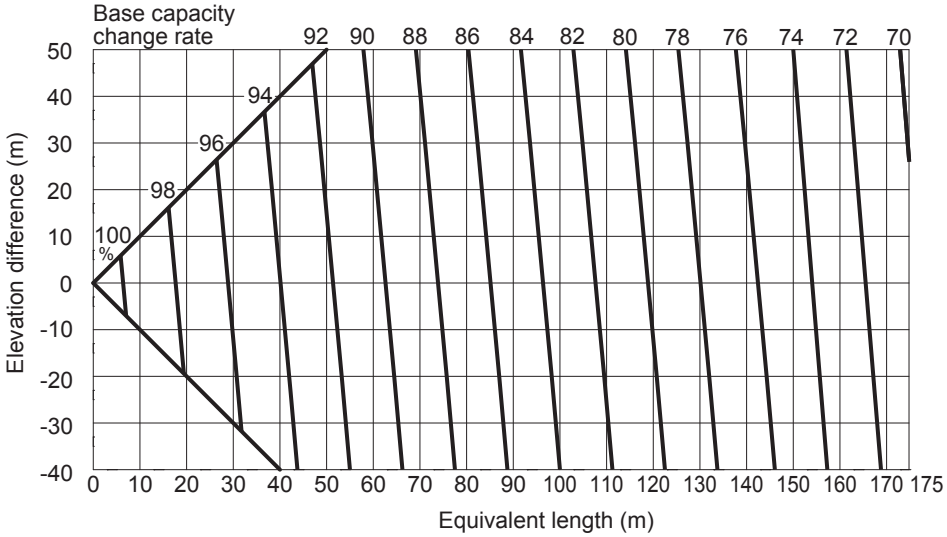
Indoor unit heating capacity characteristics



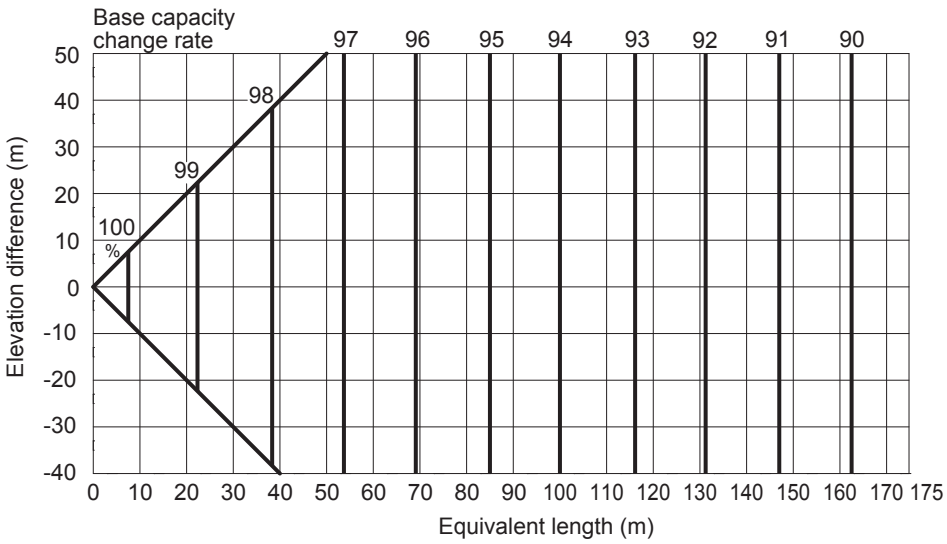
■ Graph of capacity change characteristics resulting from tubing length and elevation difference (1 / 2 – (3))

(Performance correction coefficients by elevation difference of refrigerant tube length [performance change rate ÷ 100] is calculated by the following line map.)

<Cooling>



<Heating>

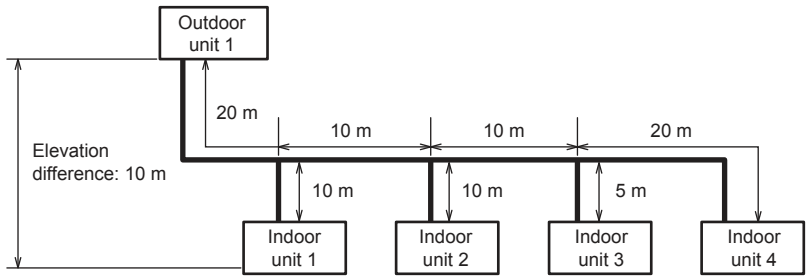


*The positive side for the elevation difference indicates that the outdoor unit is installed at a higher position than the indoor units. The negative side indicates the opposite.

2. System Design

2-1. System Example

Below are the tables created using the “PAC System Diagram Software”.



Selection conditions

Assume that installation is in a 50 Hz region.

		Outdoor unit	Room1 (indoor unit 1)	Room2 (indoor unit 2)	Room3 (indoor unit 3)	Room4 (indoor unit 4)
Cooling	Air condition (DB / WB)	34.0 / 22.0	28.0 / 20.0	28.0 / 20.0	28.0 / 20.0	28.0 / 20.0
	Max. load (kW)	-	4.2	2.9	2.6	2.0
Heating	Air condition (DB / WB)	3.0 / 2.0	19.0 / 13.0	19.0 / 13.0	19.0 / 13.0	19.0 / 13.0
	Max. load (kW)	-	4.1	3.2	2.4	2.4
Actual tubing length		60 m	30 m	40 m	45 m	60 m
Equivalent length		72 m	36 m	48 m	54 m	72 m

Preliminary selection

	Outdoor unit	Room1 (indoor unit 1)	Room2 (indoor unit 2)	Room3 (indoor unit 3)	Room4 (indoor unit 4)
Selected model	4 HP	Type 45	Type 28	Type 28	Type 22
Load (cooling / heating) (kW)	-	4.2 / 4.1	2.8 / 3.2	2.6 / 2.4	2.0 / 2.4
Rated capacity (cooling / heating) (kW)	12.1 / 12.5	4.5 / 5.0	2.8 / 3.2	2.8 / 3.2	2.2 / 2.5
Actual capacity (cooling / heating) (kW)	-	4.5 / 4.2	2.8 / 2.7	2.7 / 2.7	2.1 / 2.1

Calculate the actual capacity results according to the capacity calculation procedure on page"2-11" to "2-14".

	Outdoor unit	Room1 (indoor unit 1)	Room2 (indoor unit 2)	Room3 (indoor unit 3)	Room4 (indoor unit 4)
Rated capacity (cooling / heating) (kW)	12.1 / 12.5	4.5 / 5.0	2.8 / 3.2	2.8 / 3.2	2.2 / 2.5
(A) Capacity table	13.0 / 13.4	-	-	-	-
(B) Capa. Estimation Coef. : the Equiv. Tube Length	0.882 / 0.958	-	-	-	-
(C) Capa. Estimation Coef. : Temp. Conditions	-	1.010 / 1.000	1.010 / 1.000	1.010 / 1.000	1.010 / 1.000
(D) Capa. Estimation Coef. : Frosting / defrosting	- / 0.890	-	-	-	-
(E) Estimation Capacity	-	4.8 / 5.2	3.0 / 3.3	3.0 / 3.3	2.3 / 2.6
(F) Capacity distribution ratio	-	0.366 / 0.360	0.228 / 0.230	0.228 / 0.230	0.179 / 0.180
(G) = (A) x (F)	-	4.8 / 4.8	3.0 / 3.1	3.0 / 3.1	2.3 / 2.4
(H) Capa. Estimation Coef. : the Equiv. Tube Length	-	0.945 / 0.981	0.924 / 0.973	0.914 / 0.969	0.882 / 0.958
(I) = (C) x (H)	-	0.954 / 0.981	0.933 / 0.973	0.923 / 0.969	0.891 / 0.958
Actual capacity (cooling / heating) (kW)	-	4.5 / 4.2	2.8 / 2.7	2.7 / 2.7	2.1 / 2.1

Actual capacity = (G) x (I) x (D)

Indoor unit changes

Increase by one rank because the capacity of the indoor unit 2 and 4 is lower than the maximum load.
Calculating the actual capacity in the same way as Preliminary selection.

	Outdoor unit	Room1 (indoor unit 1)	Room2 (indoor unit 2)	Room3 (indoor unit 3)	Room4 (indoor unit 4)
Selected model	4 HP	Type 45	Type 36	Type 28	Type 28
Load (cooling / heating) (kW)	-	4.2 / 4.1	2.8 / 3.2	2.6 / 2.4	2.0 / 2.4
Rated capacity (cooling / heating) (kW)	12.1 / 12.5	4.5 / 5.0	3.6 / 4.2	2.8 / 3.2	2.8 / 3.2
Actual capacity (cooling / heating) (kW)	-	4.2 / 3.9	3.3 / 3.2	2.5 / 2.4	2.4 / 2.4

Outdoor unit changes

The capacity of the indoor units 1 is lower than the maximum load.
Increase the capacity of the outdoor unit by one rank because of inability to increase the indoor unit 1 by one rank.
Calculating the actual capacity in the same way as Preliminary selection.

	Outdoor unit	Room1 (indoor unit 1)	Room2 (indoor unit 2)	Room3 (indoor unit 3)	Room4 (indoor unit 4)
Selected model	5 HP	Type 45	Type 36	Type 28	Type 28
Load (cooling / heating) (kW)	-	4.2 / 4.1	2.8 / 3.2	2.6 / 2.4	2.0 / 2.4
Rated capacity (cooling / heating) (kW)	14.6 / 15.8	4.5 / 5.0	3.6 / 4.2	2.8 / 3.2	2.8 / 3.2
Actual capacity (cooling / heating) (kW)	-	4.6 / 4.4	3.6 / 3.7	2.7 / 2.8	2.6 / 2.8

For both cooling and heating in all rooms, actual capacity is now greater than or equal to the maximum load.
Selection is completed.

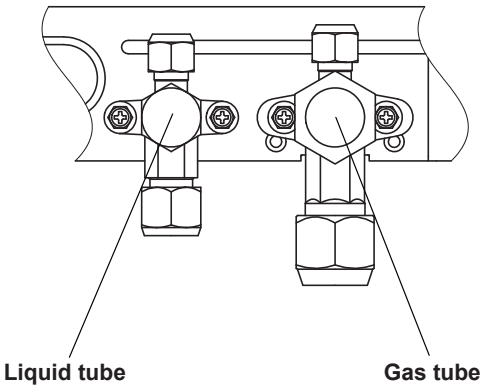
2. System Design

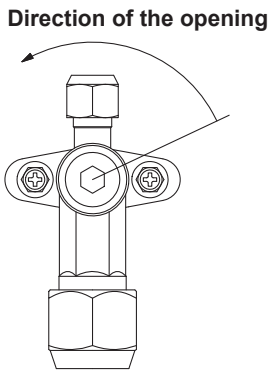
2-2. Example of Tubing Size Selection and Refrigerant Charge Amount

- Charging procedure
  Be sure to charge with R410A refrigerant **in liquid form.**
  1. After performing a vacuum, charge with refrigerant from the liquid tubing side. At this time, all valves must be in the "fully closed" position.
  2. If it was not possible to charge the designated amount, operate the system in Cooling mode while charging with refrigerant from the gas tubing side. (This is performed at the time of the test run. For this, all valves must be in the "fully open" position.)
     Charge with R410A refrigerant in liquid form.
     With R410A refrigerant, charge while adjusting the amount being fed a little at a time in order to prevent liquid refrigerant from backing up.
- After charging is completed, turn all valves to the "fully open" position.
- Replace the tubing covers as they were before.

⚠ CAUTION

1. **R410A additional charging absolutely must be done through liquid charging.**
2. **The R410A refrigerant cylinder has a gray base color, and the top part is pink.**
3. **The R410A refrigerant cylinder includes a siphon tube. Check that the siphon tube is present. (This is indicated on the label at the top of the cylinder.)**
4. **Due to differences in the refrigerant, pressure, and refrigerant oil involved in installation, it is not possible in some cases to use the same tools for R22 and for R410A.**





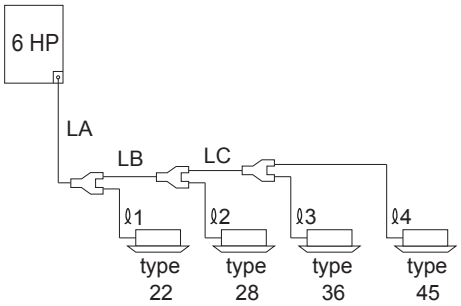
* Use a hexagonal wrench and turn to the left to open.

		Liquid tube		Gas tube	
		Size	Torque	Size	Torque
Hexagonal wrench width	4 HP	4 mm	5 – 7 N·m {50 – 70 kgf·cm}	4 mm	8 – 10 N·m {80 – 100 kgf·cm}
	5 HP	4 mm	5 – 7 N·m {50 – 70 kgf·cm}	4 mm	8 – 10 N·m {80 – 100 kgf·cm}
	6 HP	4 mm	5 – 7 N·m {50 – 70 kgf·cm}	4 mm	8 – 10 N·m {80 – 100 kgf·cm}

Open : Open the valve and rotate it counterclockwise with the hexagonal wrench until it stops.
Close : Open the valve and rotate it clockwise with the hexagonal wrench until it stops.

2. System Design

Example:



- Example of each tubing length
  At the time of shipment from the factory, this unit is charged with enough refrigerant for a tubing length of 50 m. If the tubing length used will be 50 mor less, no additional charge will be necessary.

Main tubing	**Distribution joint tubing**	
LA = 40 m	Indoor side	
LB = 15 m	ℓ1 = 25 m	ℓ3 = 20 m
LC = 10 m	ℓ2 = 15 m	ℓ4 = 30 m

Total tubing length = 155 m > 50 m

- Obtain charge amount for each tubing size
  Note that the charge amounts per 1 meter are different for each liquid tubing size.
  ø9.52 → LA + LB + LC : 65 m × 0.056 kg/m = 3.64 kg
  ø6.35 → ℓ1+ ℓ2+ ℓ3+ ℓ4 : 90 m × 0.026 kg/m = 2.34 kg
  Chargeless amount of outdoor unit -2.80 kg

  Total 3.18 kg

  Additional refrigerant charge amount is 3.18 kg.

CAUTION

Be sure to check the limit density for theroom in which the indoor unit is installed.

Checking of limit density

Density limit is determined on the basis of the size of a room using an indoor unit of minimum capacity. For instance, when an indoor unit is used in a room (floor area 8.00 m^2 × ceiling height 2.7 m = room volume 21.6 m^3), the minimum room volume should be 22.5 m^3 (9.88 kg ÷ 0.44 kg/m^3) for refrigerant of 9.88 kg (3.18 kg + 6.7 kg).
Accordingly, openings such as louvers are required for this room.

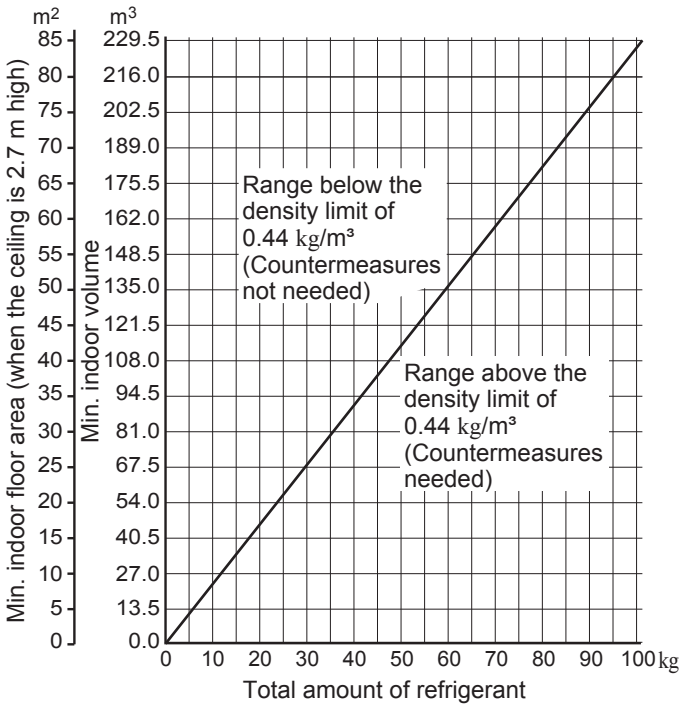
<Determination by calculation>

$$\frac{\textbf{Overall refrigerant charge amount for the air conditioner: kg}}{\textbf{(Minimum room volume for indoor unit: m}^3\textbf{)}}$$

$$= \frac{\textbf{3.18 (kg) + 6.7 (kg)}}{\textbf{21.6 (m}^3\textbf{)}}$$

$$\textbf{= 0.46 (kg/m}^3\textbf{) } \geq \textbf{0.44 (kg/m}^3\textbf{)}$$

Therefore, openings such as louvers are required for this room.



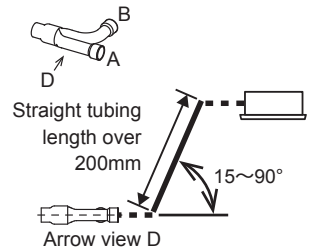
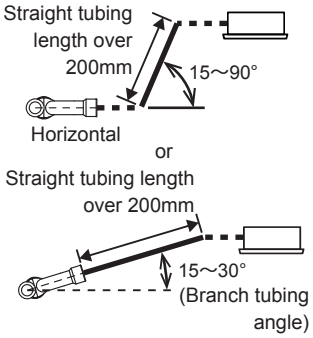
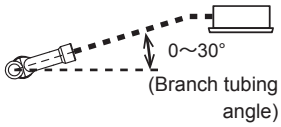
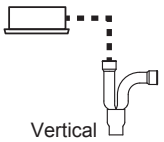
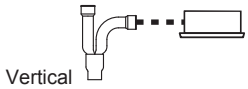
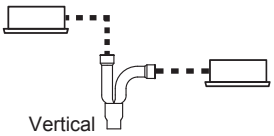
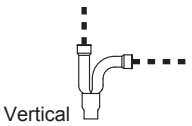
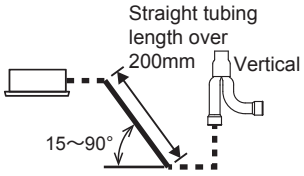
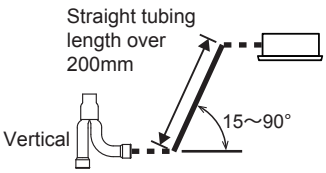
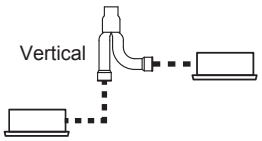
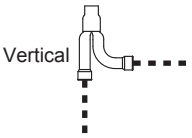
2

■ Installing distribution joint

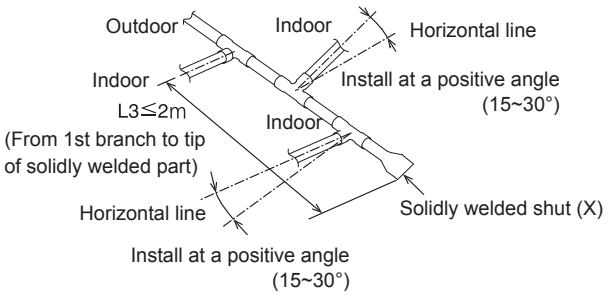
(1) Refer to “HOW TO ATTACH DISTRIBUTION JOINT” enclosed with the optional distribution joint kit (CZ-P160BK2) on page 2-49~2-50.

- When connecting a branch tubing to the indoor unit directly, it is necessary for each branch tubing to install at a positive angle with respect to horizontal in order to prevent accumulation of refrigerant oil in stopped units. See the below chart.

Branch tubing system ——— Restricted - - - - - Not restricted

How to install branch tubing 		When connecting branch tubing to indoor unit directly			When not connecting branch tubing to indoor unit directly
		Gas tube		Liquid tube	Gas & liquid tubes
		When connecting to A	When connecting to B		
Horizontal					
Vertical	Upward				
	Downward				

Header branch system (Main tubing is horizontal.)



- Be sure to solidly weld shut the T-joint end (marked by X in the figure). In addition, pay attention to the insertion depth of each connected tube so that the flow of refrigerant within the T-joint is not impeded.

  Be sure to use a commercial available T-joint.
- When using the header joint system, do not make further branches in the tubing.

■ Optional Distribution Joint Kit

See the installation instructions packaged with the distribution joint kit for the installation procedure.

Table 2-10

Model name	Cooling capacity after distribution	Remarks
CZ-P160BK2	22.4 kW or less *	For indoor unit

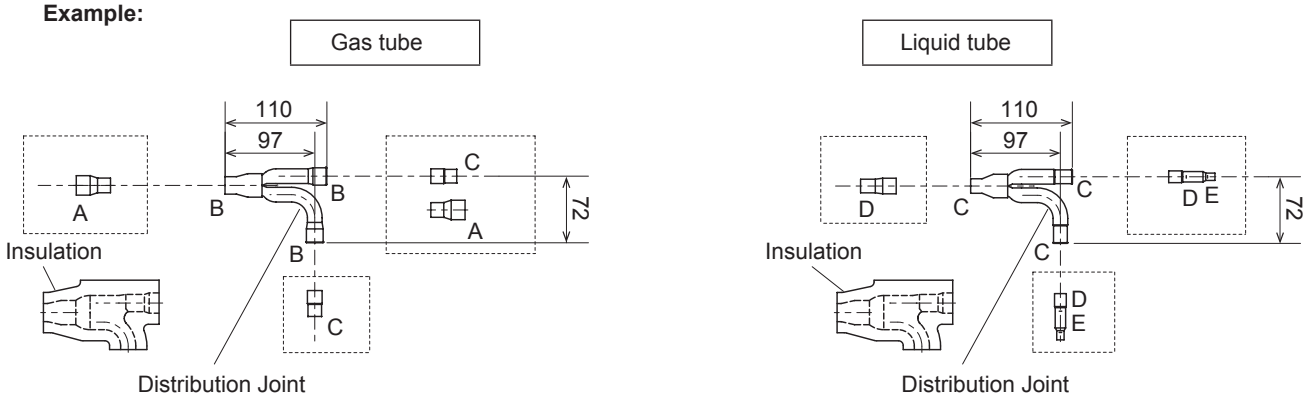
* In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the distribution tubing size for the capacity of the outdoor unit.

■ Tubing size (with thermal insulation)

CZ-P160BK2

Use: Total capacity of indoor units after distribution joint is 22.4 kW or less.*

Example:



Unit: mm

Table2-11: Size of connection point on each part (Shown are inside diameters of tubing)

Size	Part A	Part B	Part C	Part D	Part E
mm	ø19.05	ø15.88	ø12.7	ø9.52	ø6.35

* In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the distribution tubing size for the capacity of the outdoor unit.

3. Electrical Wiring

3-1. General Precautions on Wiring

(1) Before wiring, confirm the rated voltage of the unit as shown on its nameplate, then carry out the wiring closely following the wiring diagram.

⚠ WARNING

(2) This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown. Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved circuit capacity, having a contact separation in all poles.

(3) To prevent possible hazards from insulation failure, the unit must be grounded.

(4) Each wiring connection must be done in accordance with the wiring system diagram. Wrong wiring may cause the unit to misoperate or become damaged.

(5) Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.

(6) Unauthorized changes in the internal wiring can be very dangerous. The manufacturer will accept no responsibility for any damage or misoperation that occurs as a result of such unauthorized changes.

(7) Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
You must ensure that installation complies with all relevant rules and regulations.

(8) To prevent malfunction of the air conditioner caused by electrical noise, care must be taken when wiring as follows:
- The remote control wiring and the inter-unit control wiring should be wired apart from the inter-unit power wiring.
- Use shielded wires for inter-unit control wiring between units and ground the shield on both sides.

(9) If the power supply cord of this appliance is damaged, it must be replaced by a repair shop appointed by the manufacturer, because special purpose tools are required.

(10) Using a waterproof conduit is recommended for outdoor unit wiring to avoid damaging the wire and to prevent accumulation of liquid inside the unit.

(11) Protect the outdoor unit wiring with a conduit material or supplied protection bushing to avoid damages by the edges of knockout hole. If any openings occur between the protection bushing and wiring, seal the opening entirely.

3-2. Recommended Wire Length and Wire Diameter for Power Supply System

Outdoor unit

	(A) Power supply		Time delay fuse	circuit capacity
	Wire size	Max. length		
U-4LE2E5	4 mm²	22 m	25 A	25 A
U-5LE2E5	4 mm²	16 m	35 A	30 A
U-6LE2E5	4 mm²	14 m	35 A	35 A

or

(A) Power supply		Time delay fuse	circuit capacity
Wire size	Max. length		
6 mm²	34 m	25 A	25 A
6 mm²	24 m	35 A	30 A
6 mm²	21 m	35 A	35 A

	(A) Power supply		Time delay fuse	circuit capacity
	Wire size	Max. length		
U-4LE2E8	2.5 mm²	61 m	15 A	15 A
U-5LE2E8	2.5 mm²	48 m	15 A	15 A
U-6LE2E8	2.5 mm²	46 m	15 A	15 A

Indoor unit

Type	(B) Power supply	Time delay fuse or circuit capacity
D1, L1, U2, Y2, K2, T2, F2, M1, P1, R1	Refer to the Installation Instructions of the indoor unit.	

Control wiring

(C) Inter-unit (between outdoor and indoor units) control wiring		
0.75 mm² (AWG #18) **Use shielded wiring***	or	2.0 mm² (AWG #14) **Use shielded wiring***
Max. 1,000 m		Max. 2,000 m

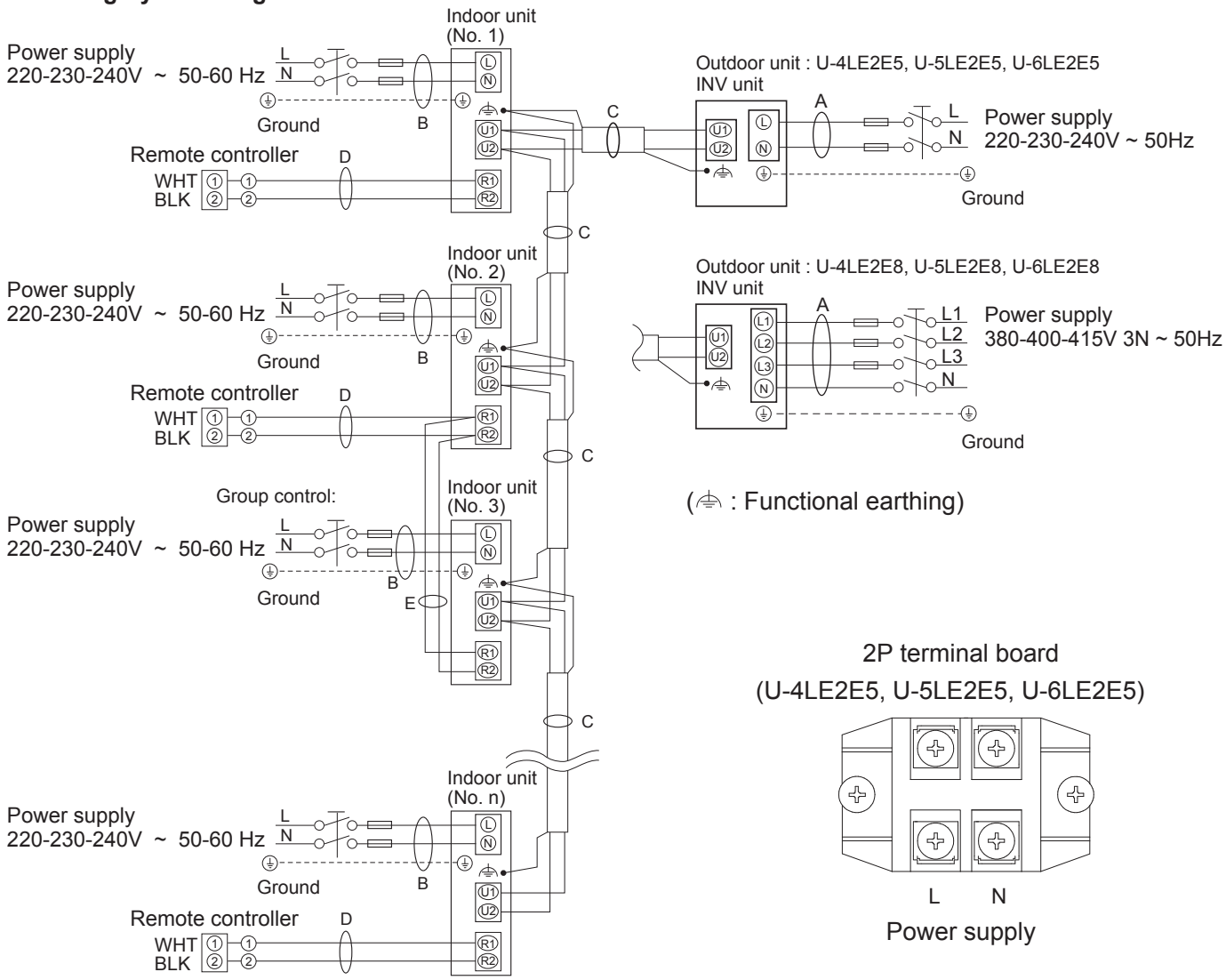
NOTE * With ring-type wire terminal

(D) Remote control wiring
0.75 mm² (AWG #18)
Max. 500 m

(E) Control wiring for group control
0.75 mm² (AWG #18)
Max. 200 m (Total)

3. Electrical Wiring

3-3. Wiring System Diagrams



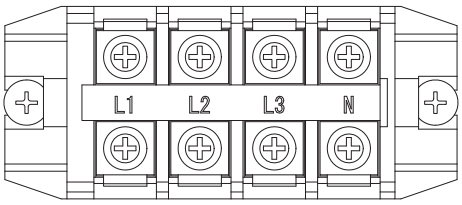
(⏚ : Functional earthing)

2P terminal board
(U-4LE2E5, U-5LE2E5, U-6LE2E5)

L N

Power supply

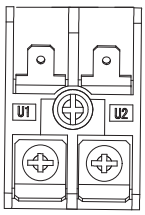
4P terminal board
(U-4LE2E8, U-5LE2E8, U-6LE2E8)



L1 L2 L3 N

Power supply

2P terminal board



Inter-unit control wiring

Outdoor unit

NOTE

(1) See the section “3-2. Recommended Wire Length and Wire Diameter for Power Supply System” for the explanation of “A”, “B”, “C”, “D” and “E” in the above diagram.

(2) The basic connection diagram of the indoor unit shows the 6P terminal board, so the terminal boards in your equipment may differ from the diagram.

(3) Refrigerant Circuit (R.C.) address should be set before turning the power on.

(4) Regarding the R.C. address setting, it can be executed by remote controller automatically. See the section 5 “4. Auto Address Setting”.

3. Electrical Wiring

CAUTION

(1) When linking outdoor units in a network, see the section "ATTENTION!".

ATTENTION!

Adjustment of terminating resistance (pin) is necessary.

Communication failure will occur unless adjustment is made correctly.

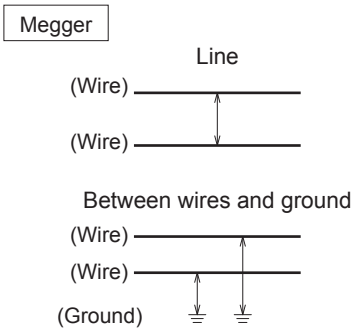
- Terminating resistance (pin) is mounted on outdoor unit control P.C. board.
- When connecting central controller, interface or peripheral equipment, adjustment of terminating resistance (pin) is necessary. Although the connection is not made, confirmation is necessary for VRF systems.
- In the case of a refrigerant system, the terminating resistance (pin) for this inter-unit control wiring (S-LINK wiring) is one location (See the section 5 "4. Auto Address Setting").
  For 2 or more refrigerant systems, 2 locations should be valid ("SHORT" for VRF systems at shipment). See the section 5 "4. Auto Address Setting".
  In order to make 2 locations valid, let the terminating resistance (pin) of the nearest outdoor unit and the farthest outdoor unit be valid (SHORT side) from the location of central controller.
  In other refrigerant systems excepting 2 locations described above, make them invalid (OPEN side).
  It is prohibited making more than 3 locations of terminating resistance valid.
- Since the use of linking the sub outdoor units of VRF systems is not connected to the inter-unit control wiring, it is not necessary to make the terminating resistance invalid "OPEN side".

2

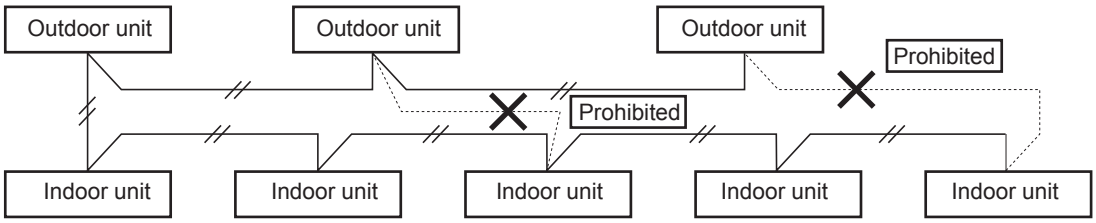
Make final confirmation regarding the central controller or interface & inter-unit control wiring (S-LINK wiring) connected to the peripheral equipment.
Measure the line resistance with a tester and check whether the values are in the range of 30Ω - 120Ω.

If the resistance values are out of range, check again the terminating resistance.
Nevertheless, if the values are out of range, the problem comes from wiring.

- Is the connection properly made?
- Are there any scratches or damages on the coated surface?
- Measure the line, between wires and ground with the 500V megger (insulation resistance meter) and check the values are over 100MΩ.
- When measuring, be sure to remove both edges of the wire from the terminal board. If not removed, it will be damaged.
- If the line resistance is within 100MΩ, newly carry out the wiring work.

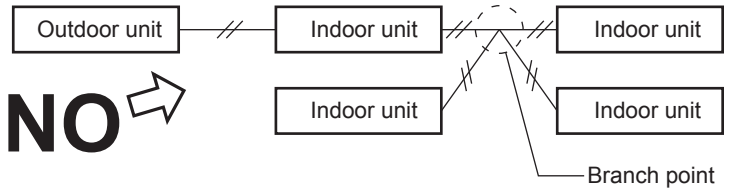


(2) Do not install the inter-unit control wiring in a way that forms a loop.

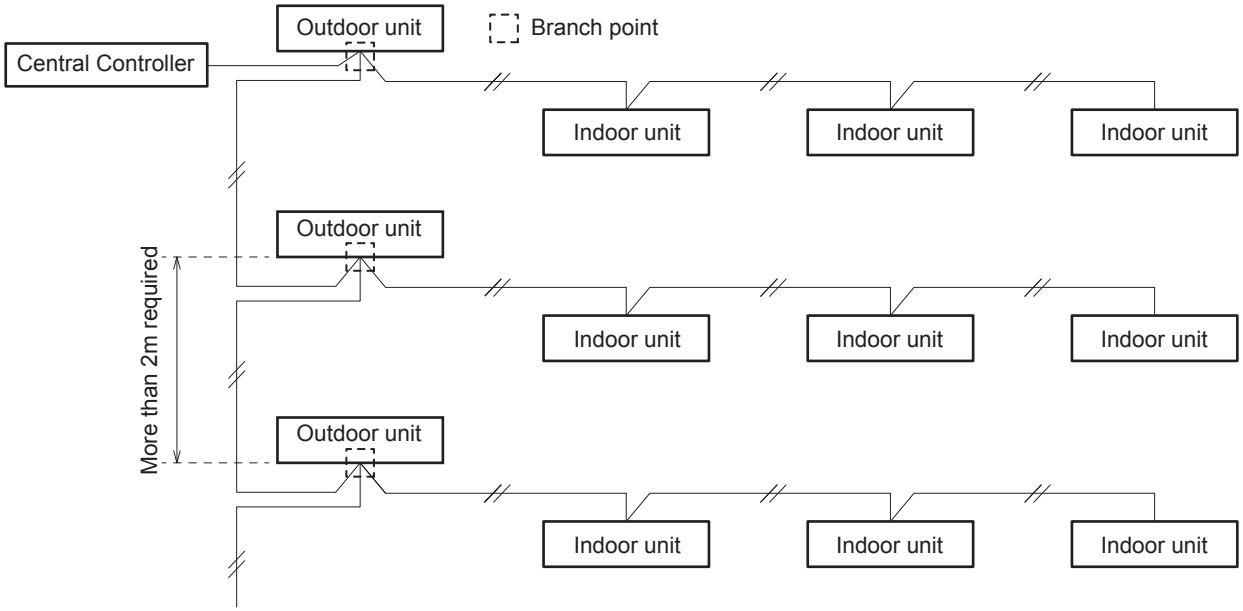


3. Electrical Wiring

(3) Do not install the inter-unit control wiring such as star branch wiring. Star branch wiring causes mis-address setting.



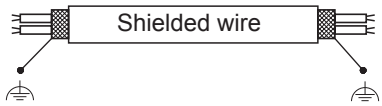
(4) If branching the inter-unit control wiring, the number of branch points should be 16 or fewer.



2

3. Electrical Wiring

(5) Use shielded wires for inter-unit control wiring (C) and ground the shield on both sides, otherwise misoperation from noise may occur. Connect wiring as shown in the section "3-3. Wiring System Diagrams".



(6) • Connecting cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 5 or 3 *1.5 mm^2 flexible cord. Type designation 60245 IEC57 (H05RN-F, GP85PCP etc.) or heavier cord.
• Use the standard power supply cables for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the cables based on IEC standard. (60245 IEC57, 60245 IEC66)

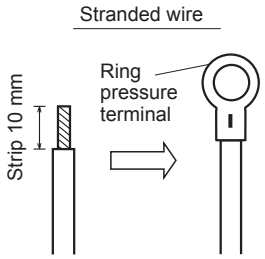
WARNING
Loose wiring may cause the terminal to overheat or result in unit malfunction.
A fire hazard may also exist.
Therefore, ensure that all wiring is tightly connected.

When connecting each power wire to the terminal, follow the instructions on "How to Connect Wiring to Terminal" and fasten the wire securely with the fixing screw of the terminal board.

How to Connect Wiring to Terminal

■ For stranded wiring

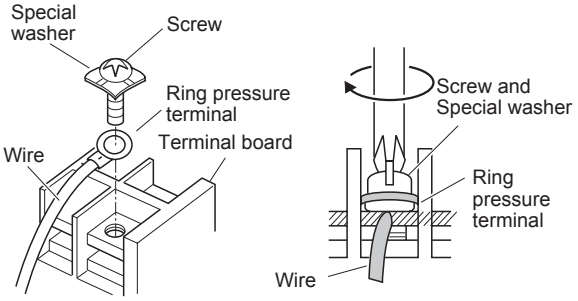
(1) Cut the wire end with cutting pliers, then strip the insulation to expose the stranded wiring about 10 mm and tightly twist the wire ends.



(2) Using a Phillips head screwdriver, remove the terminal screw(s) on the terminal board.

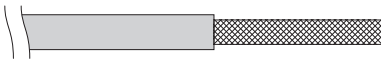
(3) Using a ring connector fastener or pliers, securely clamp each stripped wire end with a ring pressure terminal.

(4) Place the ring pressure terminal, and replace and tighten the removed terminal screw using a screwdriver.

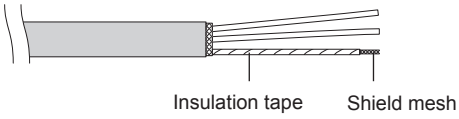


■ Examples of shield wires

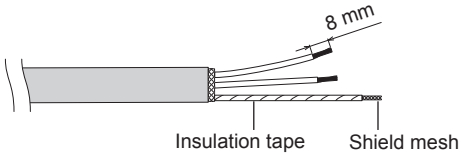
(1) Remove cable coat not to scratch braided shield.



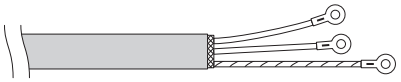
(2) Unbraid the braided shield carefully and twist the unbraided shield wires tightly together. Insulate the shield wires by covering them with an insulation tube or wrapping insulation tape around them.



(3) Remove coat of signal wire.



(4) Attach ring pressure terminals to the signal wires and the shield wires insulated in Step (2).



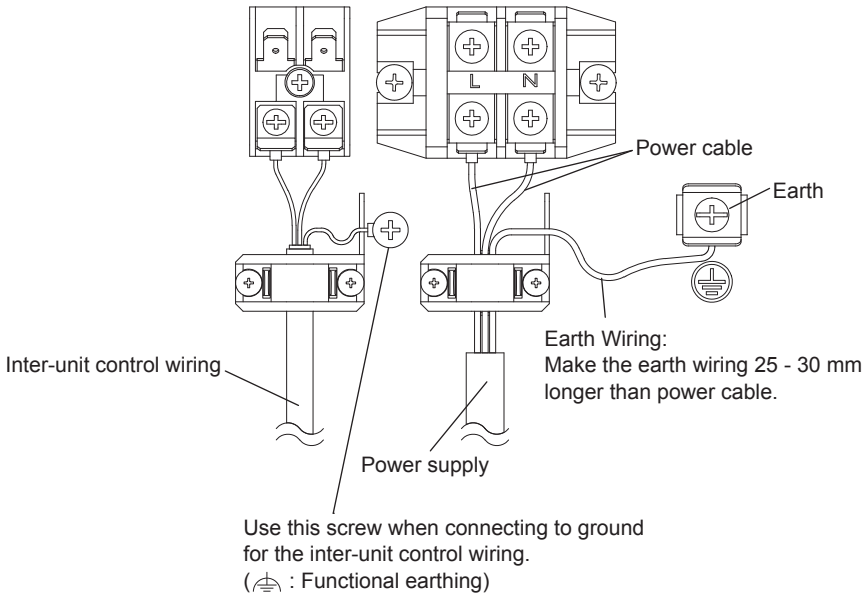
■ Earth wire for power supply

The earth wire should be longer than the other lead wires for electrical safety.

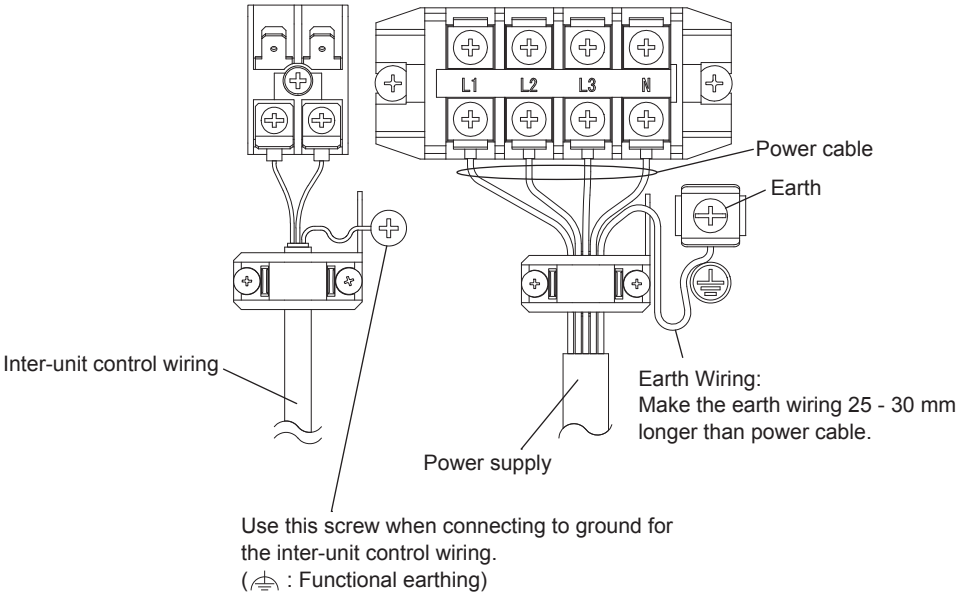
3. Electrical Wiring

■ Wiring sample

U-4LE2E5, U-5LE2E5, U-6LE2E5



U-4LE2E8, U-5LE2E8, U-6LE2E8



Torque value of power supply terminal board: 2.0 N·m ± 0.05 N·m {20 kgf·cm ± 0.5 kgf·cm}

Torque value of communication terminal board: 1.3 N·m ± 0.1 N·m {13 kgf·cm ± 1 kgf·cm}

ATTENTION: Comply with the torque values.
If tightening over torque values, the screw will be damaged.

ATTENTION: Apply an adjustable wrench to the valve vertically not to damage the P.C. board.

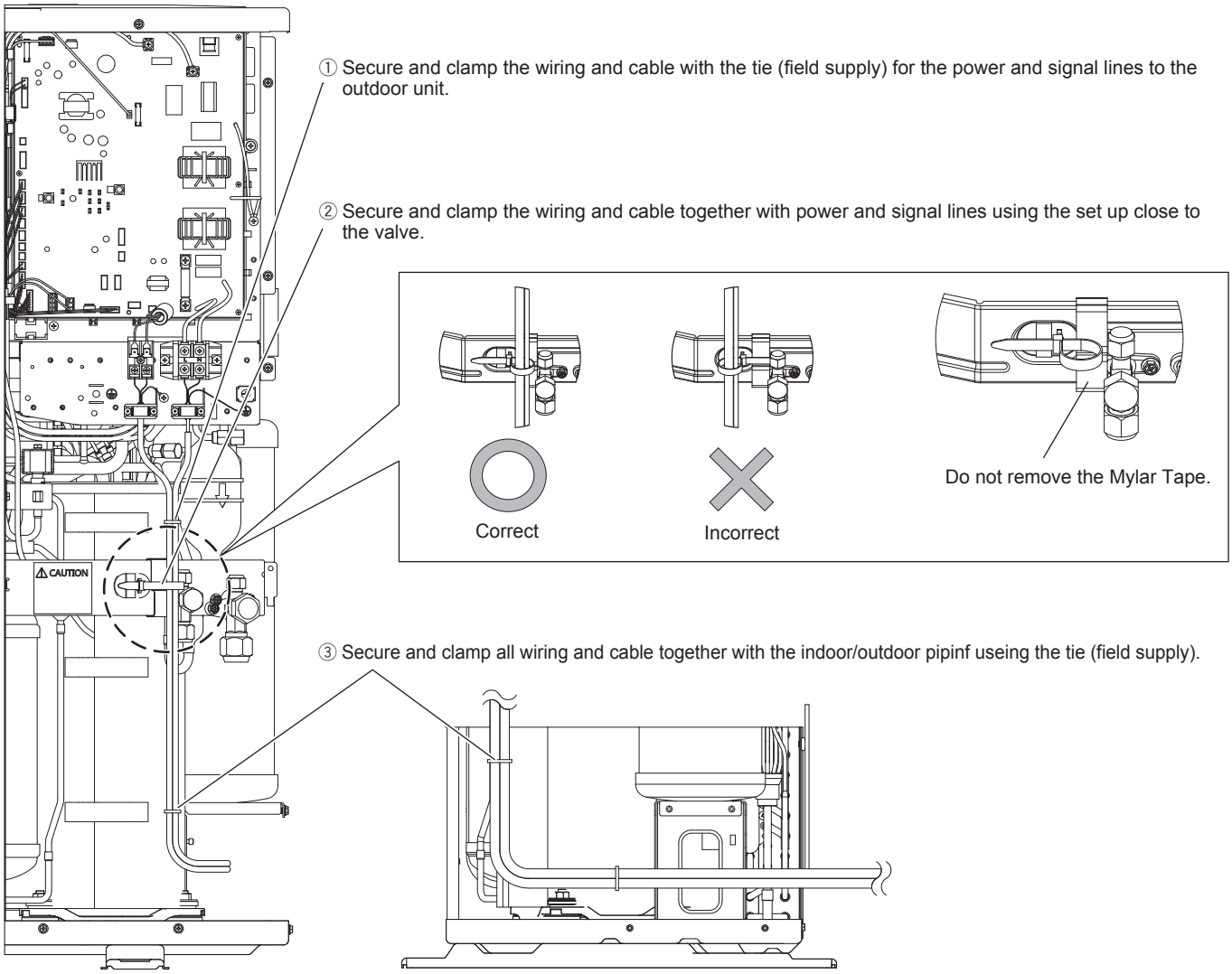
3. Electrical Wiring

■ Wiring procedure

Follow the wiring procedure below for terminal connection.

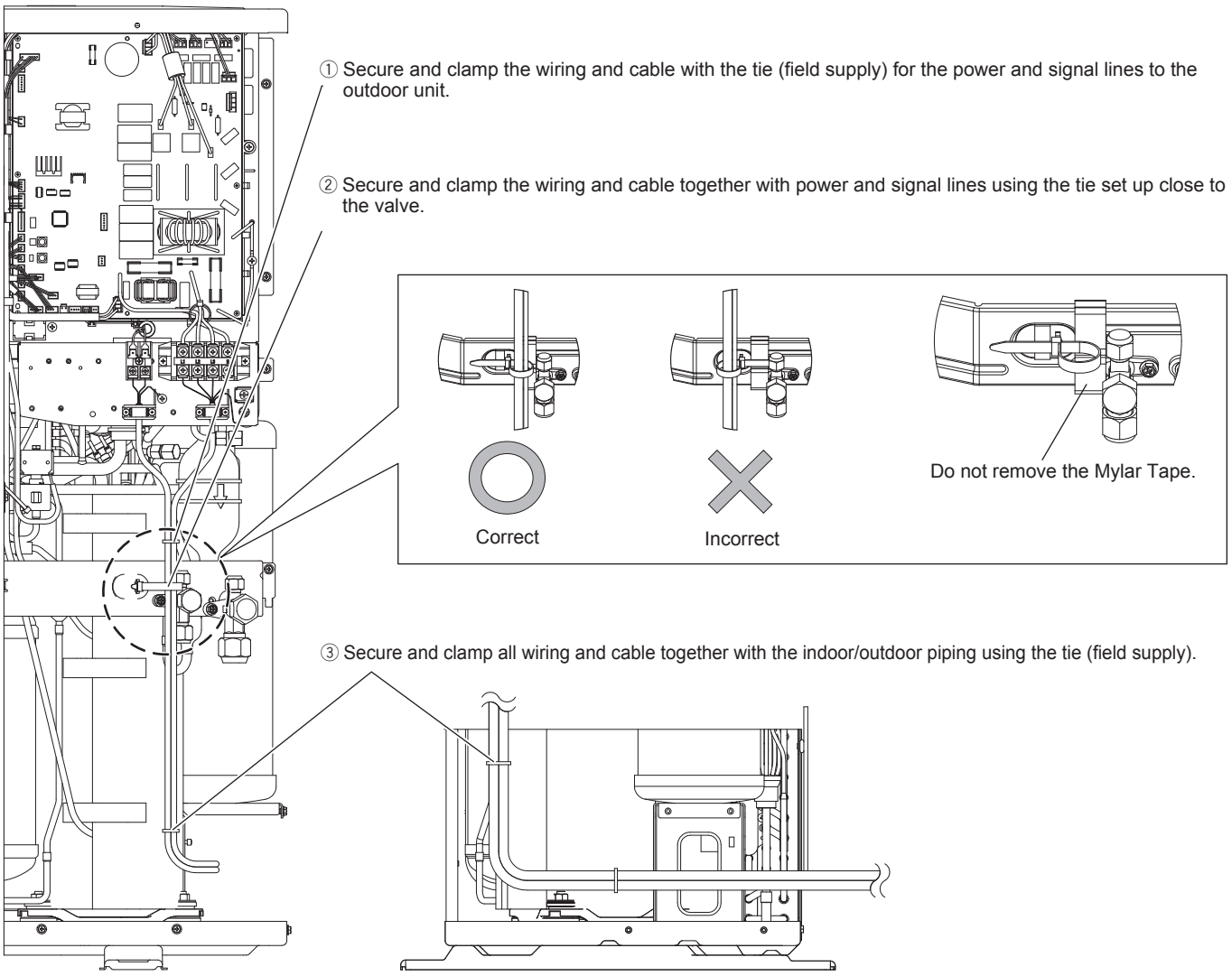
(1) Set the wiring and cables for the power and signal lines to the outdoor unit together, and secure each wire and cable with the tie.
(2) Secure and clamp the power and signal lines with the tie, set up close to the valve.
(3) Set up the wiring and cable for the outdoor unit piping and secure with a tie.

U-4LE2E5, U-5LE2E5, U-6LE2E5



3. Electrical Wiring

U-4LE2E8, U-5LE2E8, U-6LE2E8

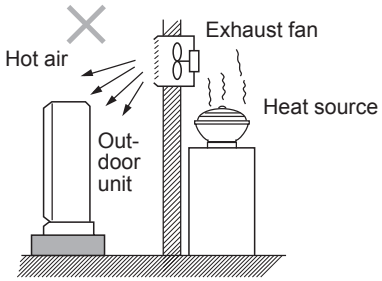


4. Installation Instructions

4-1. Selecting the Installation Site for Outdoor Unit

AVOID:

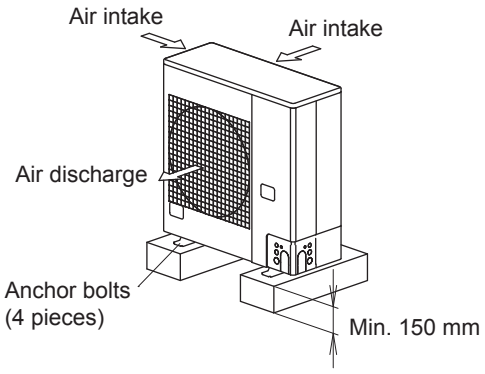
- heat sources, exhaust fans, etc.



- damp, humid or uneven locations
- indoors (no-ventilation location)

DO:

- choose a place as cool as possible.
- choose a place that is well ventilated and outside air temperature does not exceed maximum 46°C constantly.
- allow enough room around the unit for air intake/ exhaust and possible maintenance. For the details, see the following installation examples (1) to (16).
- provide a solid base (concrete block, 100 × 450 mm beams or equal), a minimum of 150 mm above ground level to reduce humidity and protect the unit against possible water damage and decreased service life.



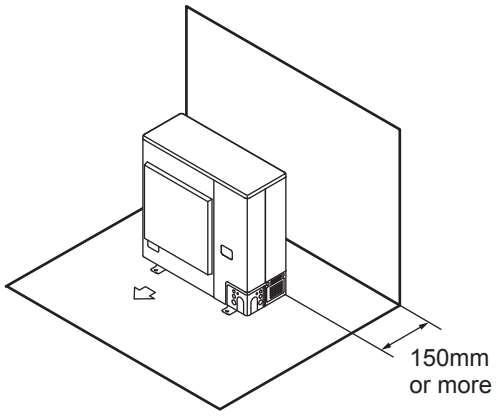
- use lug bolts or equal to bolt down unit, reducing vibration and noise.

Installation space for outdoor unit

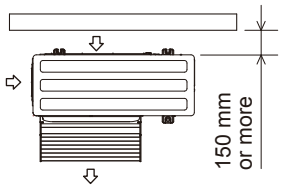
Install the outdoor unit at a place where there is enough space for ventilation. Otherwise the unit may not operate properly. Required space for installation shows in the descriptions (1) to (16). For other installation examples, refer to the Technical Data.
It is possible to reduce the space between the air discharge outlet and an obstacle by installing the field supplied air-discharge chamber for top discharge. See the note in the figure. When installing the air-discharge chamber for top discharge, keep the unit above free from obstruction.

■ Single-Unit Installation

(1) Obstacle on the rear side
(Front side, left side, right side and above the unit are opened.)

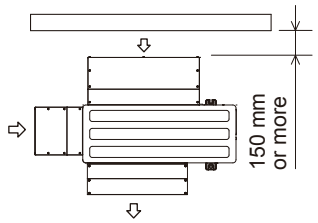


When installing air-discharge chamber



The distance between the outdoor unit and an obstacle as shown in the above installation example must be measured from the outside surface of the outdoor unit and then the open space should be provided.

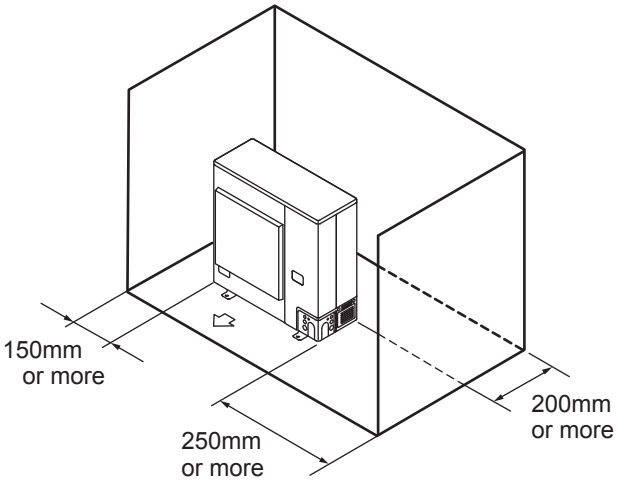
When installing snow-proof vents



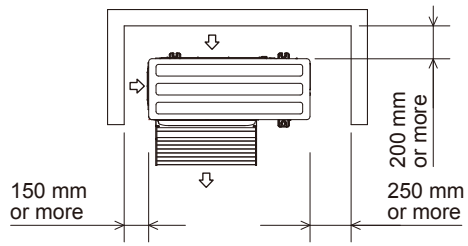
The distance between the outdoor unit and an obstacle as shown in the above installation example must be measured from the additional external surface of the snow-proof ducts facing the air intake side of the outdoor unit and then the open space should be provided.

4. Installation Instructions

(2) Obstacle on the left side, right side and rear side (Front side and above the unit are opened.)

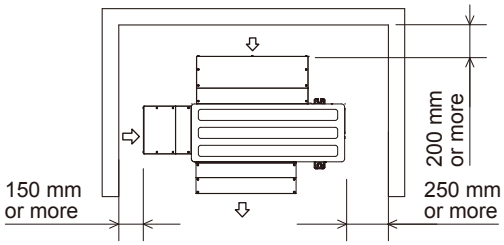


When installing air-discharge chamber



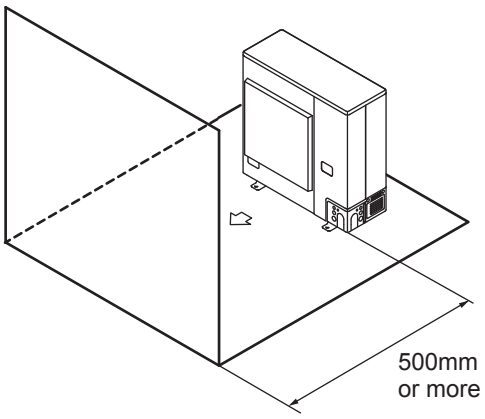
The distance between the outdoor unit and obstacles as shown in the above installation example must be measured from the outside surface of the outdoor unit and then the open space should be provided.

When installing snow-proof vents

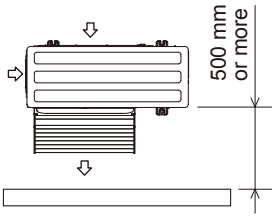


The distance between the outdoor unit and obstacles as shown in the above installation example (equal to sections (4) to (16)) must be measured from the additional external surface of the snow-proof duct facing the air intake side and be measured from the outside surface facing the air discharge side of the outdoor unit and then the open space should be provided.

(3) Obstacle on the front side (Rear side, left side, right side and above the unit are opened.)

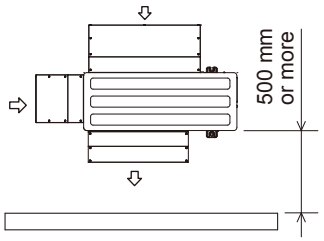


When installing air-discharge chamber



The distance between the outdoor unit and an obstacle as shown in the above installation example (equal to sections (4) to (16), excepting (5), (6), (9), (11), (14) and (16)) must also be measured from the outside surface of the outdoor unit and then the open space should be provided.

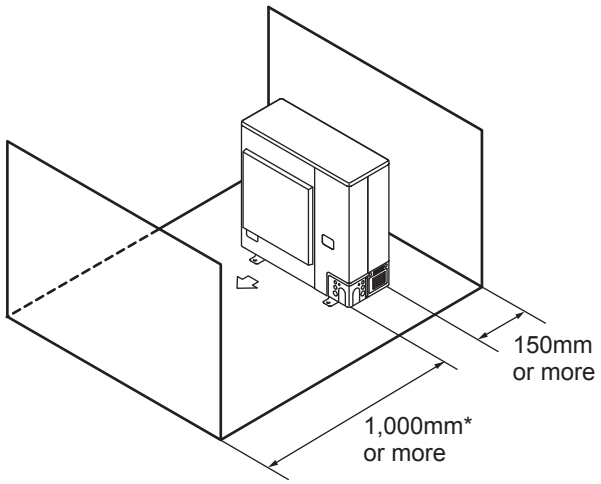
When installing snow-proof vents



The distance between the outdoor unit and an obstacle as shown in the above installation example (equal to sections (4) to (16), excepting (5), (6), (9), (11), (14) and (16)) must also be measured from the outside surface of the outdoor unit and then the open space should be provided.

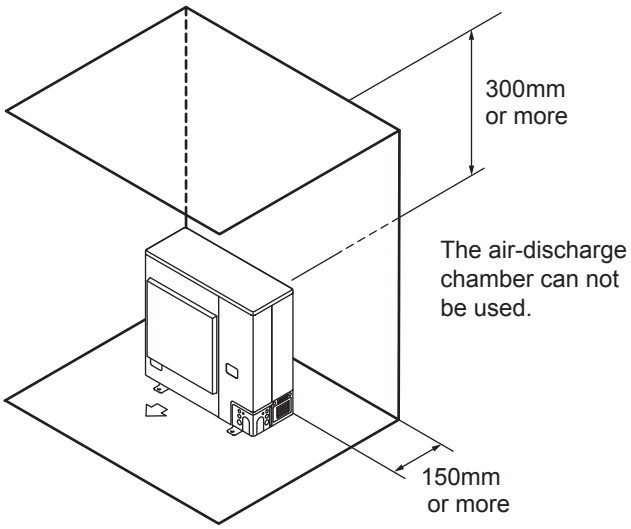
4. Installation Instructions

(4) Obstacle on the front side and rear side
(Left side, right side and above the unit are opened.)



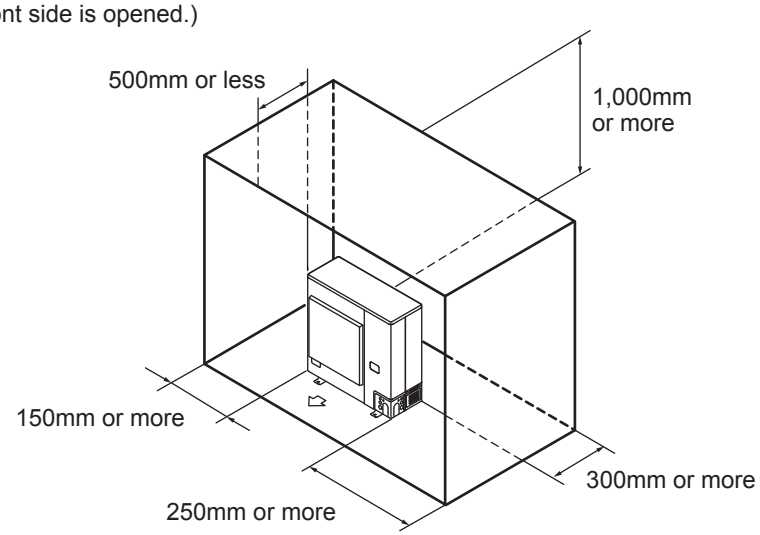
*When using the air-discharge chamber
: 500mm or more

(5) Obstacle on the rear side and top side
(Front side, left side and right side are opened.)



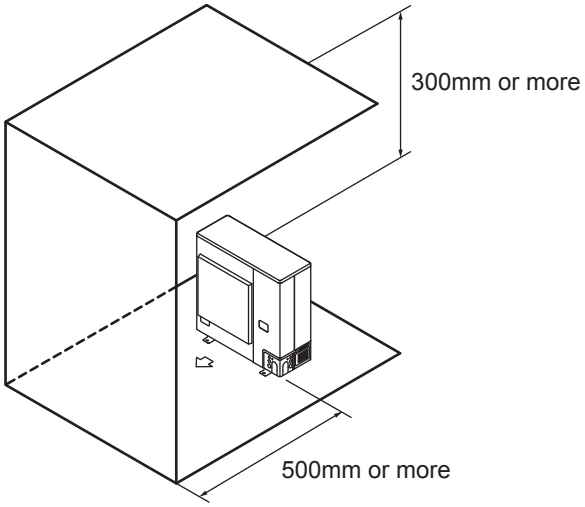
4. Installation Instructions

(6) Obstacle on the rear side, left side, right side and top side
(Front side is opened.)

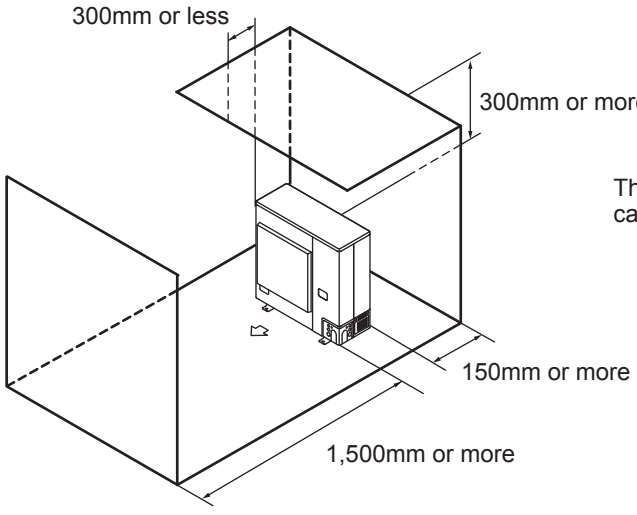


The air-discharge chamber can not be used.

(7) Obstacle on the front side and top side
(Rear side, left side and right side are opened.)



(8) Obstacle on the rear side, front side and top side
（Left side and right side are opened.)



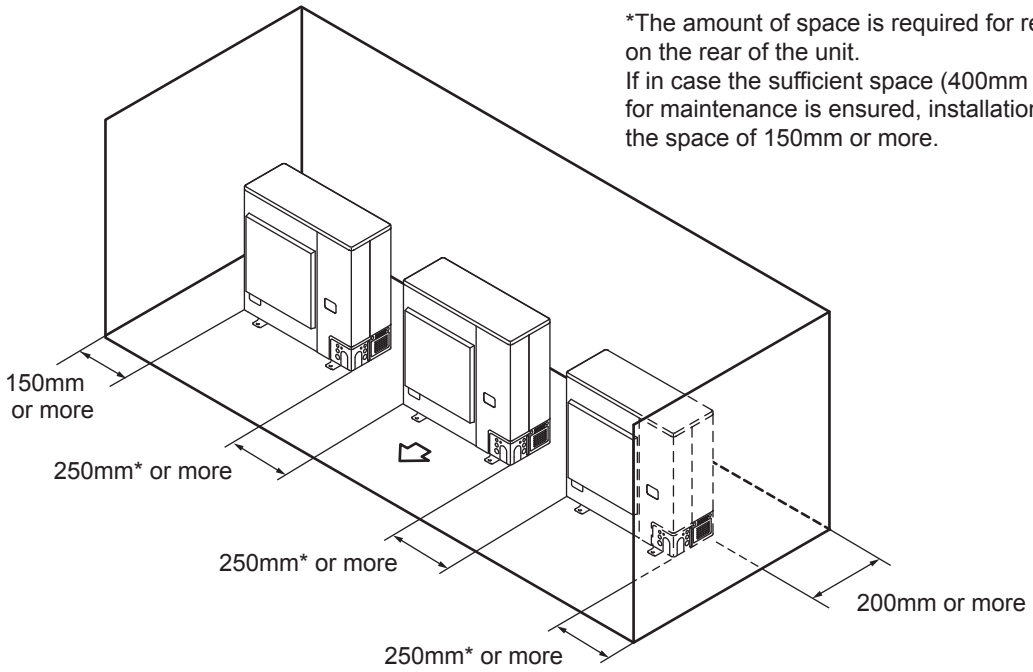
The air-discharge chamber can not be used.

4. Installation Instructions

■ Multiple-Unit Installation

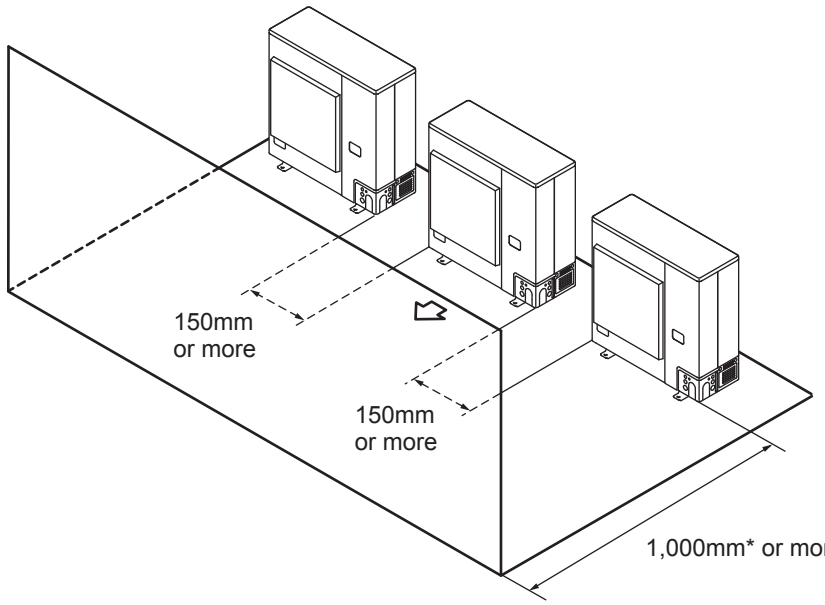
(9) Obstacle on the rear side, left side and right side
(Front side and above the unit are opened.)

- It is recommended that the maintenance space of 500mm or more every 3 units is provided.



*The amount of space is required for removing screws on the rear of the unit.
If in case the sufficient space (400mm or more) for maintenance is ensured, installation is possible with the space of 150mm or more.

(10) Obstacle on the front side
(Rear side, left side, right side and above the unit are opened.)

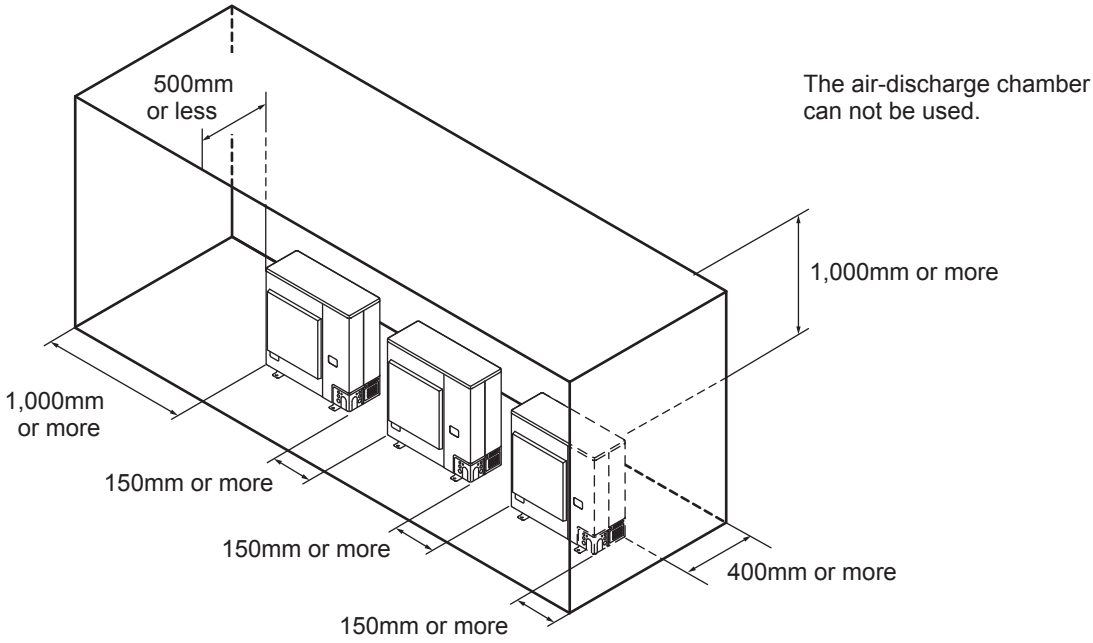


*When using the air-discharge chamber : 500mm or more

4. Installation Instructions

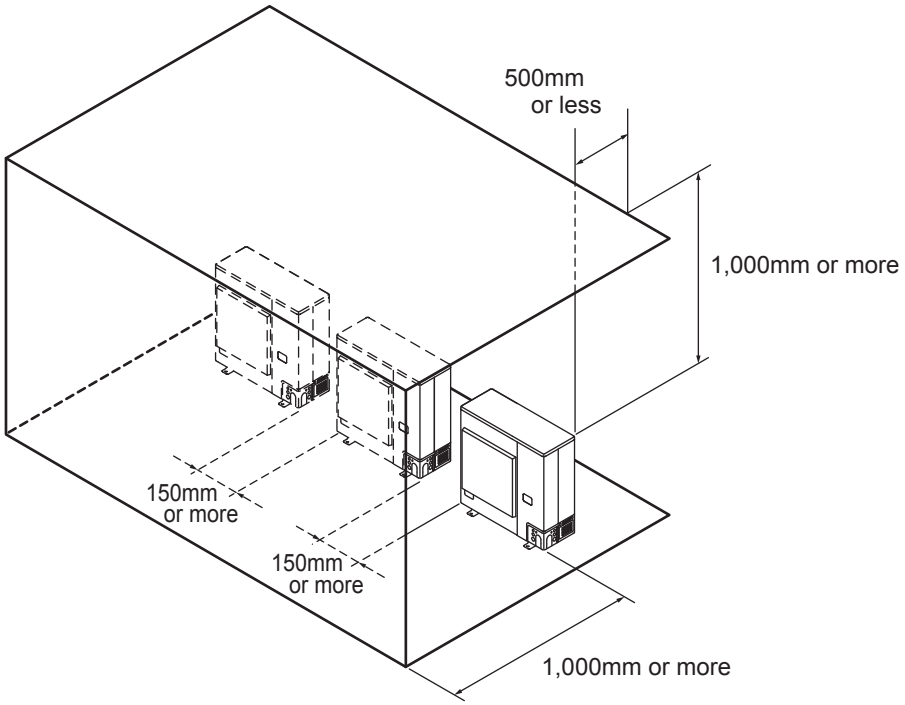
(11) Obstacle on the rear side, left side, right side and top side
(Front side is opened.)

- In the case of continuous installation of over three units, provide 1,500mm or more every three units for the airflow.



(12) Obstacle on the front side and top side
(Rear side, left side and right side are opened.)

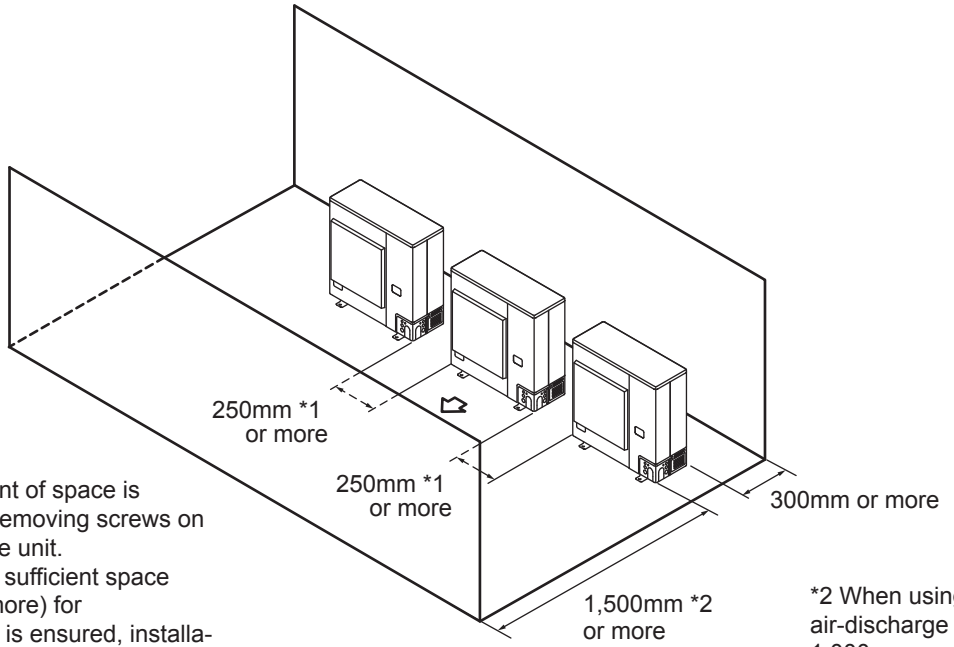
- It is recommended that the maintenance space of 500mm or more every 3 units is provided.



4. Installation Instructions

(13) Obstacle on the rear side and front side
(Left and right sides and above the unit are opened.)

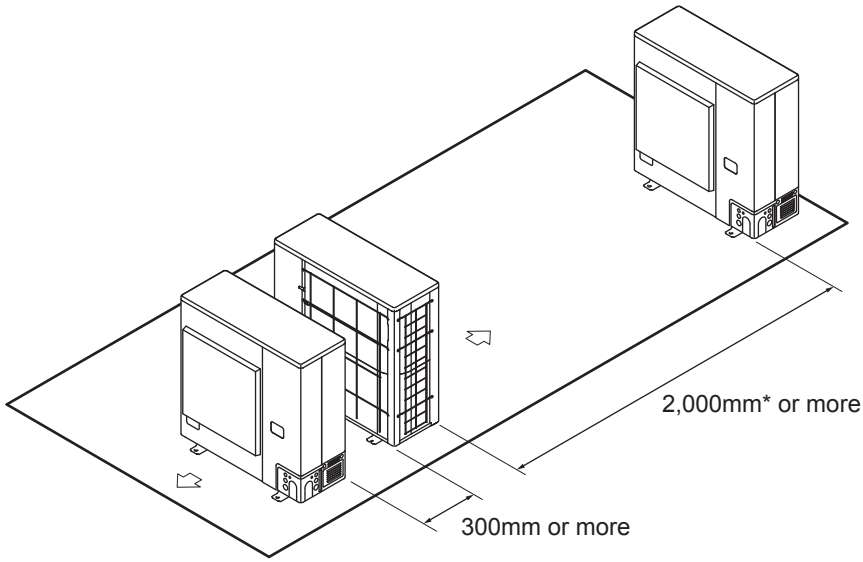
- It is recommended that the maintenance space of 500mm or more every 3 units is provided.
- Either of the obstacles must be no taller than 2,000mm.



*1 The amount of space is required for removing screws on the rear of the unit.
If in case the sufficient space (400mm or more) for maintenance is ensured, installation is possible with the space of 150mm or more.

*2 When using the air-discharge chamber : 1,000mm or more

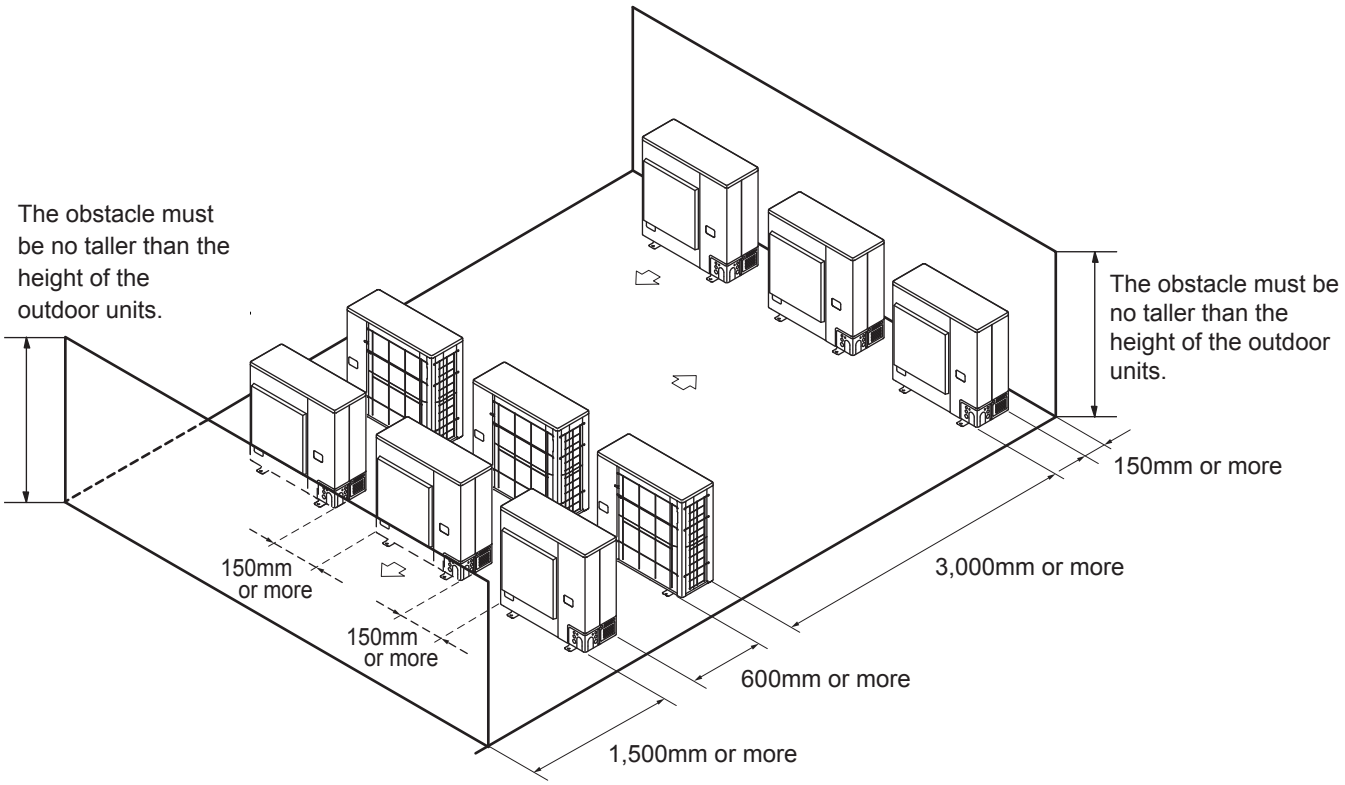
(14) Installation in front and rear direction in series
(Left side, right side and above the unit are opened.)



* When using the air-discharge chamber : 1,000mm or more

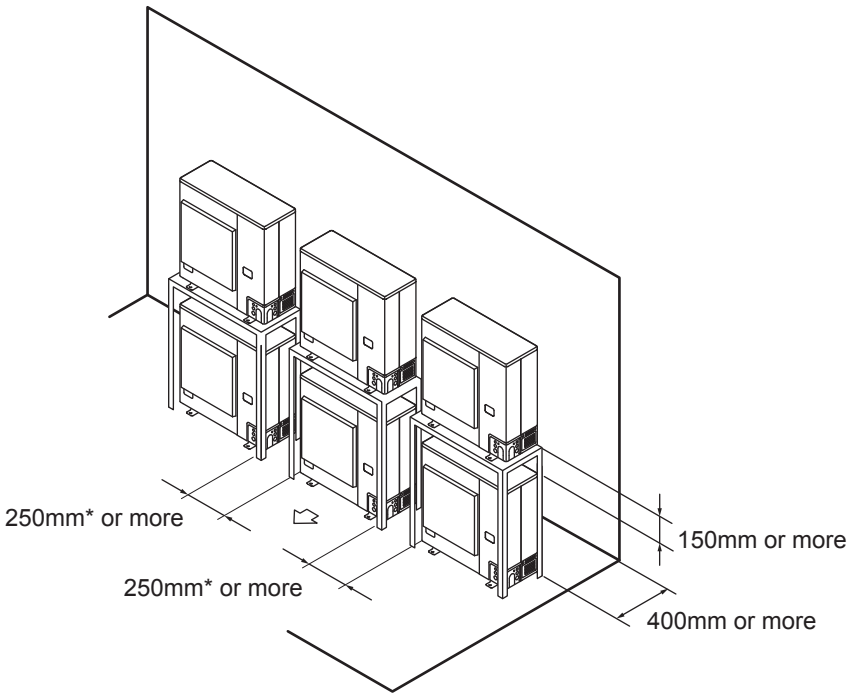
4. Installation Instructions

(15) Installation in multiple rows in series
(Left side, right side and above the unit are opened.)



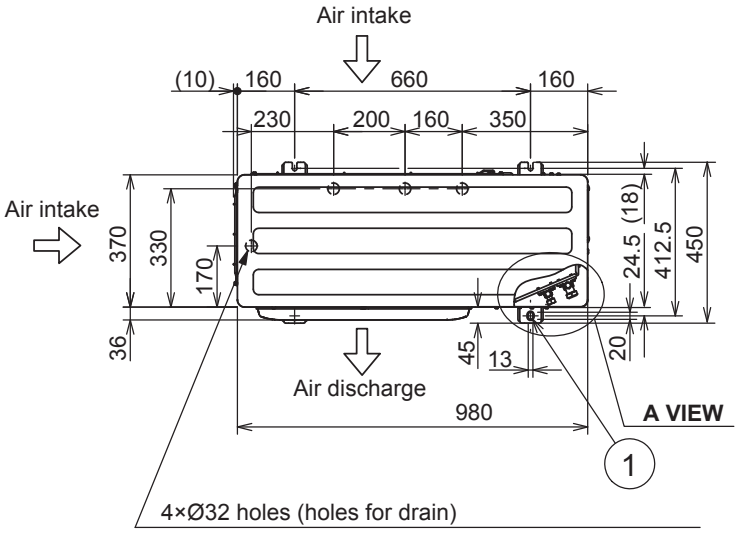
(16) Installation in double stack
(Front side, left side, right side and above the unit are opened.)

*The amount of space is required for removing screws on the rear of the unit. If in case the sufficient space (700mm or more) for maintenance is ensured, installation is possible with the space of 150mm or more.



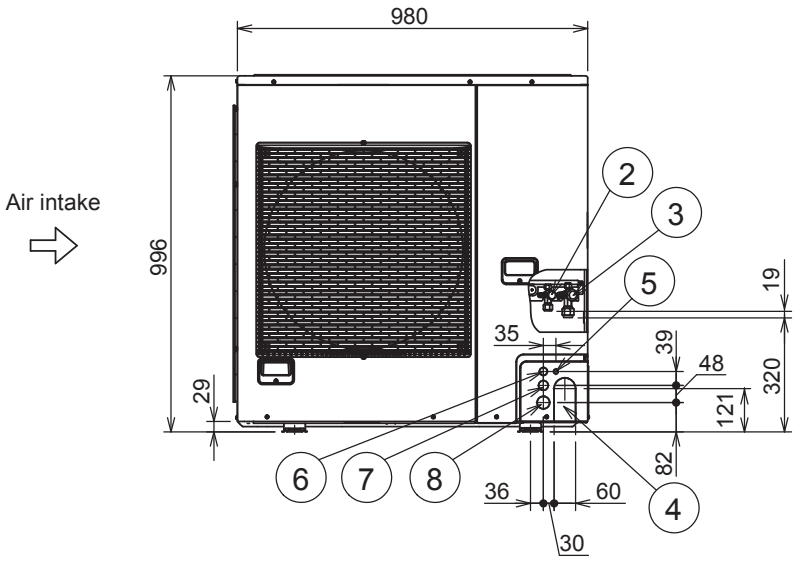
4. Installation Instructions

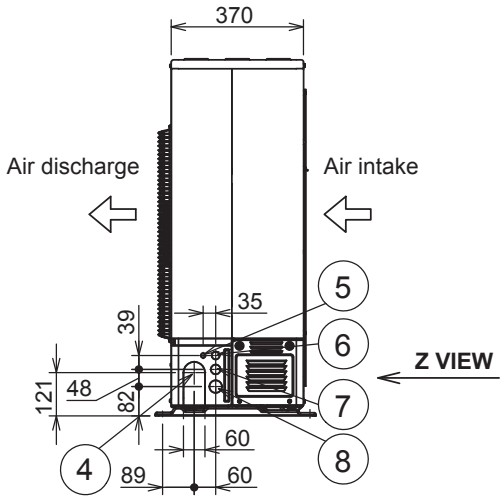
U-4LE2E5, U-5LE2E5, U-6LE2E5
U-4LE2E8, U-5LE2E8, U-6LE2E8

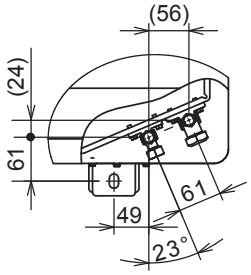


①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (Ø9.52)
③	Refrigerant tubing (gas tube), flared connection (Ø15.88)
④	Refrigerant tubing port
⑤	Electrical wiring port (Ø13)
⑥	Electrical wiring port (Ø22)
⑦	Electrical wiring port (Ø27)
⑧	Electrical wiring port (Ø35)

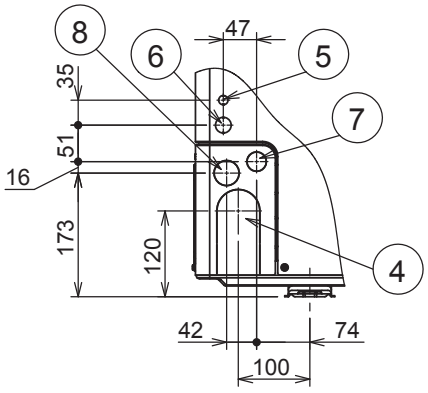
When using a drain pipe, install the drain socket (field supply) on to the drain port.Seal the other drain port with the rubber cap.







A VIEW



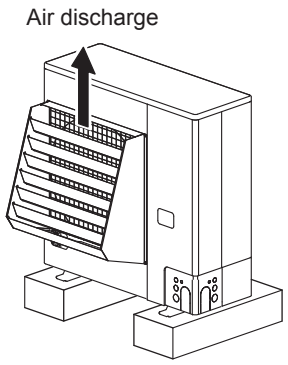
Z VIEW

4. Installation Instructions

4-2. Air-Discharge Chamber for Top Discharge

Be sure to install an air-discharge chamber in the field when:

- it is difficult to keep a sufficient space between the air discharge outlet and an obstacle.
- the air discharge outlet is facing a sidewalk and discharged hot air may annoy passers-by.



In regions with significant snowfall, the outdoor unit should be provided with a platform and snow-proof duct.

4-3. Installing the Outdoor Unit in Heavy Snow Areas

In locations with strong wind, snow-proof ducting should be fitted and direct exposure to the wind should be avoided as much as possible.

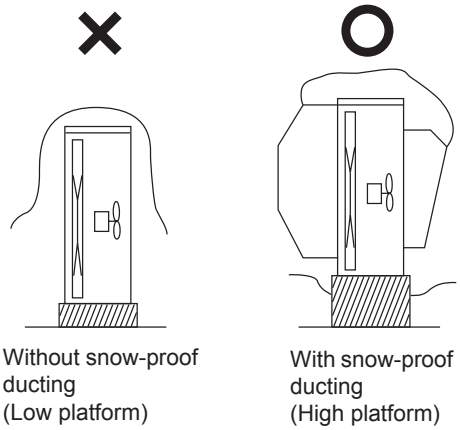
■ Countermeasures against snow and wind

In regions with snow and strong wind, the following problems may occur when the outdoor unit is not provided with a platform and snow-proof ducting:

a) The outdoor fan may not run and damage to the unit may occur.
b) There may be no air flow.
c) The tubing may freeze and burst.
d) The condenser pressure may drop because of strong wind, and the indoor unit may freeze.

4-4. Precautions for Installation in Heavy Snow Areas

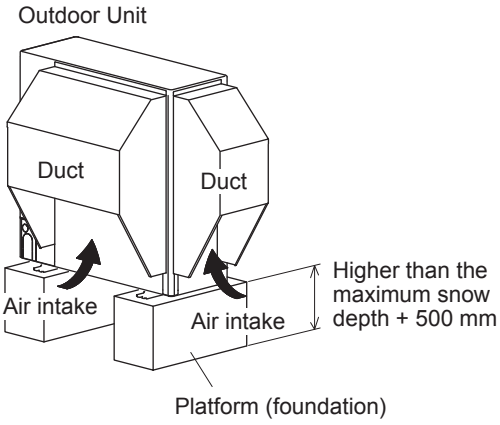
(1) The platform should be higher than the maximum snow depth + 500 mm.



(2) The 2 anchoring feet of the outdoor unit should be used for the platform, and the platform should be installed beneath the air intake side of outdoor unit.

(3) The platform foundation must be firm and the unit must be secured with anchor bolts.

(4) In case of installation on a roof subject to strong wind, countermeasures must be taken to prevent the unit from being blown over.



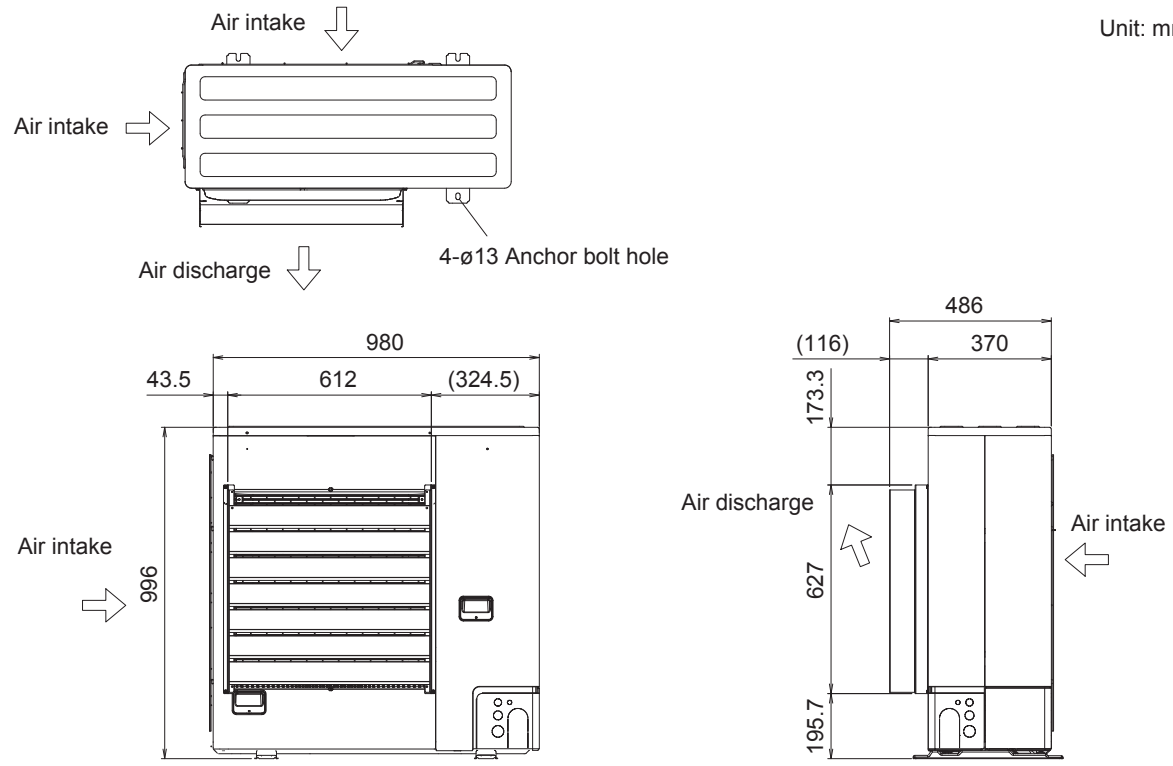
2

4. Installation Instructions

4-5. Dimensions of Air-Discharge Chamber

Reference diagram for air-discharge chamber (field supply)

Unit: mm

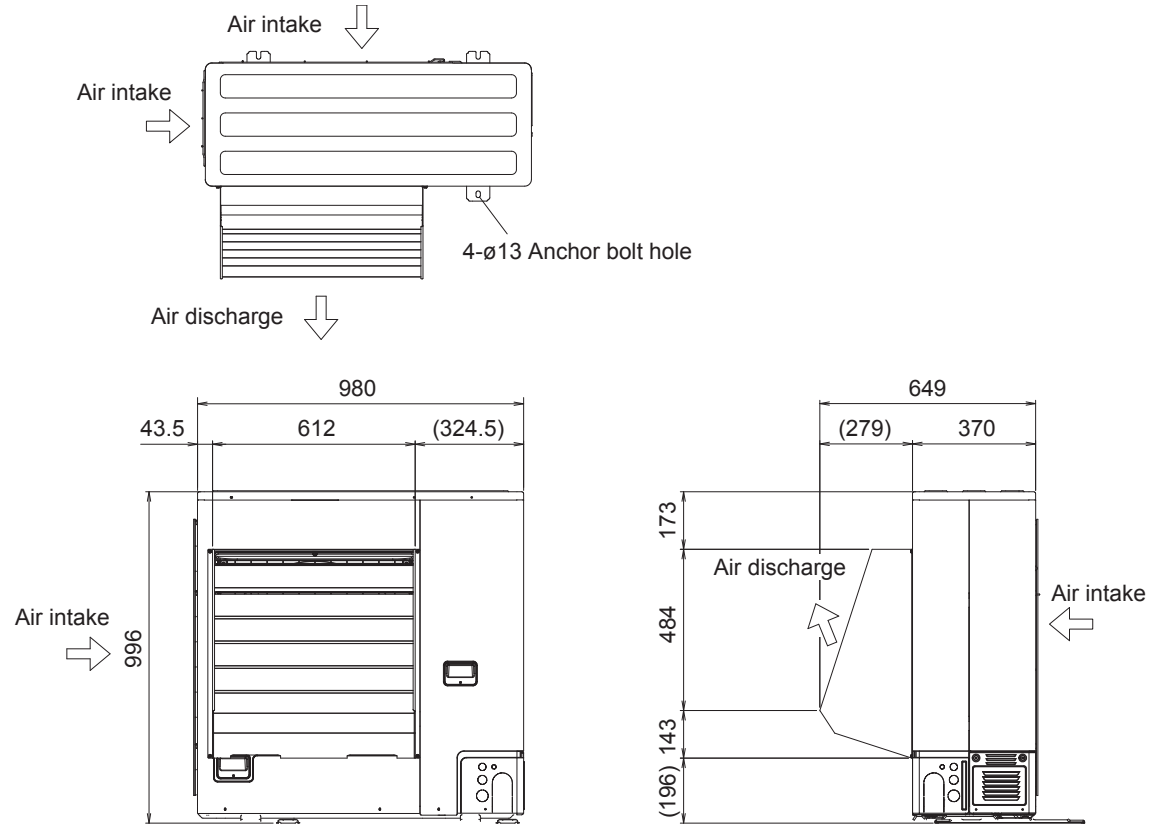


4-6. Dimensions of Air-Discharge Chamber for Top Discharge

Reference diagram for air-discharge chamber for top discharge (field supply)

* When setting the air-discharge direction further upward greater than that of the section 4-5. Dimensions of Air-Discharge Chamber, use this type of chamber as shown in the following illustration.

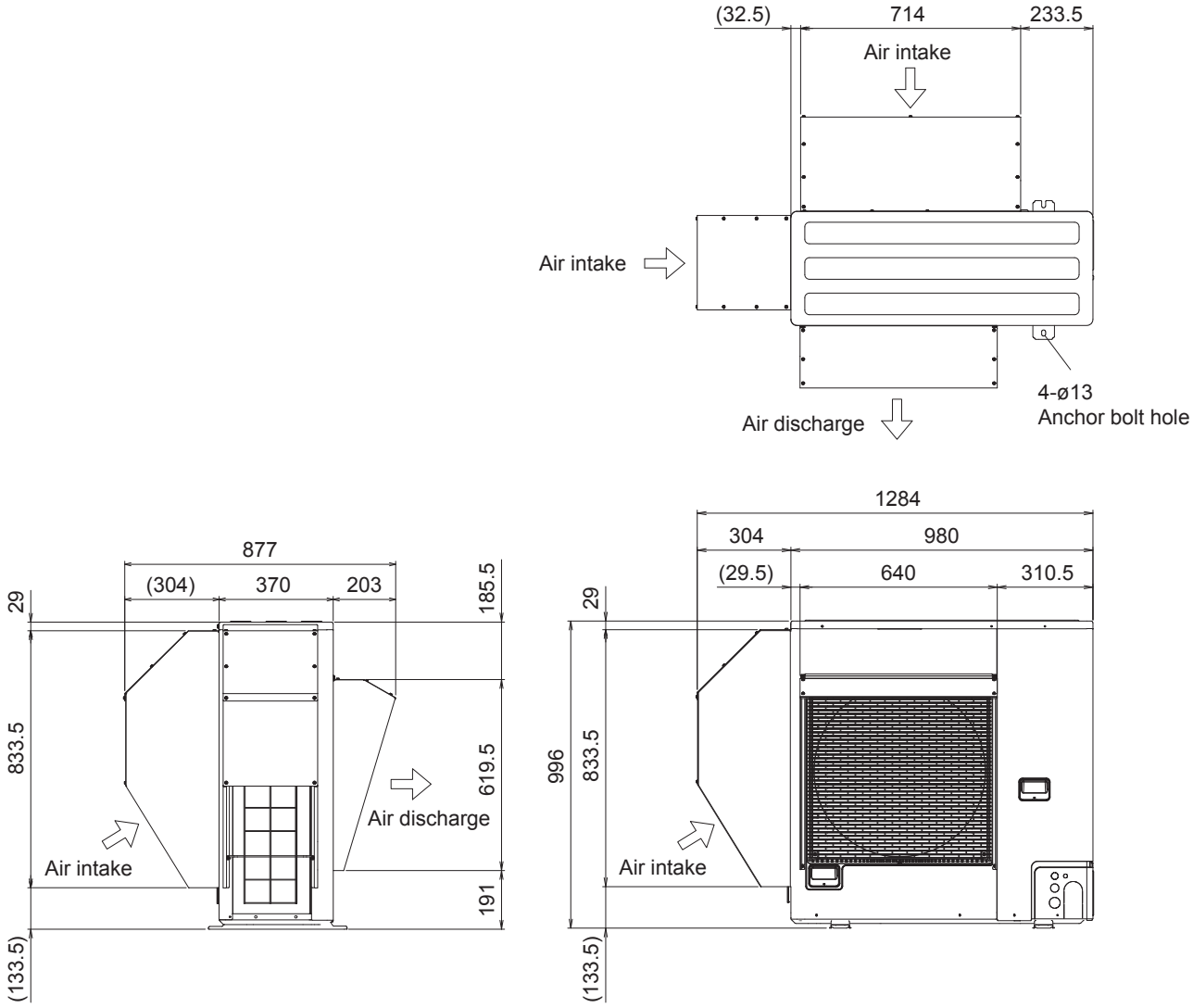
Unit: mm



4-7. Dimensions of Snow-Proof Vents

Reference diagram for snow-proof vents (field supply)

Unit: mm

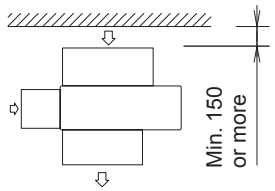


Required space around outdoor unit when using snow-proof vents
[Obstacle to the rear of unit]

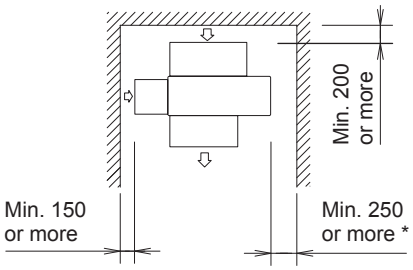
● **Top is open:**

Unit: mm

(1) Single-unit installation



(2) Obstacles on both sides



Note:
The amount of space is required for removing the screw on the rear of the unit. If in case the sufficient space for maintenance is ensured on the rear of the outdoor unit, installation is possible with the space of both sides of not less than 150 mm where marked with * mark.

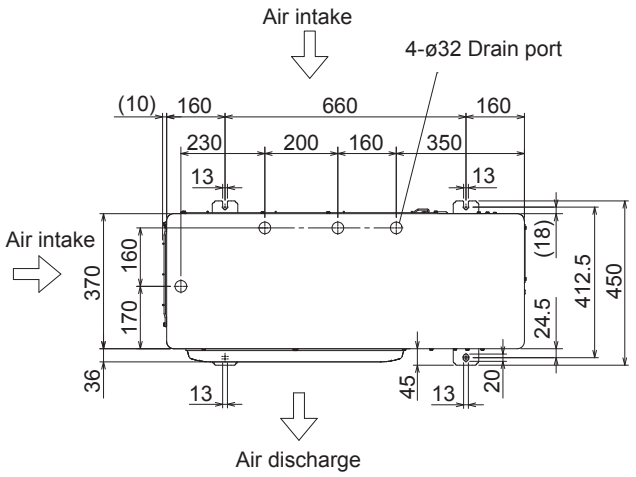
For other installation examples, refer to pages 2-28 to 2-35.

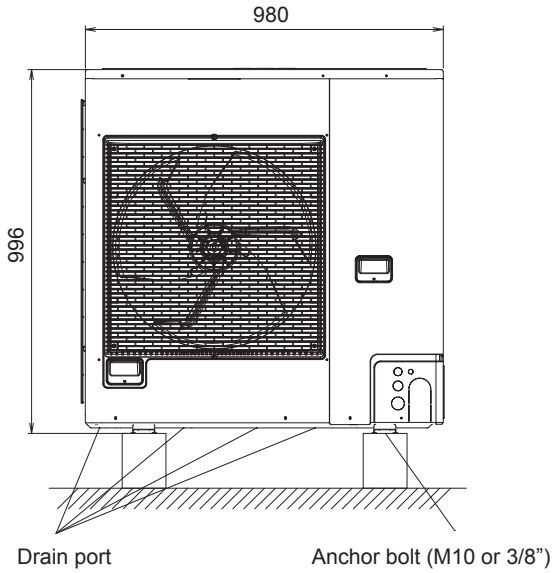
4. Installation Instructions

4-8. Installing the Outdoor Unit

- Use concrete or a similar material to create the base, and ensure good drainage.
- Ordinarily, ensure a base height of 5 cm or more. If a drain pipe is used, or for use in cold-weather regions, ensure a height of 15 cm or more at the feet on both sides of the unit. (In this case, leave clearance below the unit for the drain pipe, and to prevent freezing of drainage water in cold-weather regions.)
- See as illustrated below the anchor bolt dimensions.
- Be sure to anchor the feet with anchor bolts (M10 or 3/8"). In addition, use anchoring washers on the top side. (Use SUS washers with nominal diameter of 10 or 3/8".) (Field supply)

Unit: mm





4-9. Drainage Work

Follow the procedure below to ensure adequate draining for the outdoor unit.

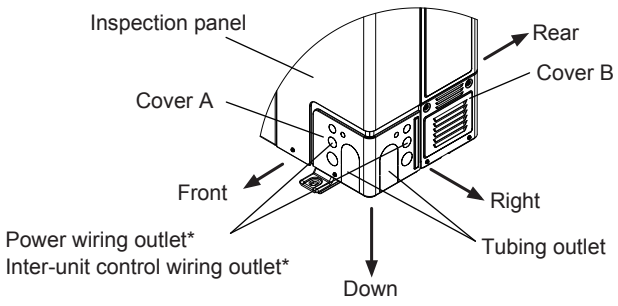
- For the drain port dimensions, see the section 4-8.
- Ensure a base height of 15 cm or more at the feet on both sides of the unit.
- When using a drain pipe, install the drain socket (field supply) onto the drain port. Seal the other drain port with the rubber cap (field supply).
- For details, refer to the instruction manual of the drain socket (field supply).
- After completing the installation work of the drain socket, make sure that the water does not leak from any part of connection.

4-10. Routing the Tubing and Wiring

- The tubing and wiring can be extended out in 4 directions (front, rear, right, and down):
- The service valves are housed inside the unit. To access them, remove the inspection panel. (To remove the inspection panel, remove the 2 screws, then slide the panel downward and pull it toward you.)

(1) If the routing direction is through the front, rear, or right, use a nipper or similar tool to cut out the knockout holes for the inter-unit control wiring outlet, power wiring outlet, and tubing outlet from the appropriate covers A and B. When routing the wiring, be sure to attach each supplied protection bushing to the edges around the wiring outlet holes in order to protect the wiring from scratches by the cutting burr.

(2) If the routing direction is down, use a nipper or similar tool to cut out the lower flange from cover A.



NOTE

* Protect the outdoor unit wiring with a conduit material or supplied protection bushing to avoid damages by the edges of knockout hole.

* Use sealing putty to seal off the hole to prevent the dust and insects from entering the wiring outlet holes and the tubing outlet.

CAUTION

- **Route the tubing so that it does not contact the compressor, panel, or other parts inside the unit. Increased noise will result if the tubing contacts these parts.**
- **When routing the tubing, use a tube bender to bend the tubes.**

4. Installation Instructions

4-11. Precautions for Installation Using New Refrigerant

1. Care regarding tubing

1-1. Process tubing

- Material: Use seamless phosphorous deoxidized copper tube for refrigeration. Wall thickness shall comply with the applicable legislation. The minimal wall thickness must be in accordance with the table below.
- Tubing size: Be sure to use the sizes indicated in the table below.
  For the renewal tubing size, refer to the Technical Data.
- Use a tube cutter when cutting the tubing, and be sure to remove any flash. This also applies to distribution joints (optional).
- When bending tubing, use a bending radius that is 4 times the outer diameter of the tubing or larger.

⚠ CAUTION

Use sufficient care in handling the tubing. Seal the tubing ends with caps or tape to prevent dirt, moisture, or other foreign substances from entering.
These substances can result in system malfunction.

Unit: mm

Material		Temper - O (Soft copper tube)				
Copper tube	Outer diameter	6.35	9.52	12.7	15.88	19.05
	Wall thickness	0.8	0.8	0.8	1.0	1.2

1-2. Prevent impurities including water, dust and oxide from entering the tubing. Impurities can cause R410A refrigerant deterioration and compressor defects. Due to the features of the refrigerant and refrigerating machine oil, the prevention of water and other impurities becomes more important than ever.

2. Be sure to recharge the refrigerant only in liquid form.

2-1. Since R410A is a non-azeotrope, recharging the refrigerant in gas form can lower performance and cause defects in the unit.

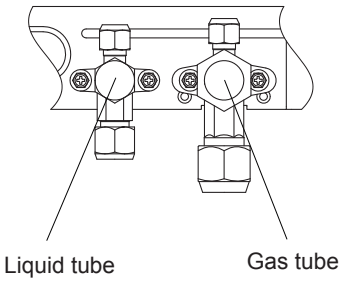
2-2. Since refrigerant composition changes and performance decreases when gas leaks, collect the remaining refrigerant and recharge the required total amount of new refrigerant after fixing the leak.

4-12. Connect the Tubing

Unit: mm

Outdoor unit horsepower	4 HP	5 HP	6 HP
Gas tube	ø15.88		
	Flare connection		
Liquid tube	ø9.52		
	Flare connection		

* The refrigerant tubing should be used with R410A refrigerant.



5. HOW TO PROCESS TUBING

The liquid tubing side is connected by a flare nut, and the gas tubing side is connected by brazing.

5-1. Connecting the Refrigerant Tubing

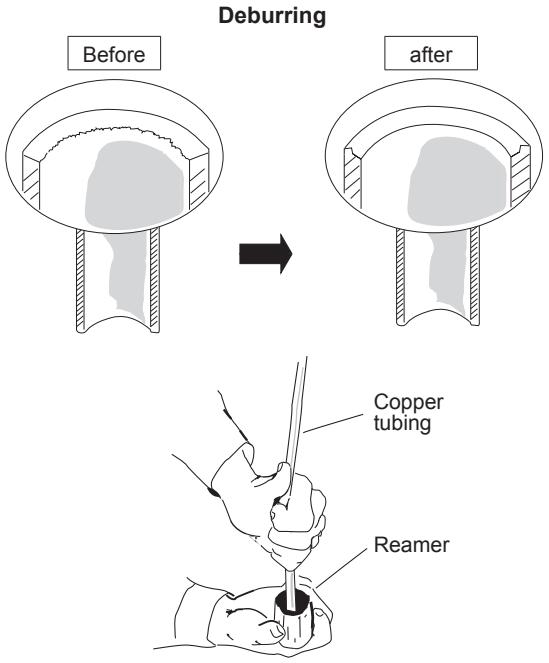
Use of the Flaring Method

Many of conventional split system air conditioners employ the flaring method to connect refrigerant tubes which run between indoor and outdoor units. In this method, the copper tubes are flared at each end and connected with flare nuts.

Flaring Procedure with a Flare Tool

(1) Cut the copper tube to the required length with a tube cutter. It is recommended to cut approx. 30 – 50 cm longer than the tubing length you estimate.

(2) Remove burrs at the end of the copper tube with a tube reamer or a similar tool. This process is important and should be done carefully to make a good flare.
Be sure to keep any contaminants (moisture, dirt, metal filings, etc.) from entering the tubing.

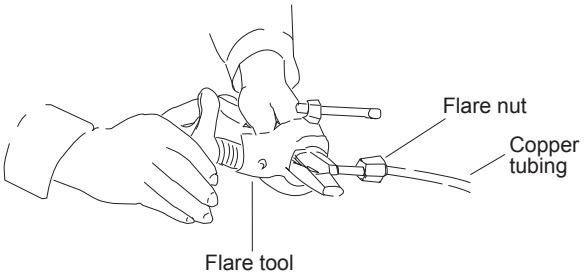


NOTE

When reaming, hold the tube end downward and be sure that no copper scraps fall into the tube.

(3) Remove the flare nut from the unit and be sure to mount it on the copper tube.

(4) Make a flare at the end of copper tube with a flare tool.



NOTE

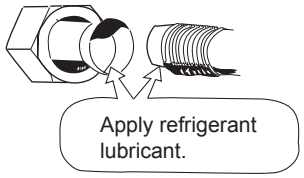
A good flare should have the following characteristics:

- Inside surface is glossy and smooth
- Edge is smooth
- Tapered sides are of uniform length

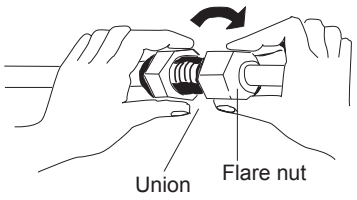
Caution Before Connecting Tubes Tightly

(1) Apply a sealing cap or water-proof tape to prevent dust or water from entering the tubes before they are used.

(2) Be sure to apply refrigerant lubricant (ether oil) to the inside of the flare nut before making piping connections. This is effective for reducing gas leaks.



(3) For proper connection, align the union tube and flare tube straight with each other, then screw in the flare nut lightly at first to obtain a smooth match.

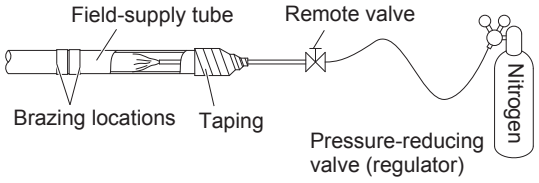


- Adjust the shape of the liquid tube using a tube bender at the installation site and connect it to the liquid tubing side valve using a flare.

Cautions During Brazing

- **Replace air inside the tube with nitrogen gas to prevent copper oxide film from forming during the brazing process. (Oxygen, carbon dioxide and Freon are not acceptable.)**
- **Do not allow the tubing to get too hot during brazing. The nitrogen gas inside the tubing may overheat, causing refrigerant system valves to become damaged. Therefore allow the tubing to cool when brazing.**
- **Use a reducing valve for the nitrogen cylinder.**
- **Do not use agents intended to prevent the formation of oxide film. These agents adversely affect the refrigerant and refrigerant oil, and may cause damage or malfunctions.**

Work method



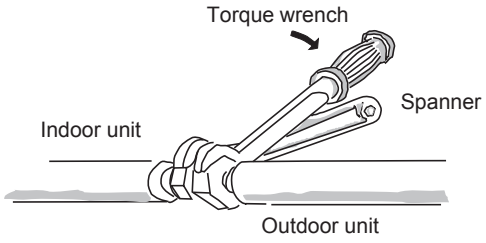
5. HOW TO PROCESS TUBING

5-2. Connecting Tubing Between Indoor and Outdoor Units

(1) Tightly connect the indoor-side refrigerant tubing extended from the wall with the outdoor-side tubing.

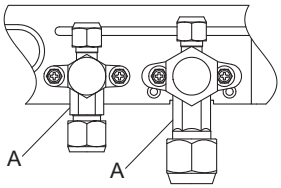
(2) To fasten the flare nuts, apply specified torque.

- When removing the flare nuts from the tubing connections, or when tightening them after connecting the tubing, be sure to use a torque wrench and a spanner.

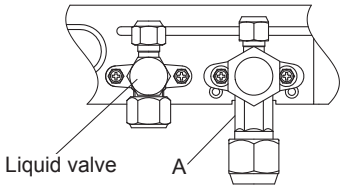


If the flare nuts are over-tightened, the flare may be damaged, which could result refrigerant leakage and cause in injury or asphyxiation to room occupants.

- When removing or tightening the flare nut, use 2 adjustable wrenches together: one at the flare nut, and the other at Part A.



In the case of the following type of liquid valve without Part A as shown below, be sure to use one wrench at the flare nut.



- For the flare nuts at tubing connections, be sure to use the flare nuts that were supplied with the unit, or else flare nuts for R410A (type 2). The refrigerant tubing that is used must be of the correct wall thickness as shown in the following table.

Tube diameter	Tightening torque, approximate	Tube thickness
ø6.35 (1/4")	14 – 18 N · m {140 – 180 kgf · cm}	0.8 mm
ø9.52 (3/8")	34 – 42 N · m {340 – 420 kgf · cm}	0.8 mm
ø12.7 (1/2")	49 – 61 N · m {490 – 610 kgf · cm}	0.8 mm
ø15.88 (5/8")	68 – 82 N · m {680 – 820 kgf · cm}	1.0 mm
ø19.05 (3/4")	100 – 120 N · m {1000 – 1200 kgf · cm}	1.2 mm

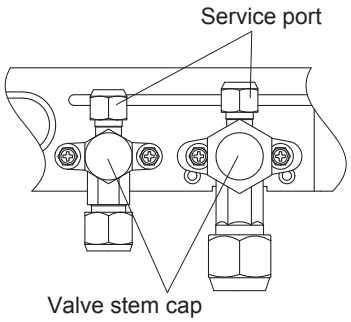
Because the pressure is approximately 1.6 times higher than conventional refrigerant pressure, the use of ordinary flare nuts (type 1) or thin-walled tubes may result in tube rupture, injury, or asphyxiation caused by refrigerant leakage.

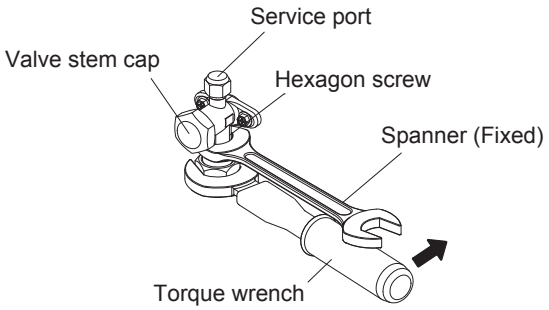
- In order to prevent damage to the flare caused by over-tightening of the flare nuts, see the table as a guide when tightening.
- When tightening the flare nut on the liquid tube, use an adjustable wrench with a nominal handle length of 200 mm.
- Do not use a spanner to tighten the valve stem caps. Doing so may damage the valves.
- Depending on the installation conditions, applying excessive torque may cause the nuts to crack.

Precautions for Packed Valve Operation

- If the packed valve is left for a long time with the valve stem cap removed, refrigerant will leak from the valve. Therefore, do not leave the valve stem cap removed.

Packed valve





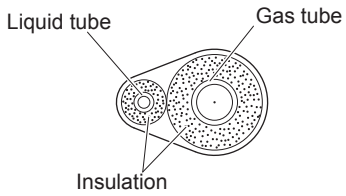
- Use a torque wrench to securely tighten the valve stem cap.
- Tightening torque:

Service port	ø9.52 (liquid)	8 – 10 N · m {80 – 100 kgf · cm}
	ø15.88 (gas)	6.9 – 11.8 N · m {69 – 118 kgf · cm}
Valve stem cap	ø9.52 (liquid)	19 – 21 N · m {190 – 210 kgf · cm}
	ø15.88 (gas)	13 – 14 N · m {130 – 140 kgf · cm}
Flare nut	ø9.52 (liquid)	34 – 42 N · m {340 – 420 kgf · cm}
	ø15.88 (gas)	68 – 82 N · m {680 – 820 kgf · cm}

5. HOW TO PROCESS TUBING

5-3. Insulating the Refrigerant Tubing

Two tubes arranged together

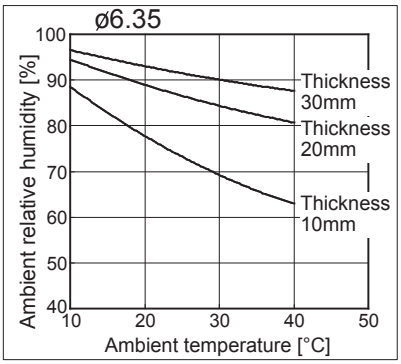


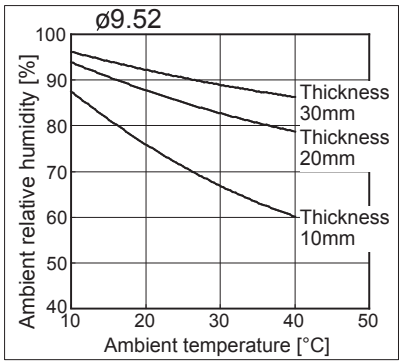
Tubing Insulation

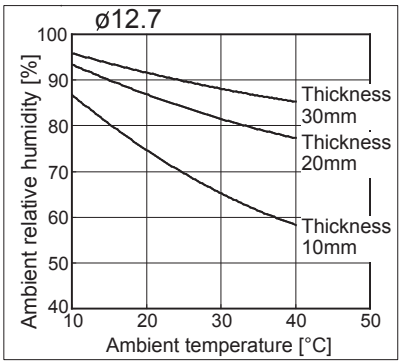
- Standard Selection of Insulation Material
  Under the environment of the high temperature and high humidity, the surface of the insulation material is easy to become condensation. This will result in leakage and dew drop. See the chart shown below when selecting the insulation material. In case that the ambient temperature and relative humidity are placed above the line of the insulation thickness, the condensation may occasionally make a dew drop on the surface of the insulation material. In this case, select the better insulation efficiency.
  * However, since the condition will be different due to the sort of the insulation material and the environmental condition of the installation place, see the chart shown below as a reference when making a selection.

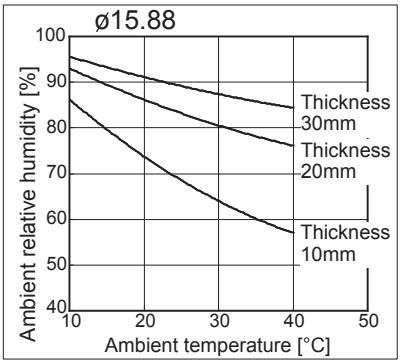
Standard Selection of Tubing Insulation

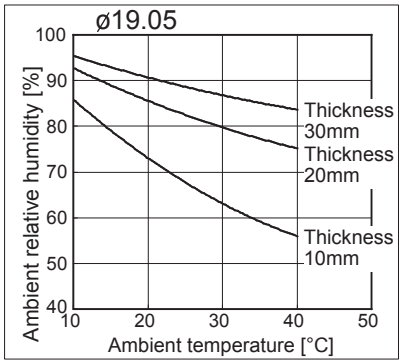
Sort of insulation material	Polyethylene heat resisting material
Upper limits of usage temperature	Gas tubing : 120 °C or above Other tubing : 80 °C or above
Calculating condition	
Thermal conductivity of insulation material	0.043 W/(m · K) (Average temperature 23 °C)
Refrigerant temperature	2 °C









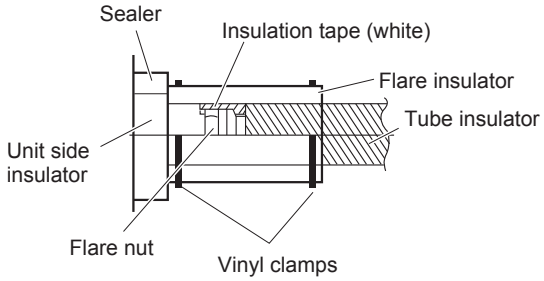


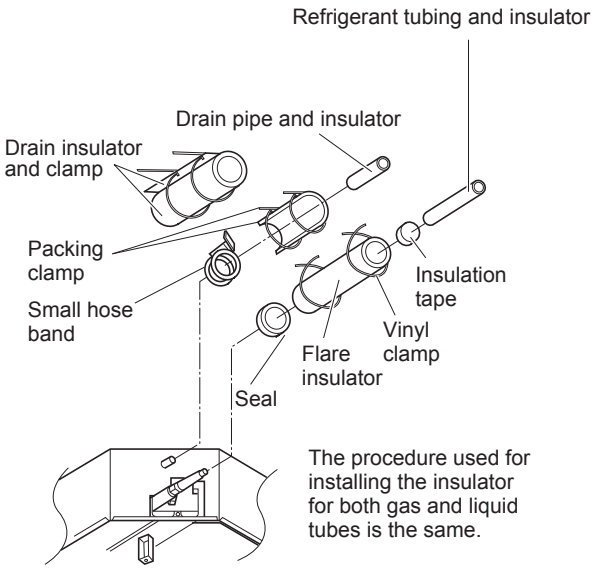
5. HOW TO PROCESS TUBING

CAUTION **If the exterior of the outdoor unit valves has been finished with a square duct covering, make sure you allow sufficient space to use the valves and to allow the panels to be attached and removed.**

Taping the flare nuts

Wind the white insulation tape around the flare nuts at the gas tube connections. Then cover up the tubing connections with the flare insulator, and fill the gap at the union with the supplied black insulation tape. Finally, fasten the insulator at both ends with the supplied vinyl clamps.





Never grasp the drain or refrigerant connecting outlets when moving the unit.

Insulation material

The material used for insulation must have good insulation characteristics, be easy to use, be age resistant, and must not easily absorb moisture.

Be sure to use the heat-resistant insulator corresponding to the gas tube of 120 °C or above and other tubes of 80 °C or above.

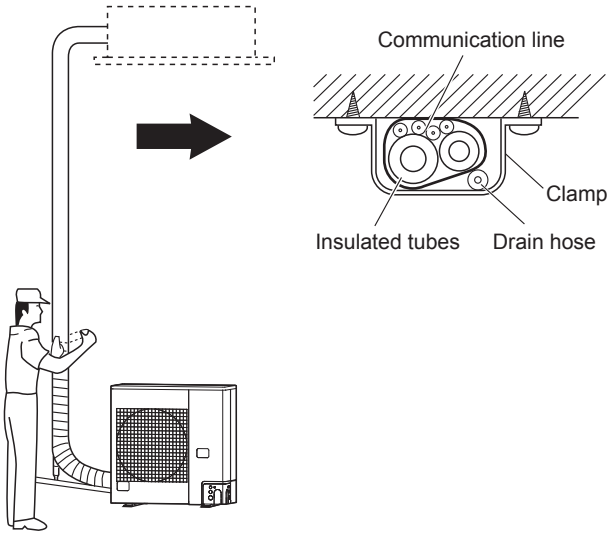
CAUTION **After a tube has been insulated, never try to bend it into a narrow curve because it can cause the tube to break or crack.**

5-4. Taping the Tubes

(1) At this time, the refrigerant tubes (and electrical wiring if local codes permit) should be taped together with armoring tape in 1 bundle. To prevent the condensation from overflowing the drain pan, keep the drain hose separate from the refrigerant tubing.

(2) Wrap the armoring tape from the bottom of the outdoor unit to the top of the tubing where it enters the wall. As you wrap the tubing, overlap half of each previous tape turn.

(3) Clamp the tubing bundle to the wall, using 1 clamp approx. each meter.

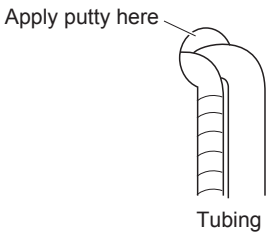


NOTE

Do not wind the armoring tape too tightly since this will decrease the heat insulation effect. Also ensure that the condensation drain hose splits away from the bundle and drips clear of the unit and the tubing.

5-5. Finishing the Installation

After finishing insulating and taping over the tubing, use sealing putty to seal off the hole in the wall to prevent rain and draft from entering.



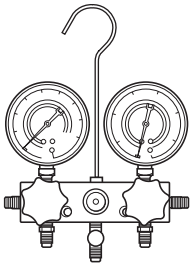
6. AIR PURGING

Air and moisture in the refrigerant system may have undesirable effects as indicated below.

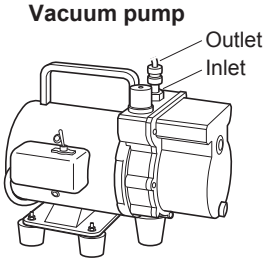
- pressure in the system rises
- operating current rises
- cooling (or heating) efficiency drops
- moisture in the refrigerant circuit may freeze and block capillary tubing
- water may lead to corrosion of parts in the refrigerant system

Therefore, the indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any noncondensables and moisture from the system.

Manifold gauge



Vacuum pump



■ Air Purging with a Vacuum Pump (for Test Run)

Preparation

Check that each tube (both liquid and gas tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the valve caps from both the gas and liquid service valves on the outdoor unit. Note that both liquid and gas tube service valves on the outdoor unit are kept closed at this stage.

2

Leak test

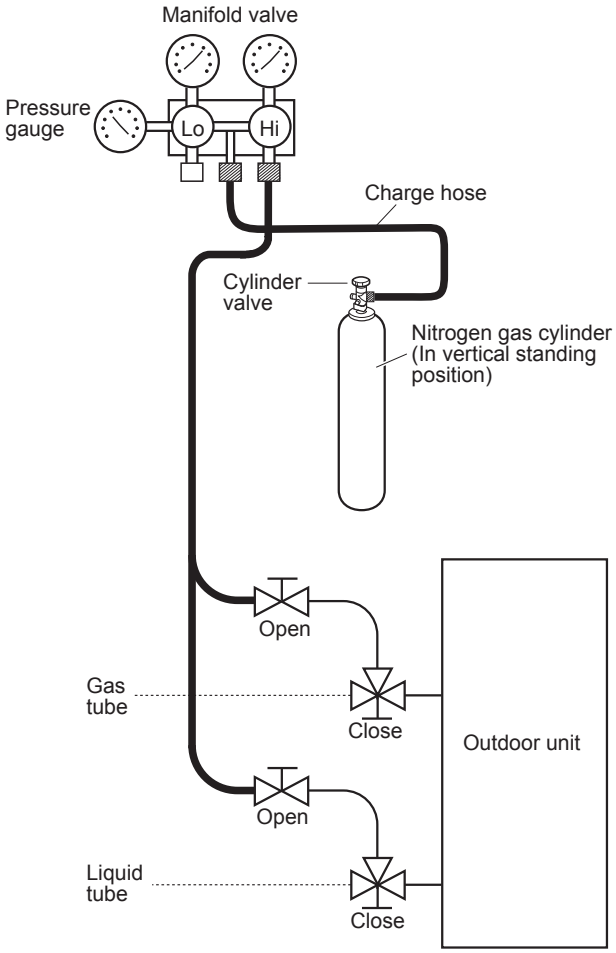
(1) With the service valves on the outdoor unit closed, remove the 1/4 in. flare nut and its bonnet on the gas tube service valve. (Save for reuse.)

(2) Attach a manifold valve (with pressure gauges) and dry nitrogen gas cylinder to this service port with charge hoses.

CAUTION **Use a manifold valve for air purging. If it is not available, use a stop valve for this purpose. The "Lo" knob of the manifold valve must always be kept closed.**

(3) Pressurize the system to no more than 3.80 MPa with dry nitrogen gas and close the cylinder valve when the gauge reading reaches 3.80 MPa. Then, test for leaks with liquid soap.

CAUTION **To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than the bottom when you pressurize the system. Usually, the cylinder is used in a vertical standing position.**



6. AIR PURGING

(4) Do a leak test of all joints of the tubing (both indoor and outdoor) and both gas and liquid service valves. Bubbles indicate a leak. Wipe off the soap with a clean cloth after a leak test.

(5) After the system is found to be free of leaks, relieve the nitrogen pressure by loosening the charge hose connector at the nitrogen cylinder. When the system pressure is reduced to normal, disconnect the hose from the cylinder.

Evacuation

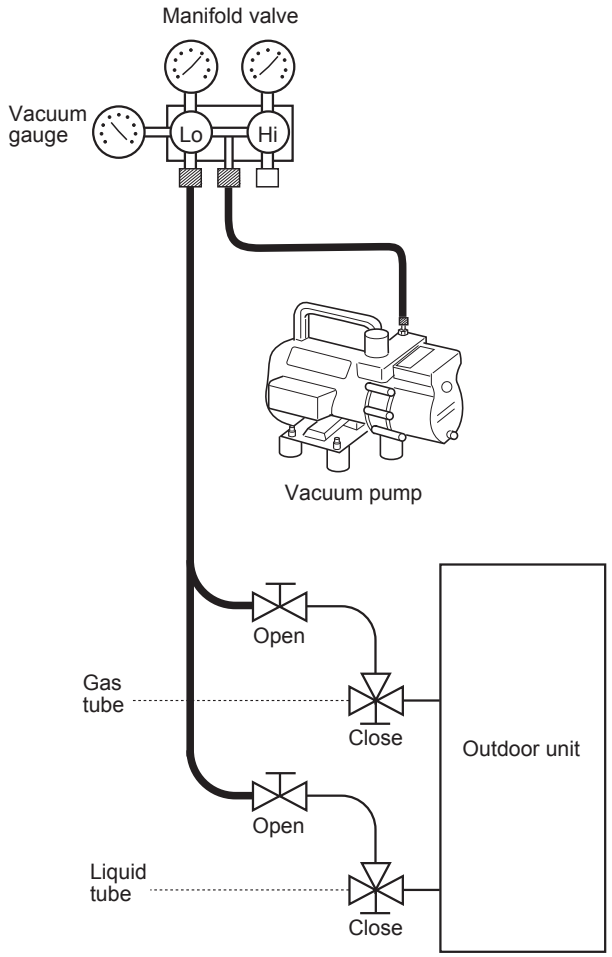
(1) Attach the charge hose end described in the preceding steps to the vacuum pump to evacuate the tubing and indoor unit. Confirm that the “Lo” knob of the manifold valve is open. Then, run the vacuum pump. The operation time for evacuation varies with the tubing length and capacity of the pump. The following table shows the amount of time for evacuation:

Required time for evacuation when 30 gal/min. vacuum pump is used	
If tubing length is less than 15 m	If tubing length is longer than 15 m
45 min. or more	**90 min. or more**

NOTE

The required time in the above table is calculated based on the assumption that the ideal (or target) vacuum condition is less than –101 kPa {–755 mmHg, 5 Torr}.

(2) When the desired vacuum is reached, close the “Lo” knob of the manifold valve and turn off the vacuum pump. Please confirm that the gauge pressure is under –101 kPa {–755 mmHg, 5 Torr} after 4 to 5 minutes of vacuum pump operation.



6. AIR PURGING

CAUTION **Use a cylinder designed for use with R410A respectively.**

Charging additional refrigerant

- Charging additional refrigerant (calculated from the liquid tube length as shown in the section “Additional Refrigerant Charge” on page 2-8) using the liquid tube service valve.
- Use a balance to measure the refrigerant accurately.
- If the additional refrigerant charge amount cannot be charged at once, charge the remaining refrigerant in liquid form by using the gas tube service valve with the system in cooling operation mode at the time of test run.

Finishing the job

(1) With a hexagonal wrench, turn the liquid tube service valve stem counter-clockwise to fully open the valve.

(2) With a hexagonal wrench, turn the gas tube turn the gas tube service valve stem counter-clockwise to fully open the valve.

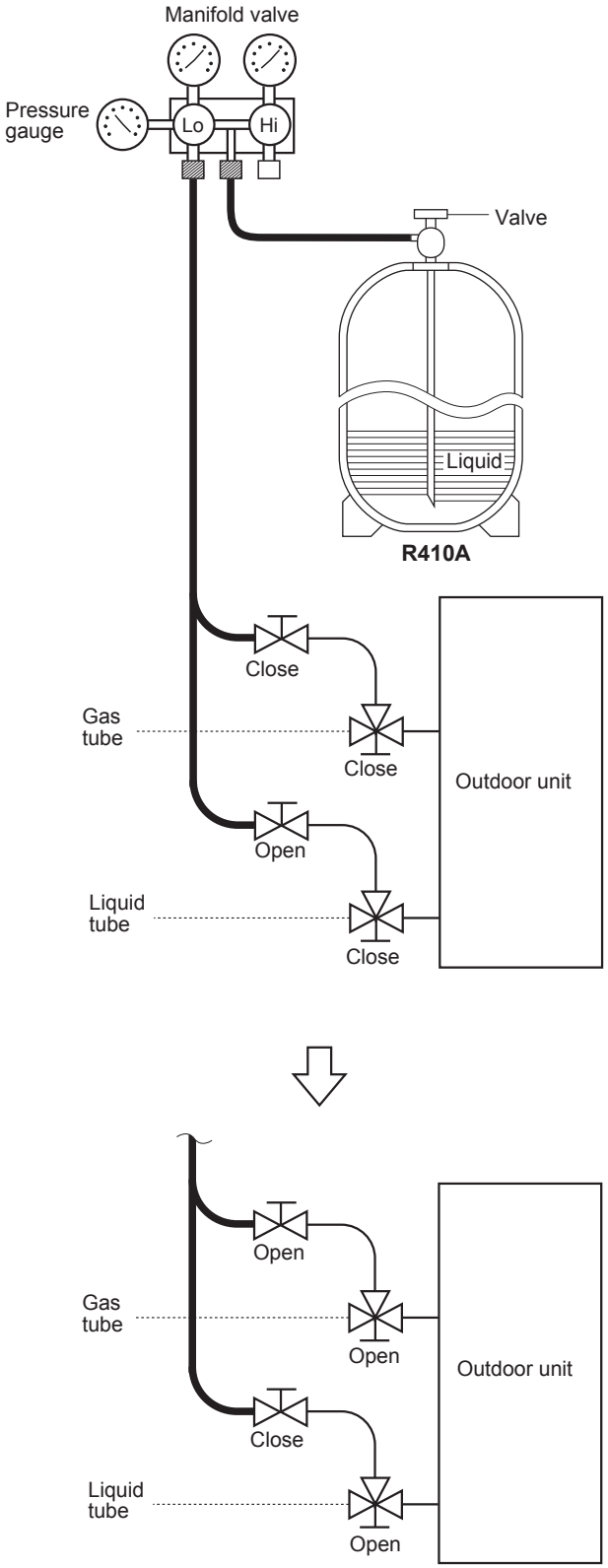
CAUTION **To avoid gas from leaking when removing the charge hose, make sure the stem of the gas tube is turned all the way out (“BACK SEAT” position).**

(3) Loosen the charge hose connected to the gas tube service port (1/4 in.) slightly to release the pressure, then remove the hose.

(4) Replace the 1/4 in. flare nut and its bonnet on the gas tube service port and fasten the flare nut securely with an adjustable wrench or box wrench. This process is very important to prevent gas from leaking from the system.

(5) Replace the valve caps at both gas and liquid service valves and fasten them securely.

This completes air purging with a vacuum pump. The air conditioner is now ready for a test run.



7. Optional Parts

7-1. Optional Distribution Joint Kit

See the installation instructions packaged with the distribution joint kit for the installation procedure.

Table 2-12

Model name	Cooling capacity after distribution	Remarks
CZ-P160BK2	22.4 kW or less *	For indoor unit

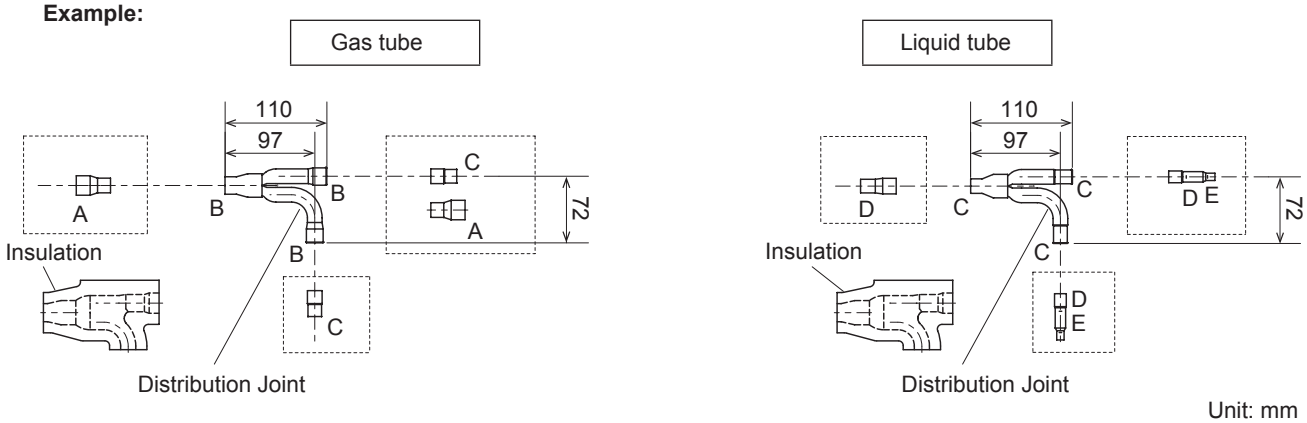
* In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the distribution tubing size for the capacity of the outdoor unit.

■ Tubing size (with thermal insulation)

1. CZ-P160BK2

Use: Total capacity of indoor units after distribution joint is 22.4 kW or less.*

Example:



Unit: mm

Table2-13: Size of connection point on each part (Shown are inside diameters of tubing)

Size	Part A	Part B	Part C	Part D	Part E
mm	ø19.05	ø15.88	ø12.7	ø9.52	ø6.35

* In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the distribution tubing size for the capacity of the outdoor unit.

7. Optional Parts

2. Making Branch Connections

- For branching tubes, install 150mm or larger (including reducer) straight tubing up to the point where the tube branches (or after the point where the tubes join together). (Fig. 2-1)

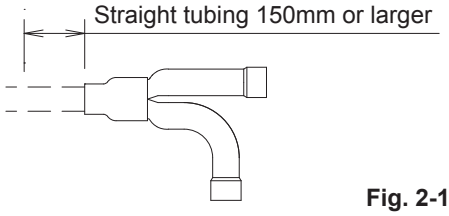


Fig. 2-1

- Using a tube cutter, cut the joints at the diameter required to match the outside diameter of the tubing you are connecting. (This is usually done at the installation site.)
- The tube diameter depends on the total capacity of the indoor unit. Note that you do not have to cut the joints if it already matches the tubing end size. For size selection of the tube diameter, refer to the installation instructions provided with the outdoor unit.
- In case the total capacity of indoor units connected after distribution exceeds the capacity of the outdoor unit, select the distribution tubing size for the capacity of the outdoor unit.
- Avoid forceful cutting that may harm the shape of the joints or tubing. (Inserting the tubing will not be possible if the tube shape is not proper.)
- Cut off as far away from stopper as possible. (Fig. 2-2)
- After cutting the joints, be sure to remove burrs on the inside of the joints. (If the joints have been squashed or dented badly, reshaped them using a tube spreader.)
- Make sure there is no dirt or other foreign substances inside the distribution joint.

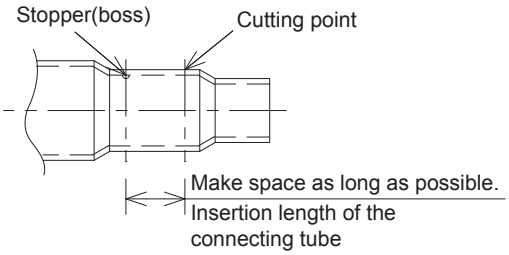


Fig. 2-2

- The distribution joint must be fixed horizontally in the case of simultaneous operation multi type for commercial PAC, and either horizontally or vertically in the case of VRF (2WAY, 3WAY, Mini) System / GHP. (Fig. 2-3)

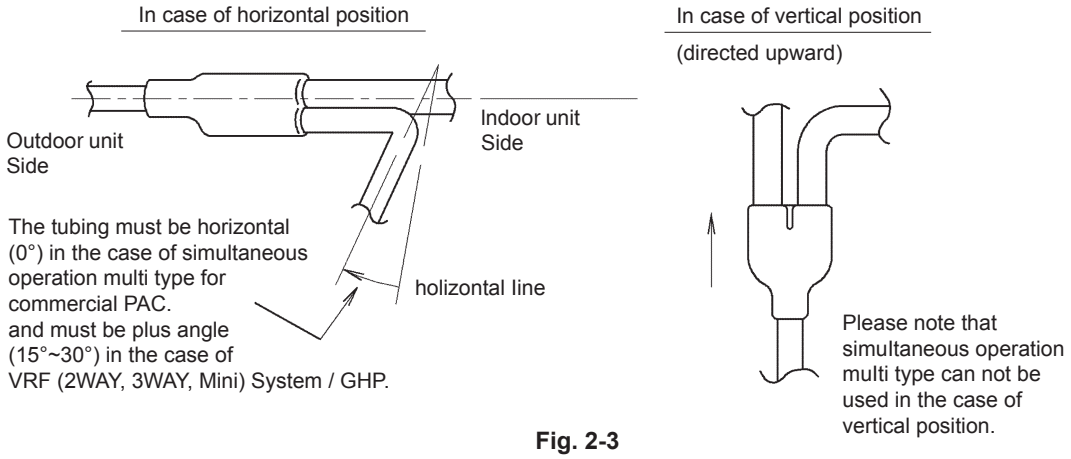


Fig. 2-3

- When brazing a pipe E to the reducer of which middle pipe inner dimension is D as shown above chart, cut the middle pipe as long as possible so that the pipe E can be inserted.
- When brazing, replace air inside the tube with nitrogen gas to prevent copper oxide from forming.
- To insulate the distribution joint, use the supplied tubing insulation. (If using insulation other than that supplied, make sure that its heat resistance is 120°C or higher.)
- For additional details, refer to the installation instructions provided with the outdoor unit.

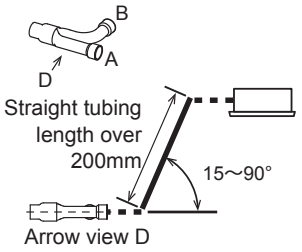
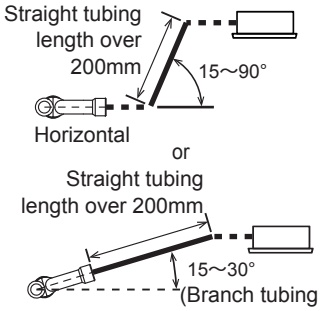
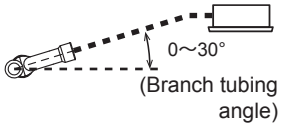
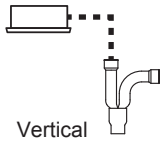
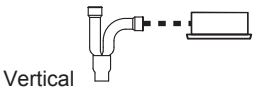
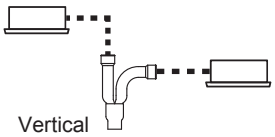
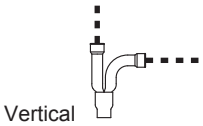
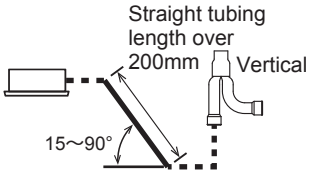
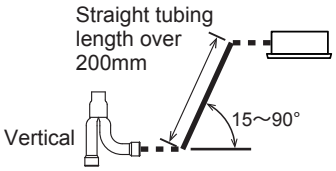
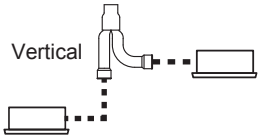
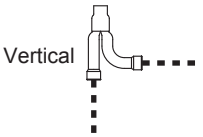
7. Optional Parts

7-2. Installing Distribution Joint

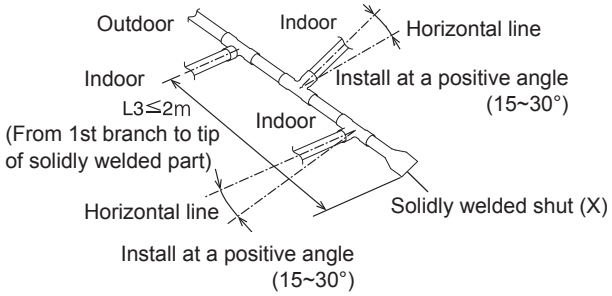
(1) Refer to “HOW TO ATTACH DISTRIBUTION JOINT” enclosed with the optional distribution joint kit (CZ-P160BK2).

- When connecting a branch tubing to the indoor unit directly, it is necessary for each branch tubing to install at a positive angle with respect to horizontal in order to prevent accumulation of refrigerant oil in stopped units. See the below chart.

Branch tubing system — Restricted - - - - Not restricted

How to install branch tubing 		When connecting branch tubing to indoor unit directly			When not connecting branch tubing to indoor unit directly
		Gas tube		Liquid tube	Gas & liquid tubes
		When connecting to A	When connecting to B		
Horizontal					
Vertical	Upward				
	Downward				

Header branch system (Main tubing is horizontal.)



- Be sure to solidly weld shut the T-joint end (marked by X in the figure). In addition, pay attention to the insertion depth of each connected tube so that the flow of refrigerant within the T-joint is not impeded.

  Be sure to use a commercial available T-joint.
- When using the header joint system, do not make further branches in the tubing.

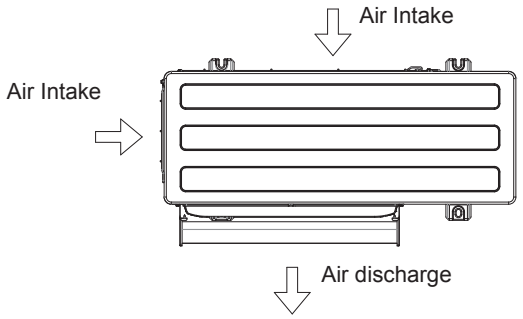
8. Supplement

8-1. Dimensions of Air-discharge Chamber

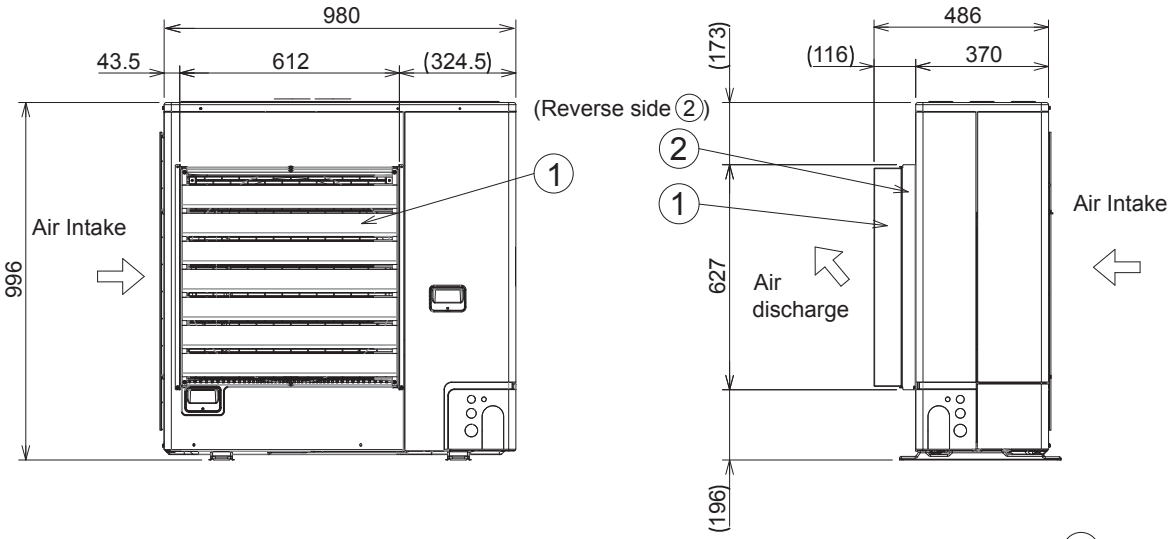
In snowy regions, if there is concern that snow may enter the air discharge chamber, remove the base of the chamber before using.

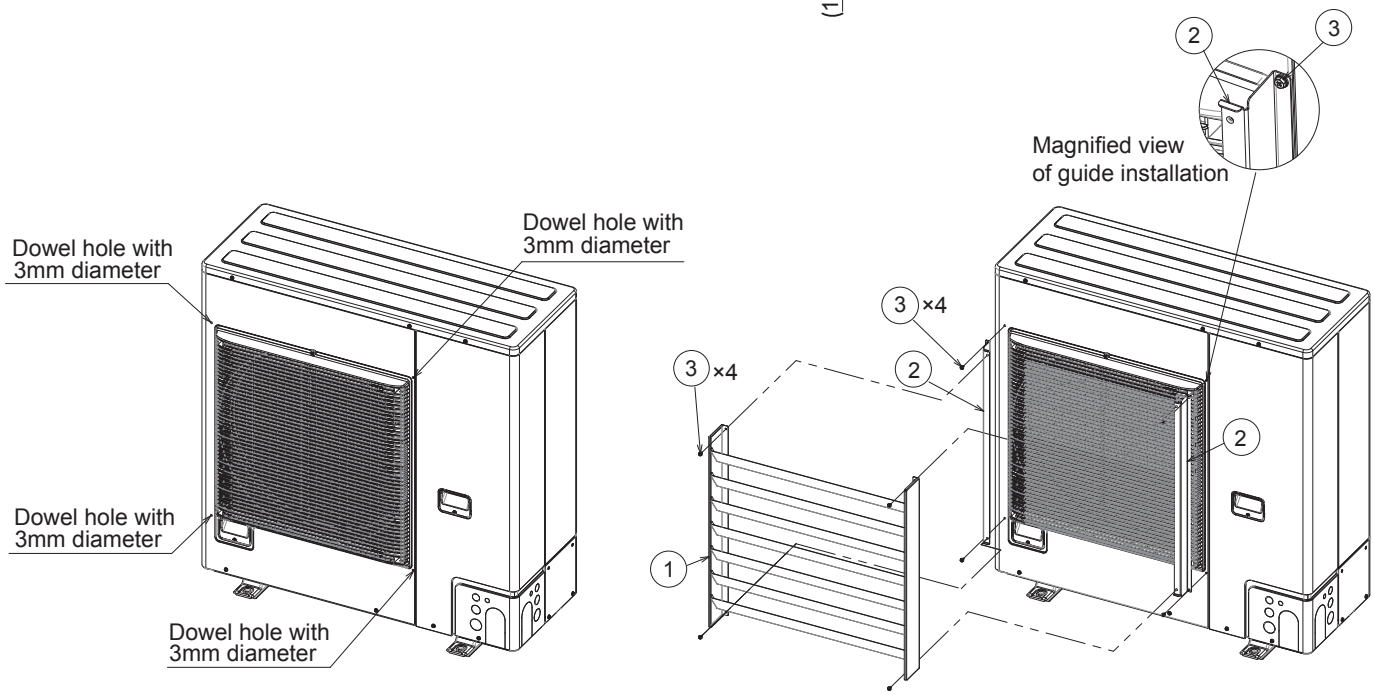
Reference diagram

Unit: mm



RMK	PART NAME	Q'ty
①	Air-discharge chamber	1
②	Louver installation guide t1.0	2
③	Tapping screw (4mm×12mm)	8



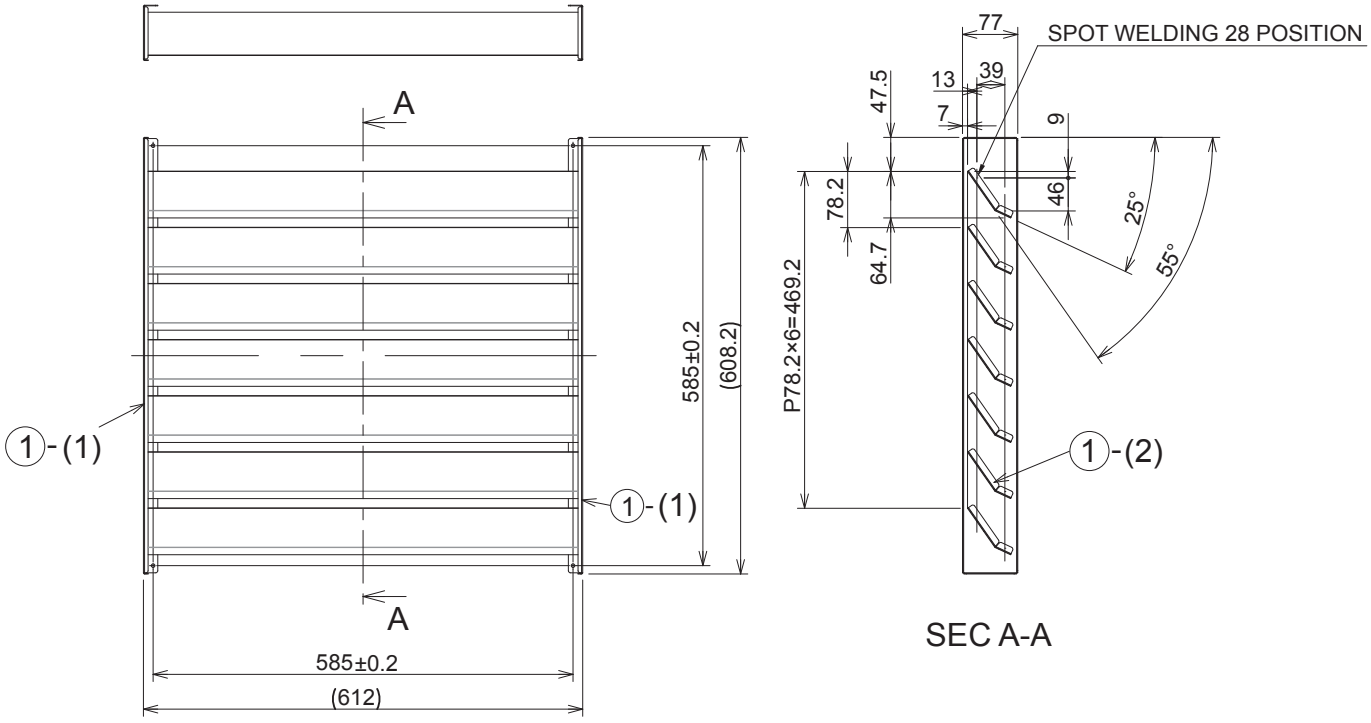


8. Supplement

① Reference diagram for Air-discharge chamber (field supply)

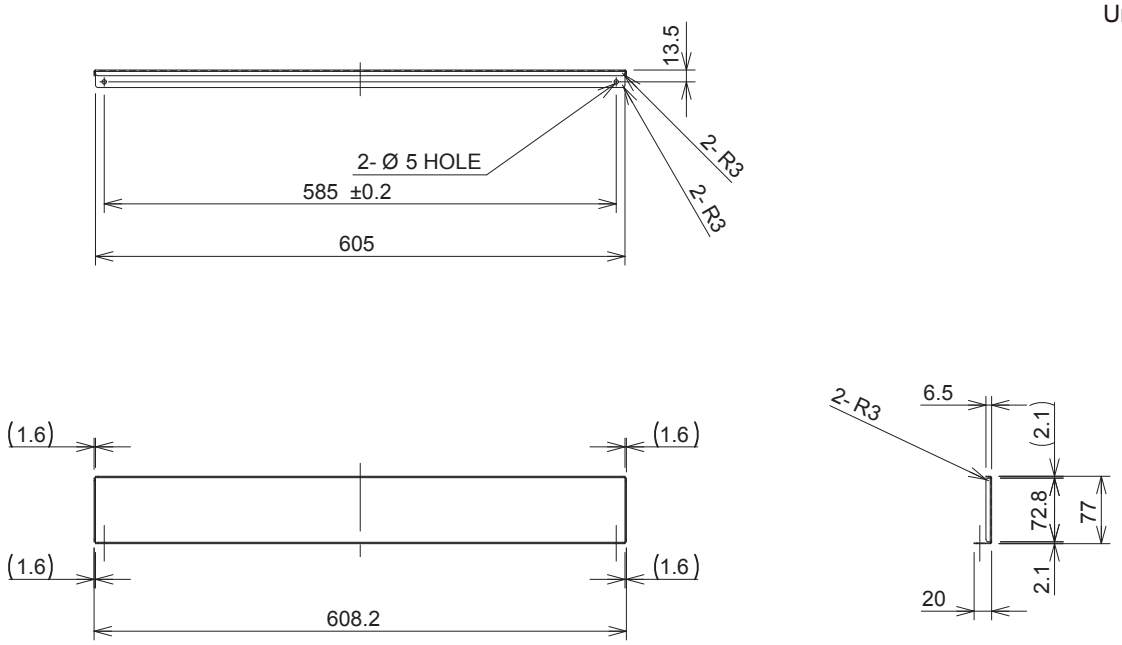
RMK	PART NAME		Q'ty
①-(1)	Side installation fixture	t0.8	2
①-(2)	Louver	t0.8	7

Unit: mm



①-(1) Reference diagram for Side installation fixture (field supply)

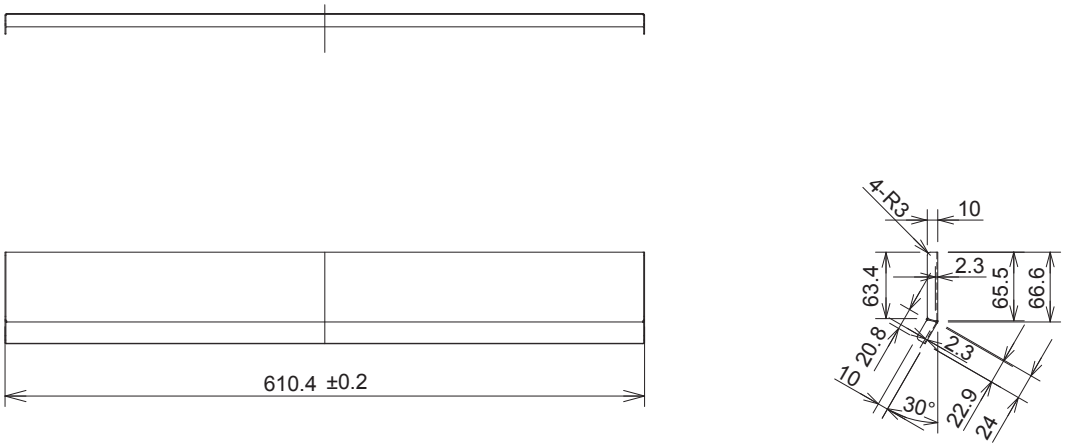
Unit: mm



8. Supplement

① - (2) Reference diagram for Louver (field supply)

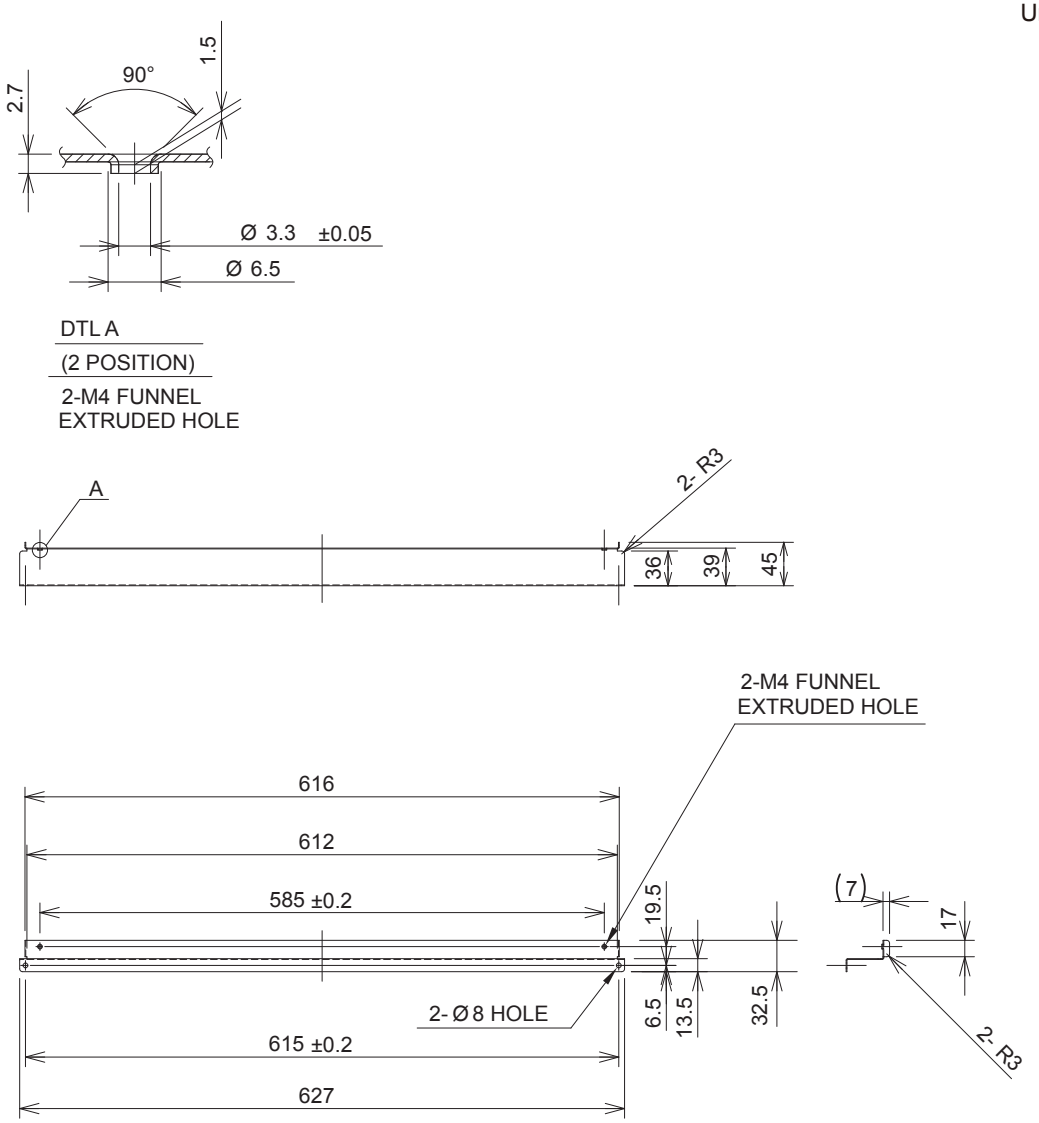
Unit: mm



2

② Reference diagram for Louver installation guide (field supply)

Unit: mm

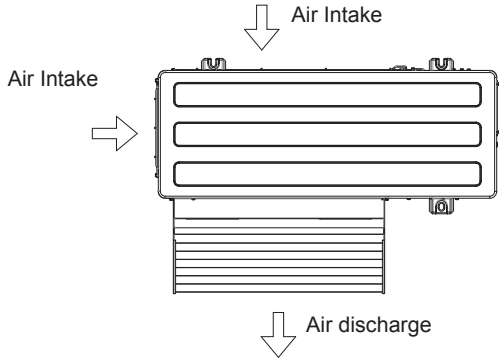


8. Supplement

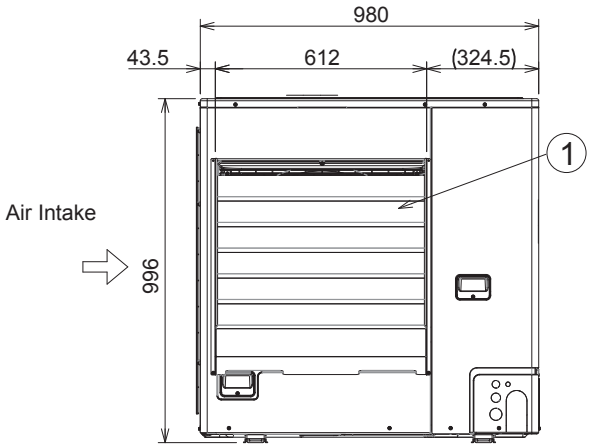
8-2. Dimensions of Air-discharge Chamber for Top discharge

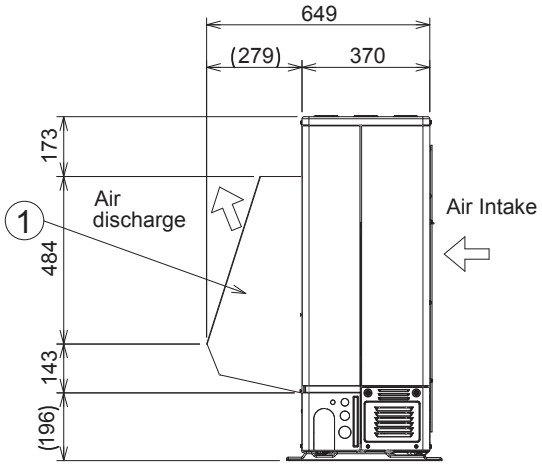
Reference diagram

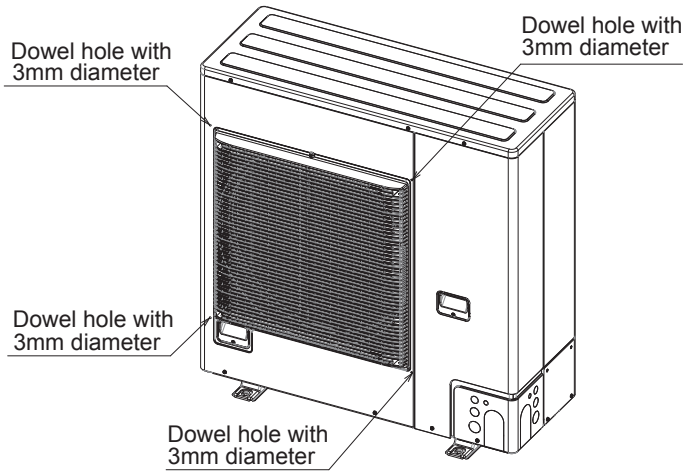
Unit: mm

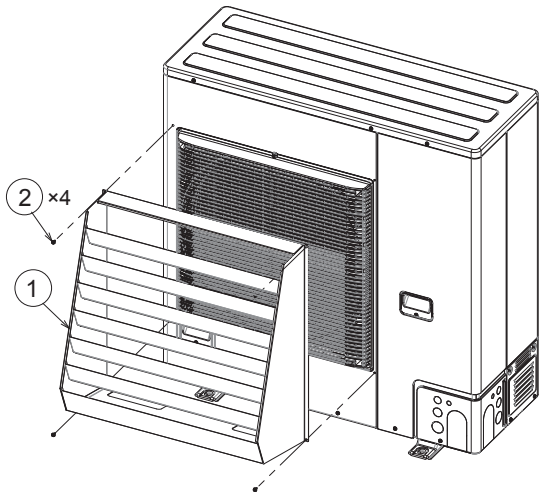


RMK	PART NAME	Q'ty
①	Air-discharge chamber for Top discharge	1
②	Tapping Screw (4mm×12mm)	4







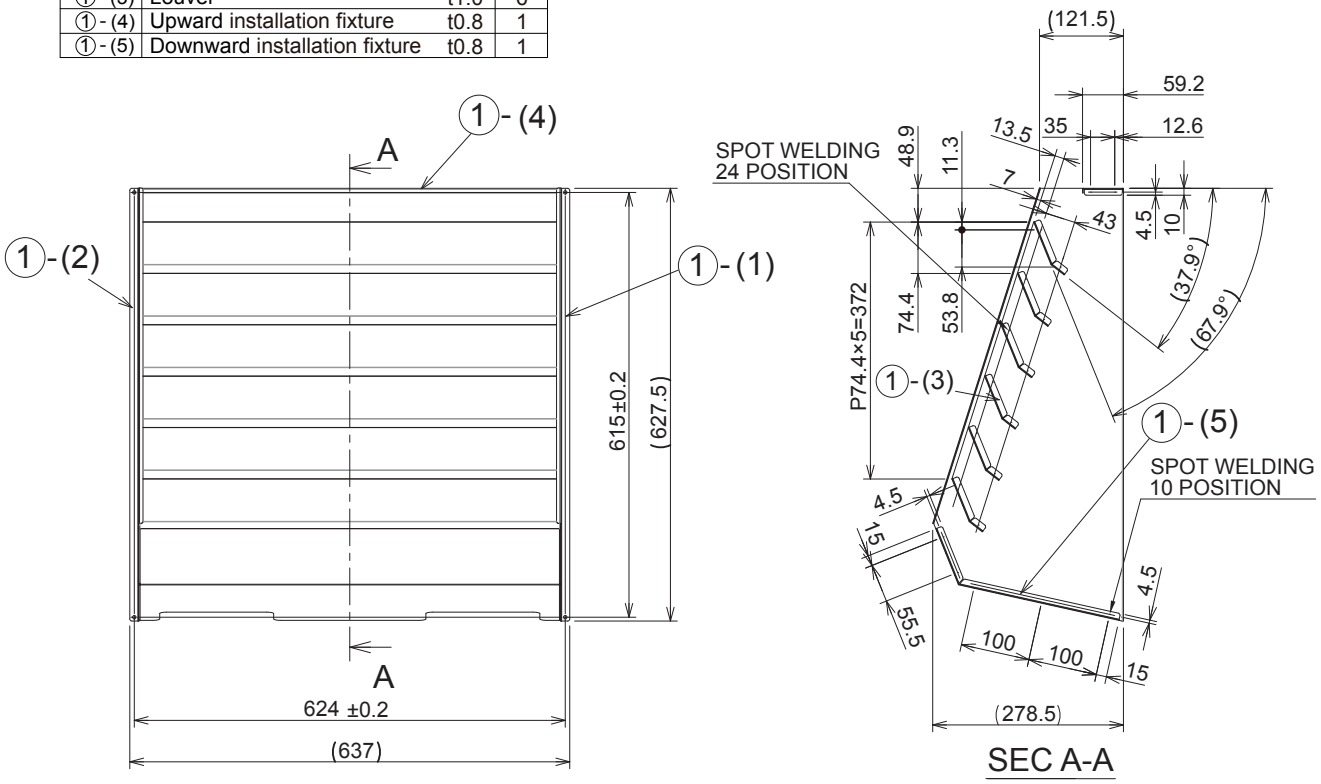


8. Supplement

① Reference diagram for Air-discharge Chamber for Top discharge (field supply)

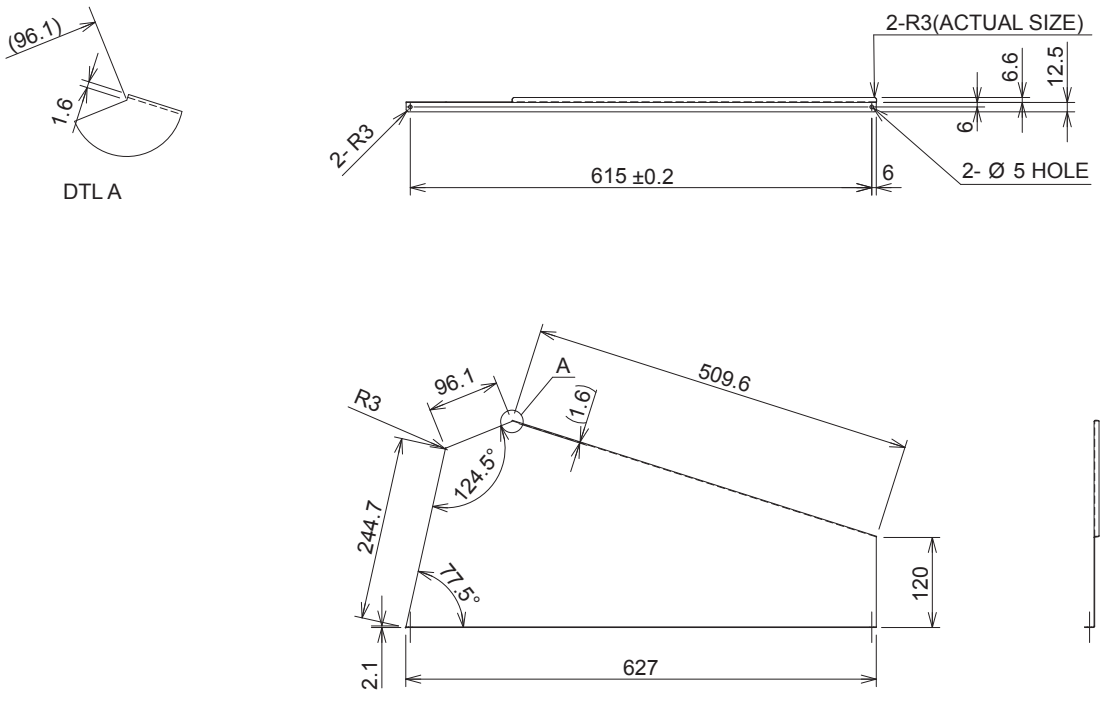
RMK	PART NAME		Q'ty
① - (1)	Right side installation fixture	t0.8	1
① - (2)	Left side installation fixture	t0.8	1
① - (3)	Louver	t1.0	6
① - (4)	Upward installation fixture	t0.8	1
① - (5)	Downward installation fixture	t0.8	1

Unit: mm



① - (1) Reference diagram for Right side installation fixture (field supply)

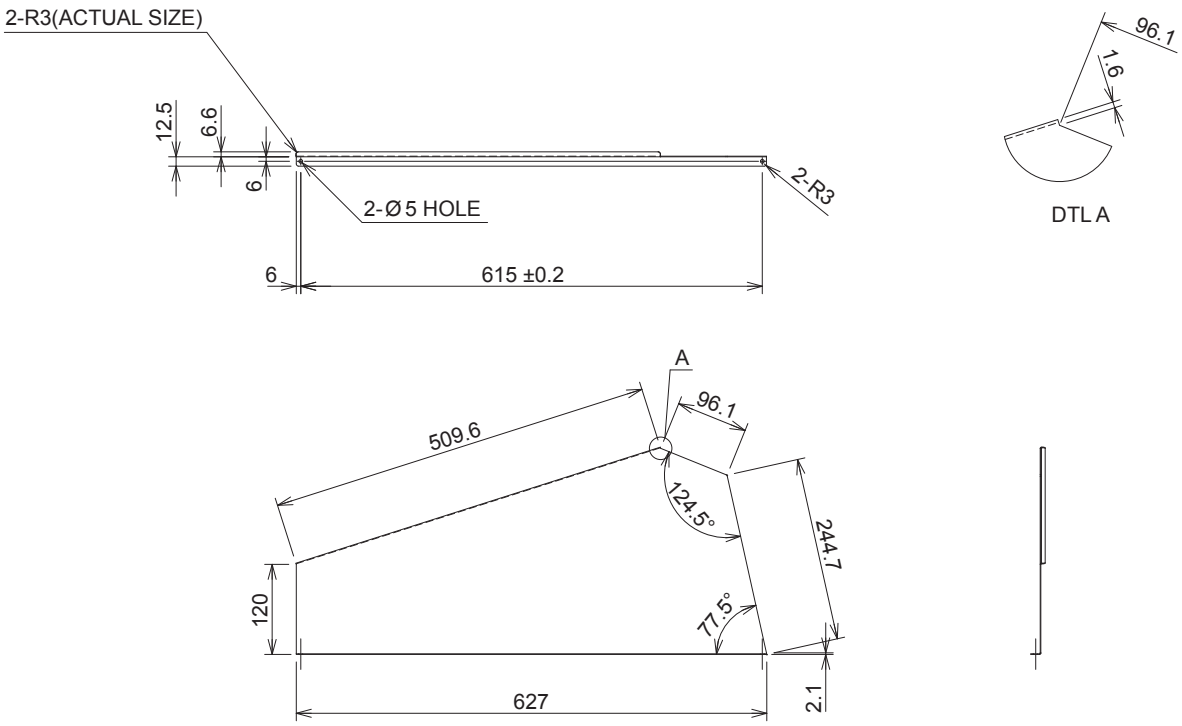
Unit: mm



8. Supplement

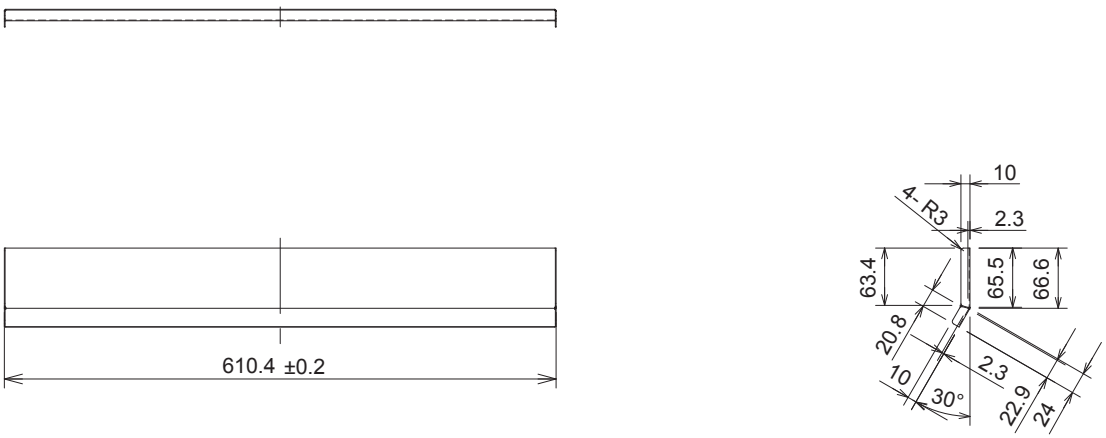
① - (2) Reference diagram for Left side installation fixture (field supply)

Unit: mm



① - (3) Reference diagram for Louver (field supply)

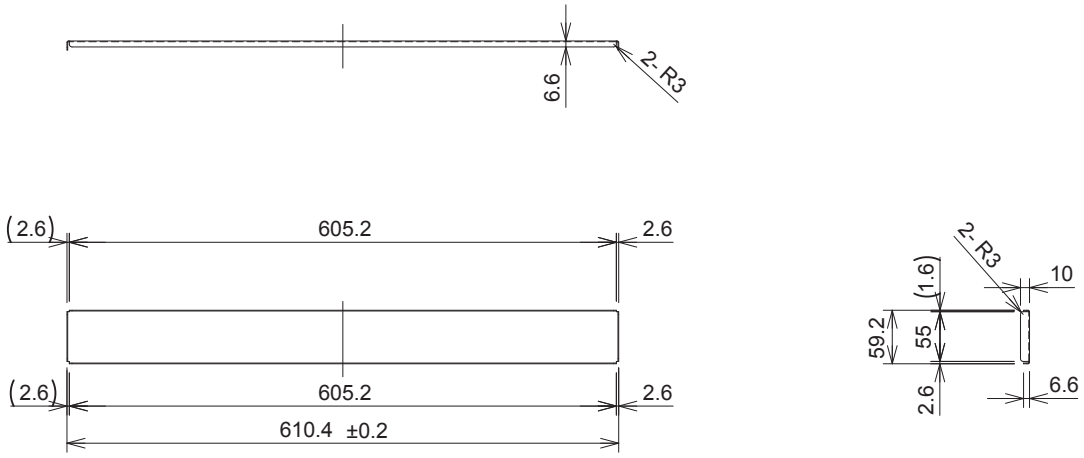
Unit: mm



8. Supplement

① - (4) Reference diagram for Upward installation fixture (field supply)

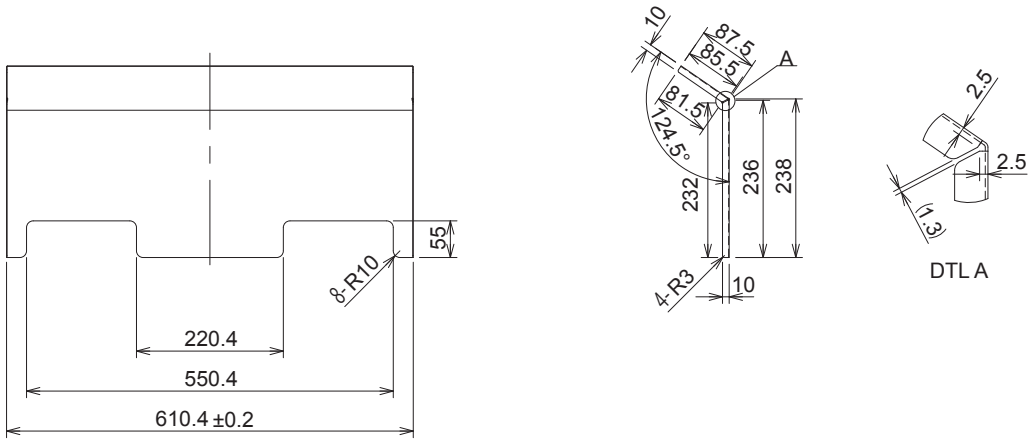
Unit: mm



2

① - (5) Reference diagram for Downward installation fixture(field supply)

Unit: mm

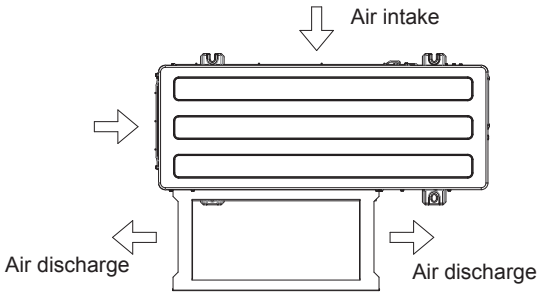


8. Supplement

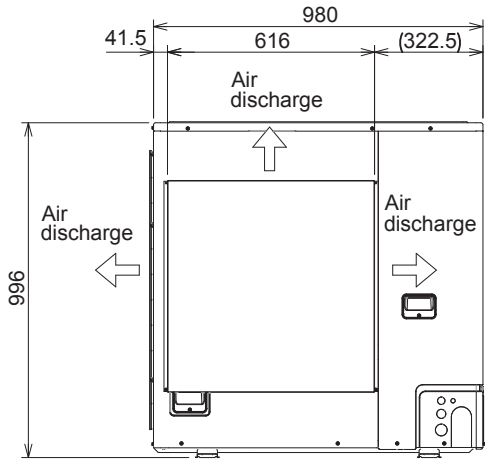
8-3. Dimensions of Wind-proof Duct

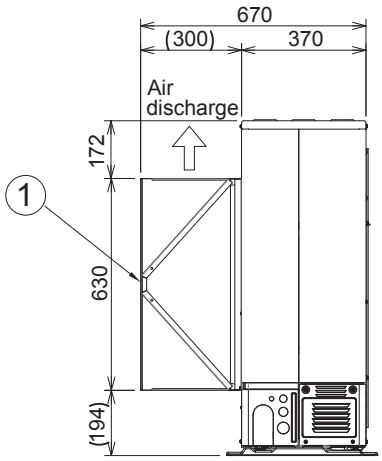
Reference diagram

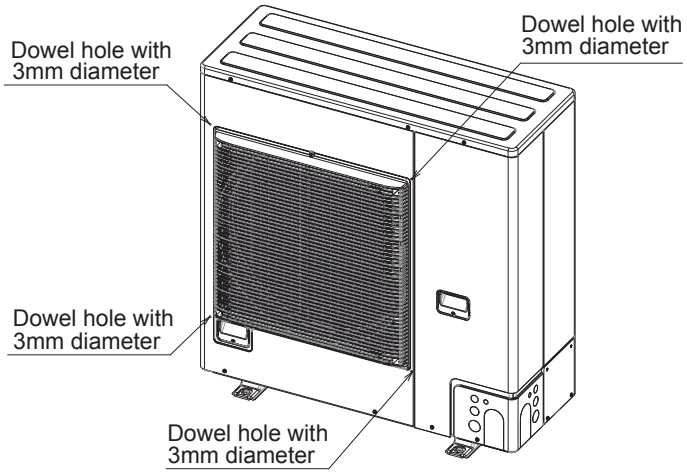
Unit: mm

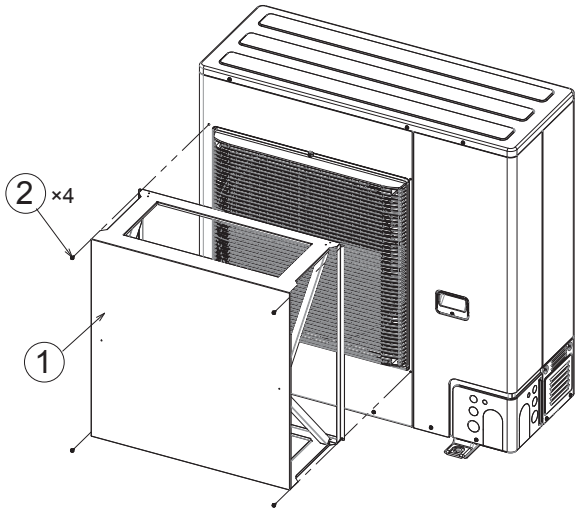


RMK	PART NAME	Q'ty
①	Wind-proof Duct	1
②	Tapping Screw (4mm×12mm)	4







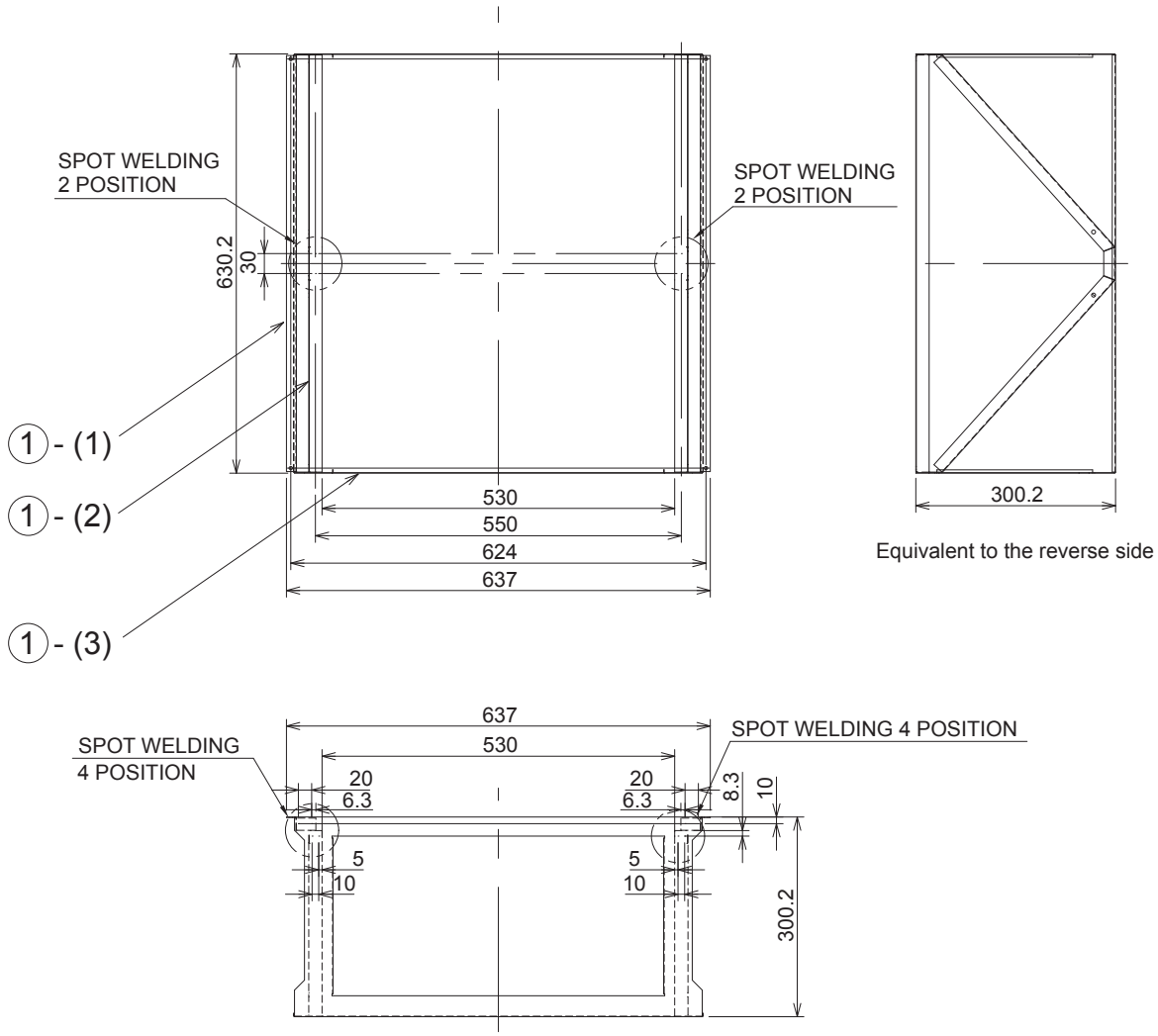


8. Supplement

Reference diagram for wind-proof Duct (field supply)

RMK	PART NAME		Q'ty
①-(1)	Wind-proof Front panel	t0.8	1
①-(2)	Wind-proof Bracket	t0.8	2
①-(3)	Wind-proof Pole	t0.8	2

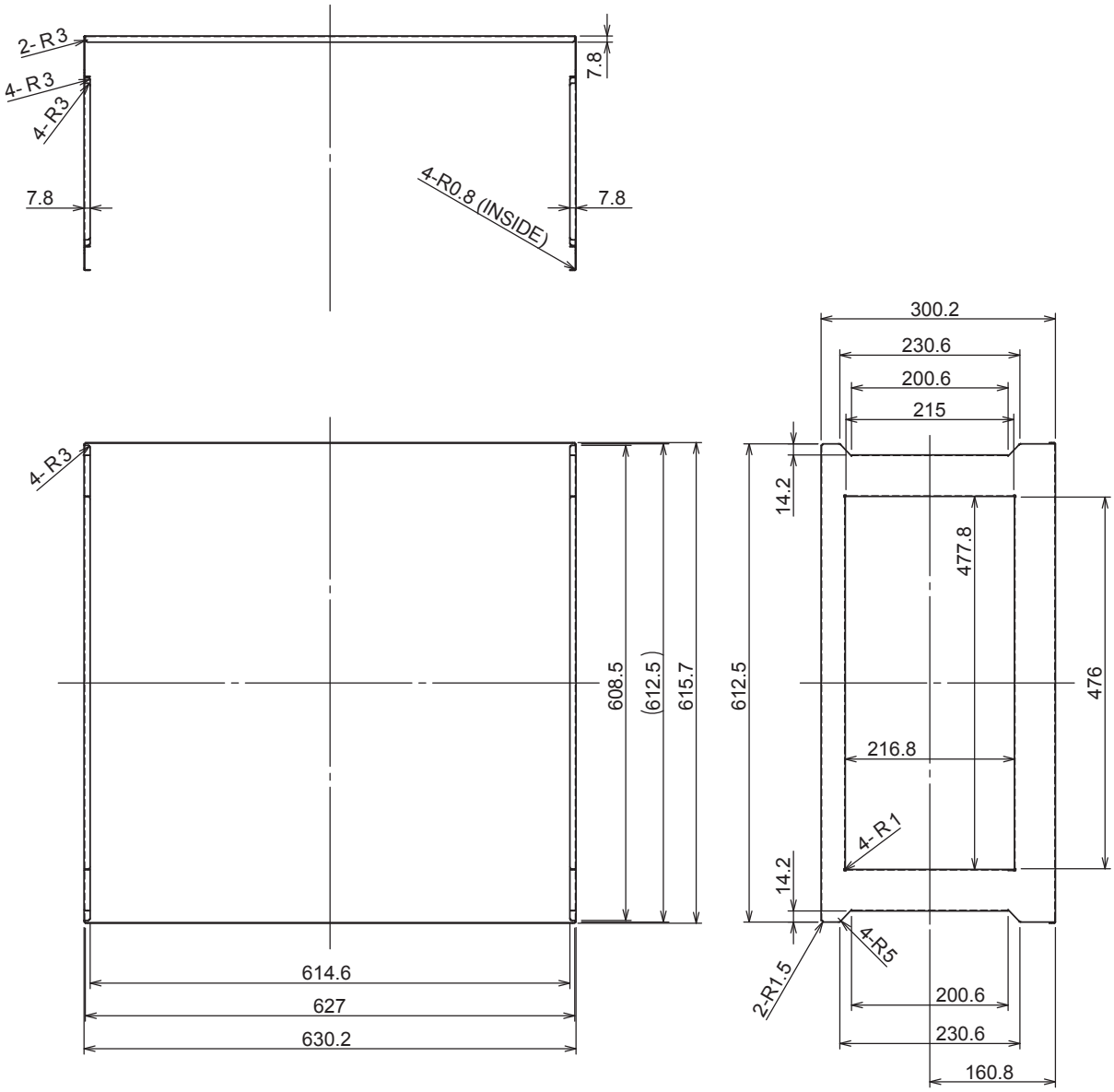
Unit: mm



8. Supplement

① - (1) Reference diagram for Wind-proof Front Panel (field supply)

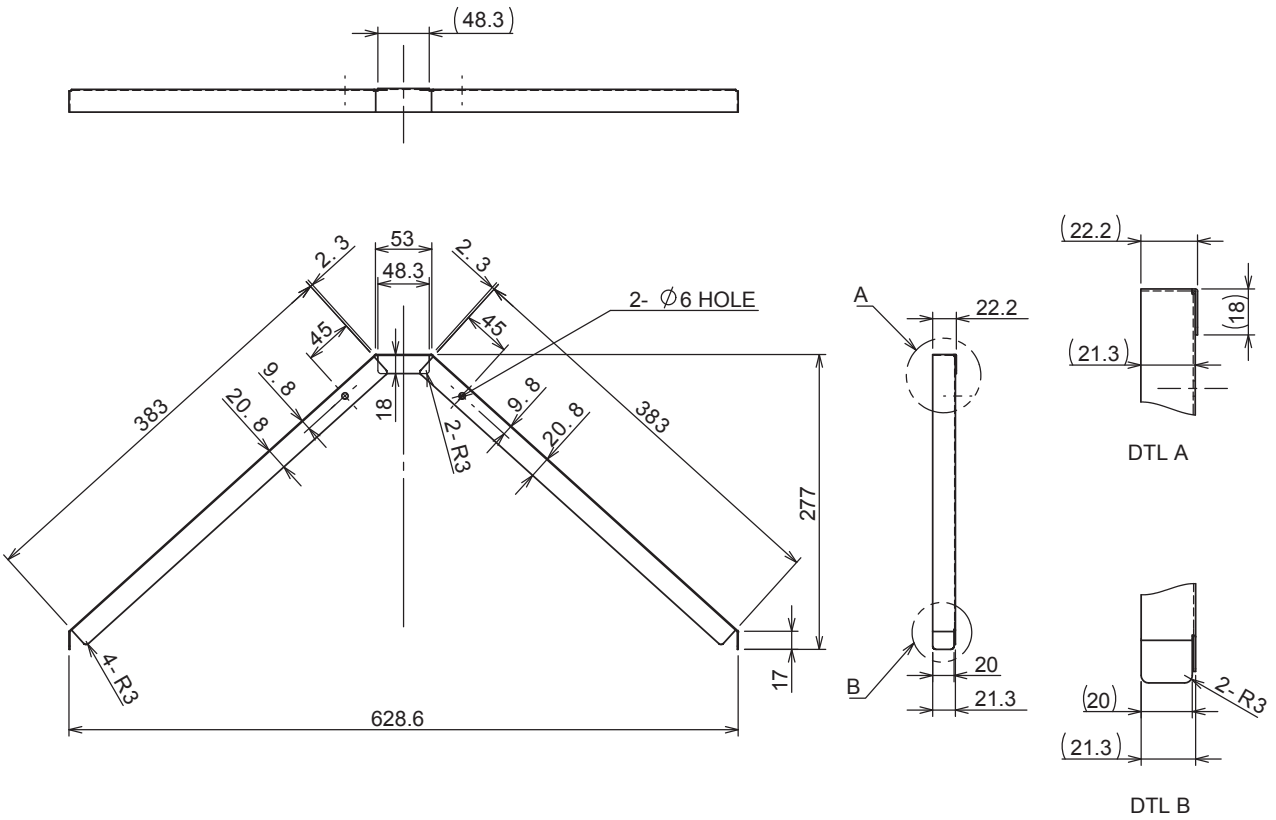
Unit: mm



8. Supplement

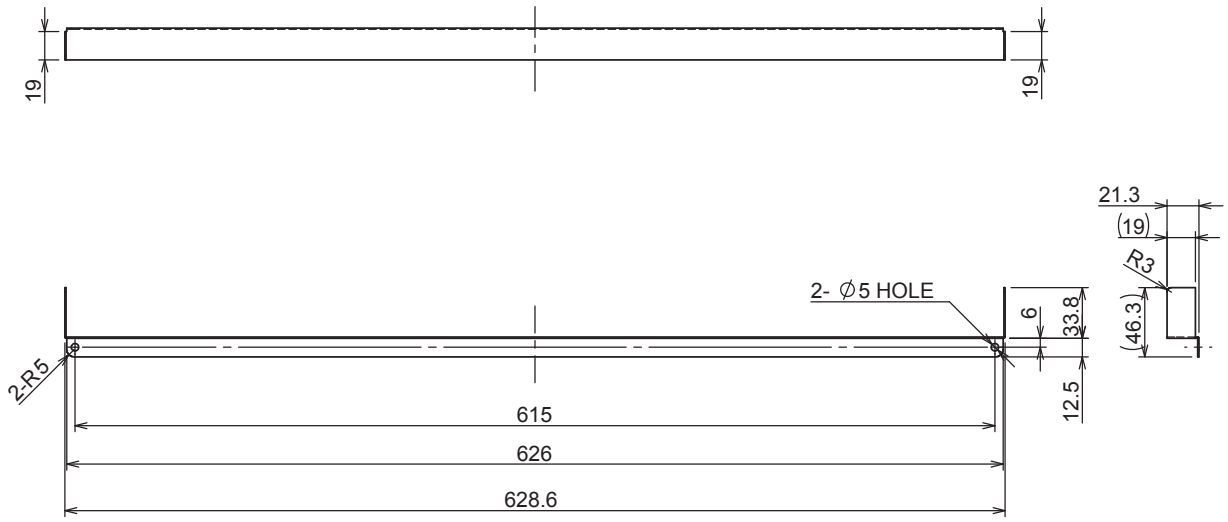
① - (2) Reference diagram for Wind-proof Bracket (field supply)

Unit: mm



① - (3) Reference diagram for Wind-proof Pole (field supply)

Unit: mm

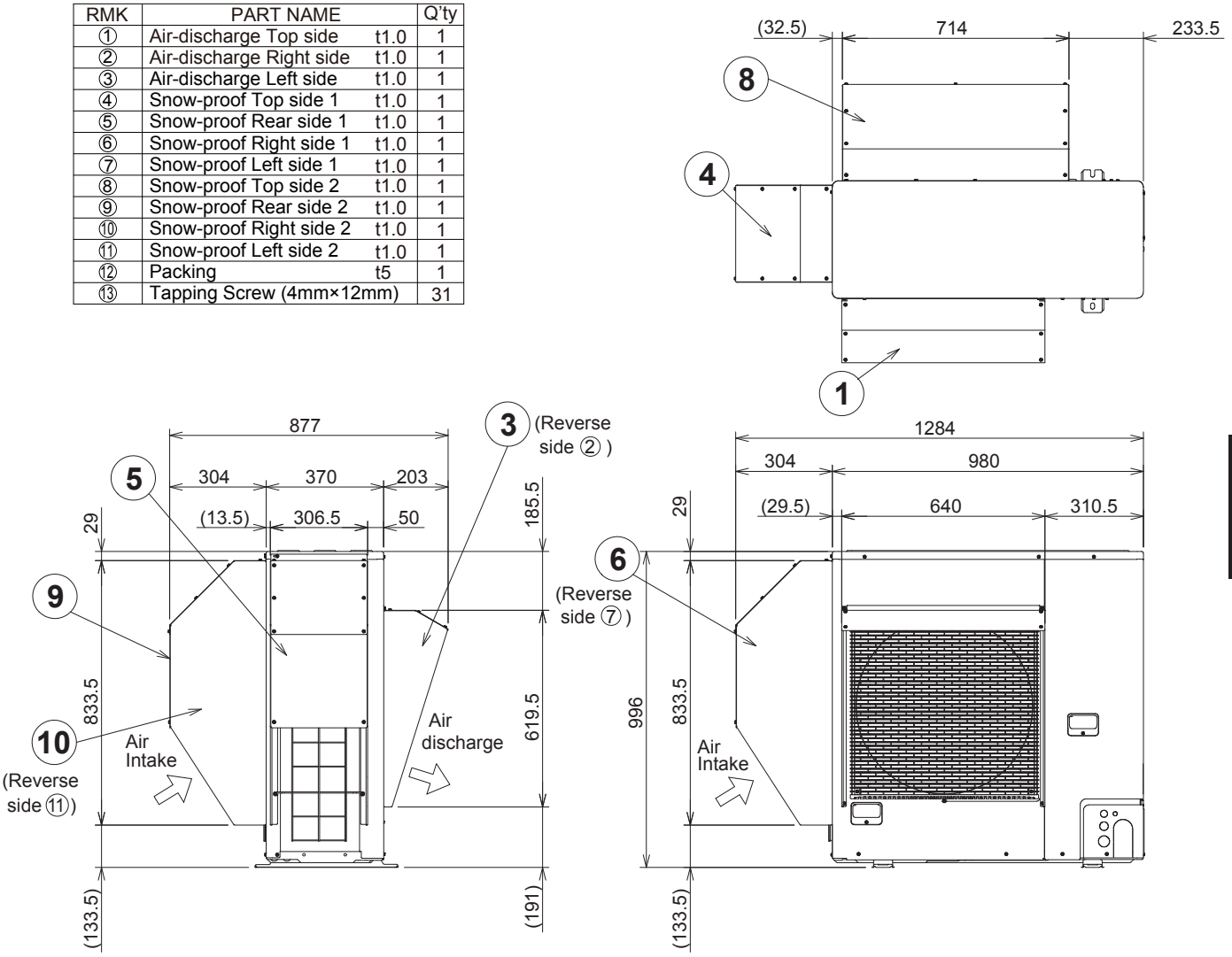


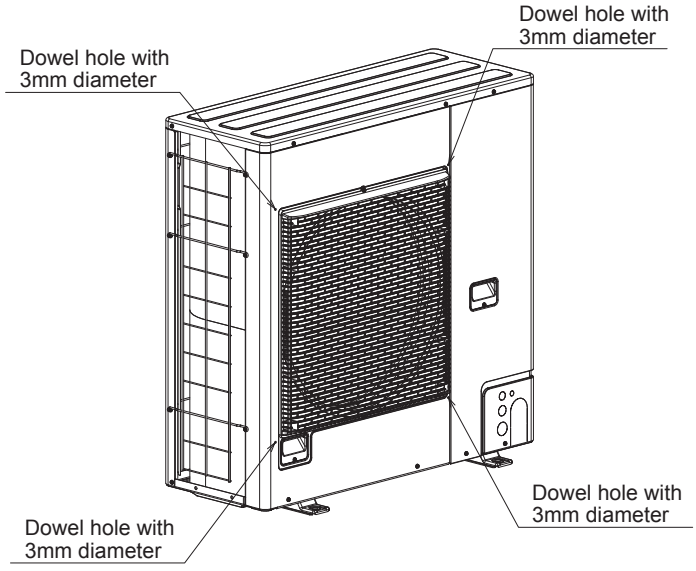
8-4. Dimensions of Snow-proof Vents

Reference diagram

Unit: mm

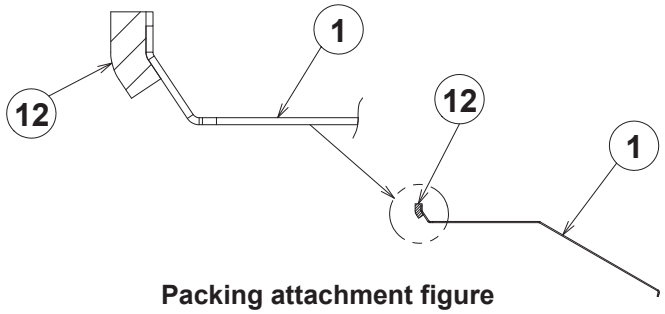
RMK	PART NAME		Q'ty
①	Air-discharge Top side	t1.0	1
②	Air-discharge Right side	t1.0	1
③	Air-discharge Left side	t1.0	1
④	Snow-proof Top side 1	t1.0	1
⑤	Snow-proof Rear side 1	t1.0	1
⑥	Snow-proof Right side 1	t1.0	1
⑦	Snow-proof Left side 1	t1.0	1
⑧	Snow-proof Top side 2	t1.0	1
⑨	Snow-proof Rear side 2	t1.0	1
⑩	Snow-proof Right side 2	t1.0	1
⑪	Snow-proof Left side 2	t1.0	1
⑫	Packing	t5	1
⑬	Tapping Screw (4mm×12mm)		31



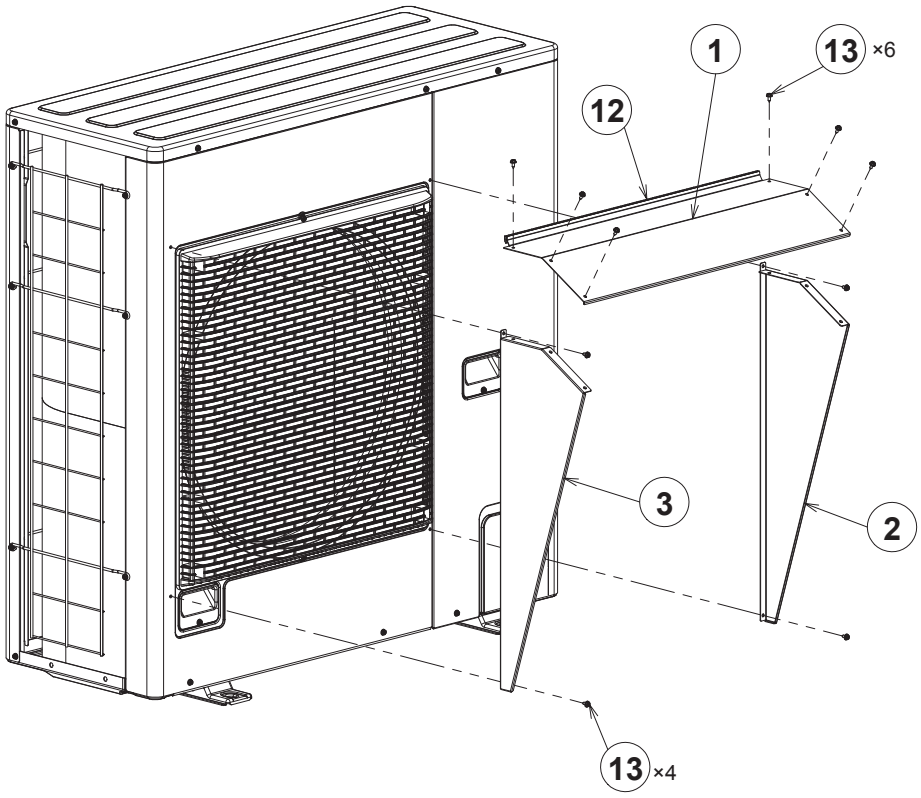


8. Supplement

RMK	PART NAME		Q'ty
①	Air-discharge Top side	t1.0	1
②	Air-discharge Right side	t1.0	1
③	Air-discharge Left side	t1.0	1
⑫	Packing	t5	1
⑬	Tapping screw (4mm×12mm)		10



Packing attachment figure



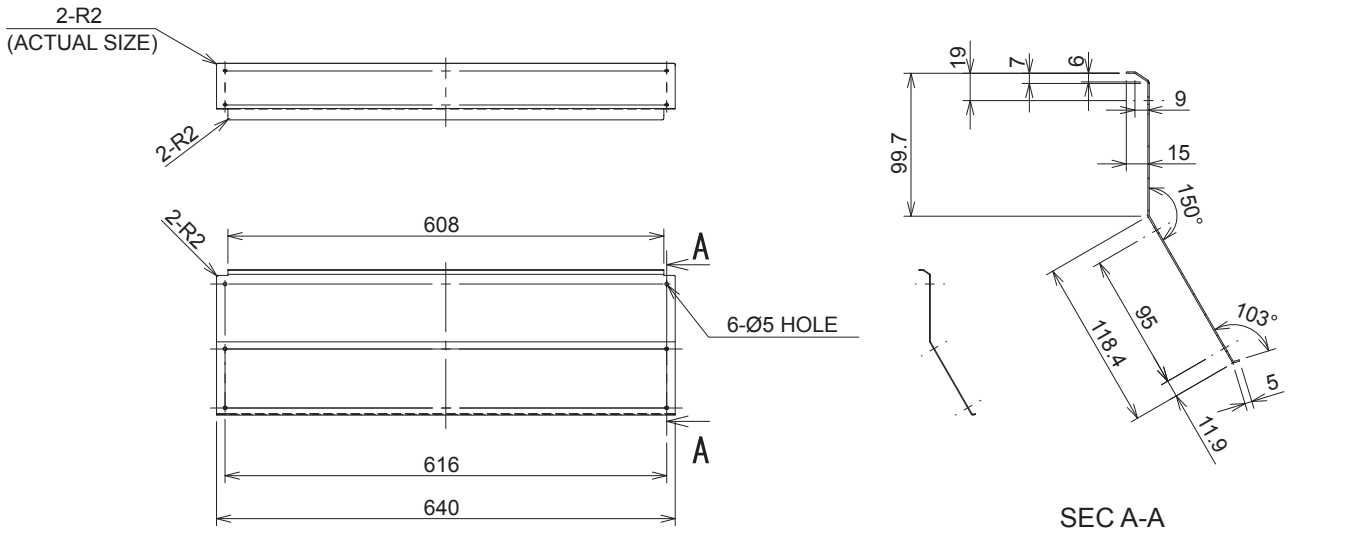
Assembling procedure

1. Attach the air-discharge right and left side panels No.2 and No.3 to the front panel with the tapping screws.
2. Attach the packing No.12 to the surface of the air-discharge top side panel No.1.
3. Following the step 2 above, fix to the air-discharge right and left side panels No.2 and No.3 with the tapping screws No.13.

8. Supplement

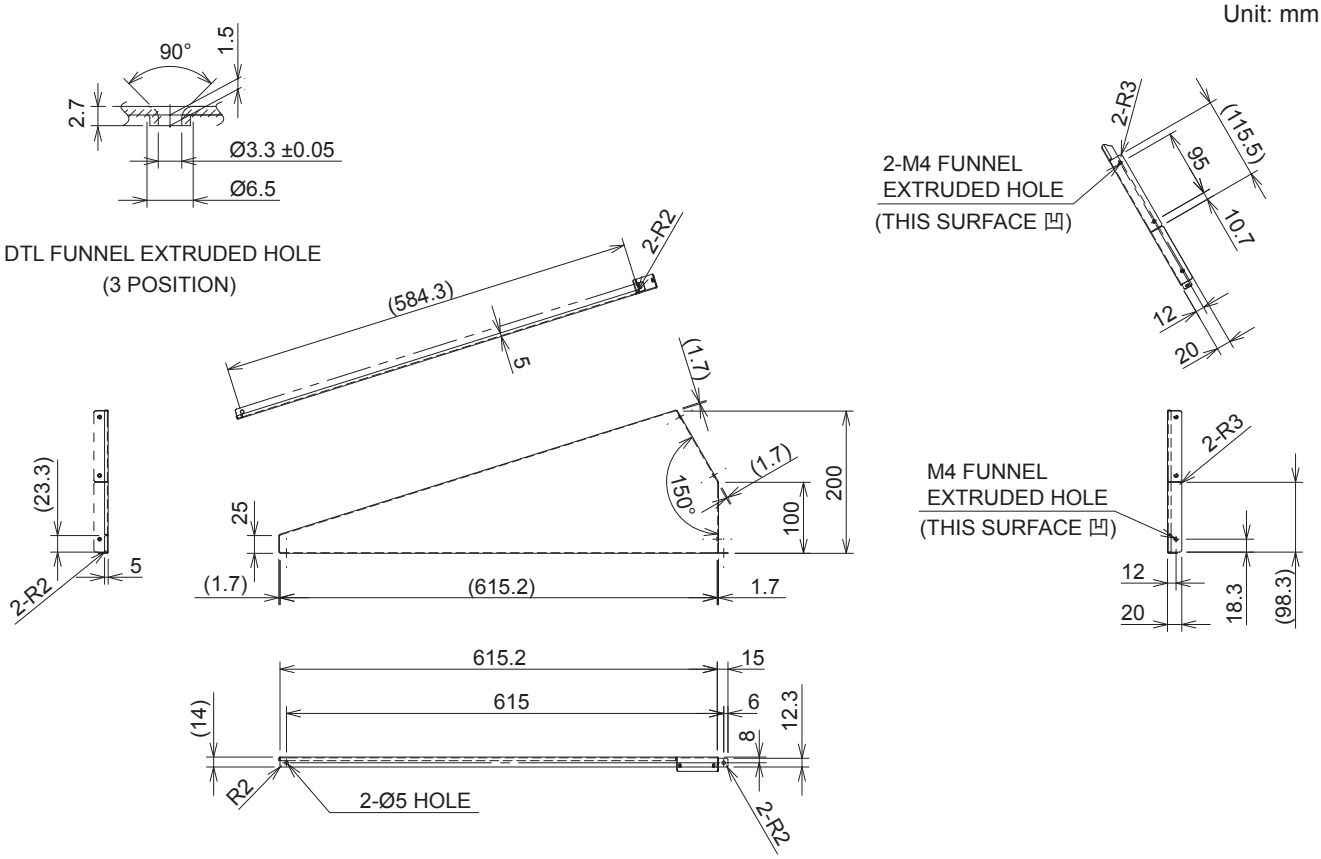
① Reference diagram for Air-discharge Top side (field supply)

Unit: mm



② Reference diagram for Air-discharge Right side (field supply)

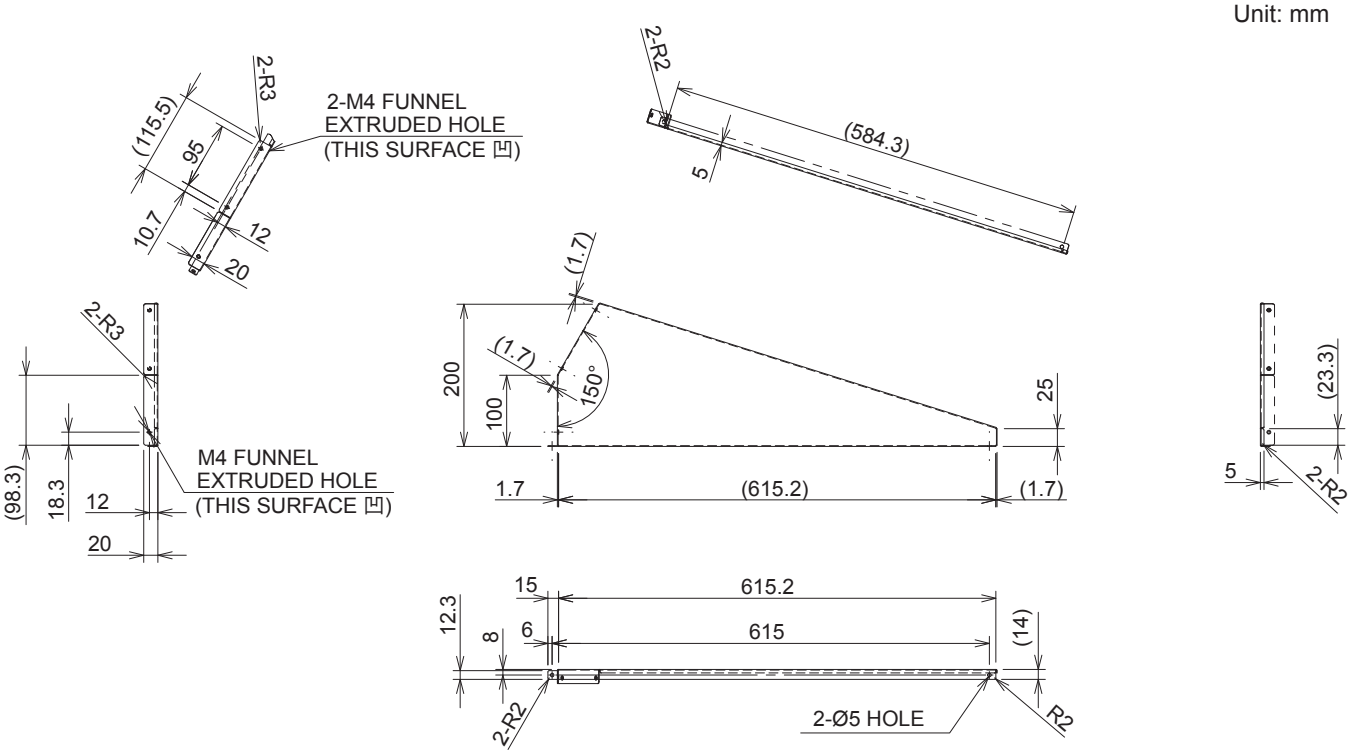
Unit: mm



8. Supplement

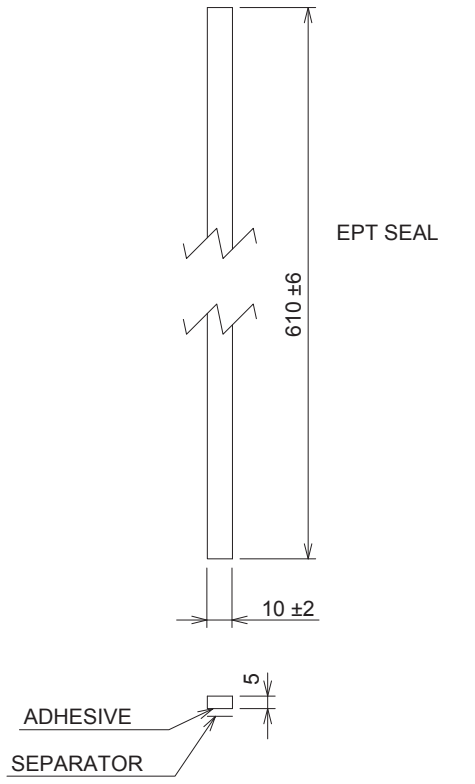
③ Reference diagram for Air-discharge Left side (field supply)

Unit: mm



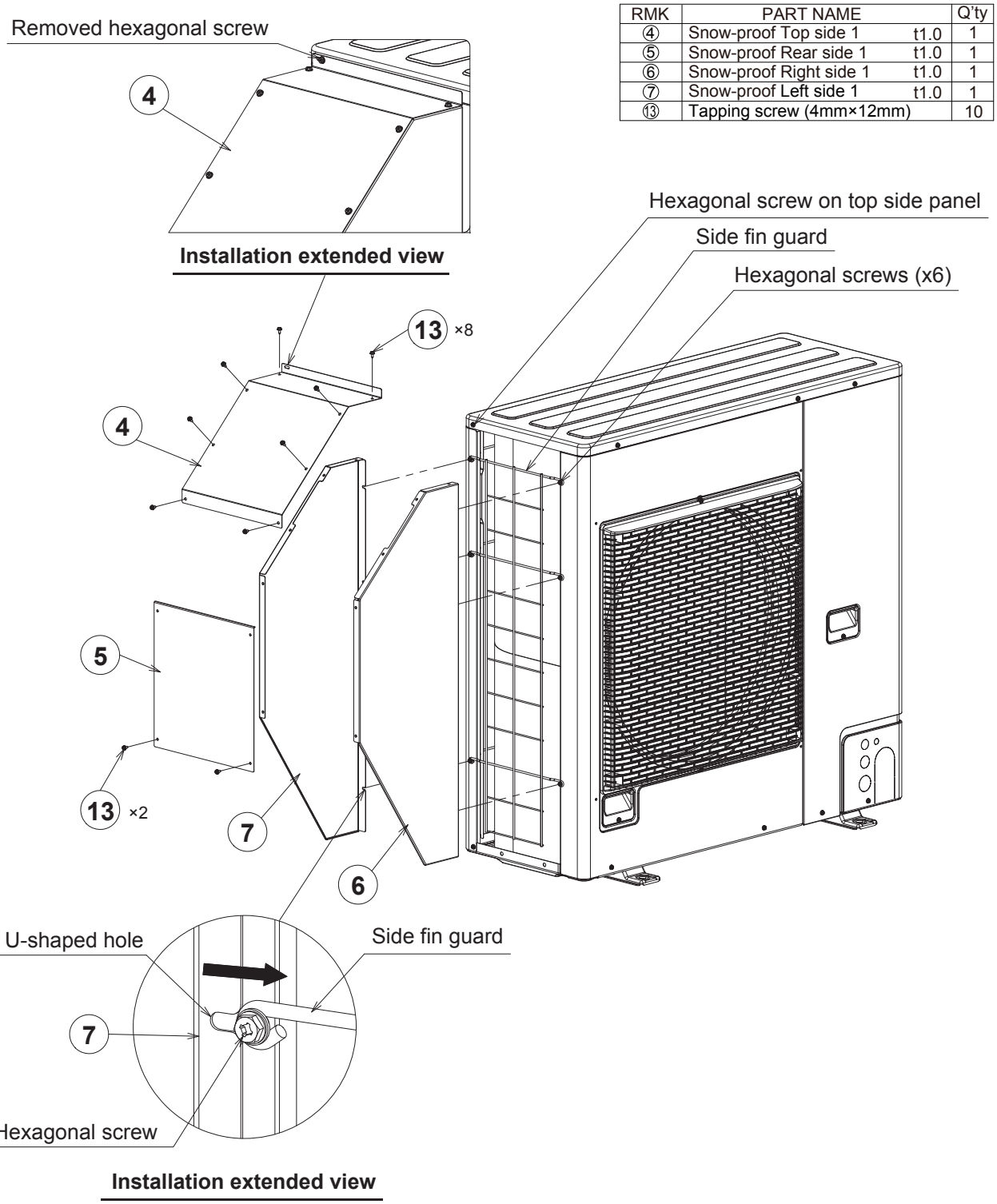
⑫ Reference diagram for Packing (field supply)

Unit: mm



8. Supplement

RMK	PART NAME		Q'ty
④	Snow-proof Top side 1	t1.0	1
⑤	Snow-proof Rear side 1	t1.0	1
⑥	Snow-proof Right side 1	t1.0	1
⑦	Snow-proof Left side 1	t1.0	1
⑬	Tapping screw (4mm×12mm)		10



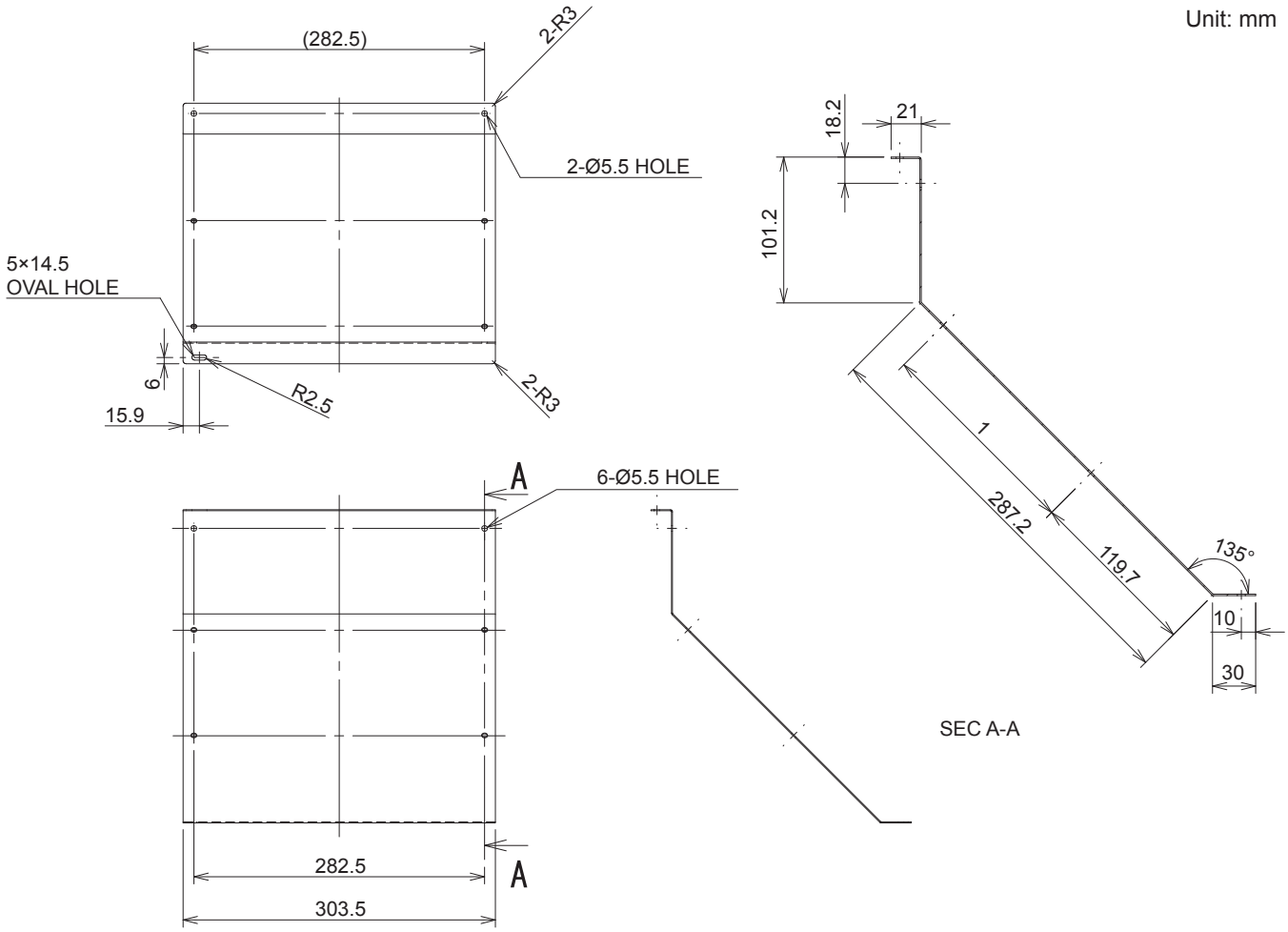
Assembling procedure

1. Loosen the hexagonal screws (6 locations) as shown in the installation extended view and insert the fin guard inside to the U-shaped hole of the snow-proof left side panel No.7. Then fasten screws. (The same the other side snow-proof right side panel No.6.)
2. Attach the snow-proof right side panel No.5 to the snow-proof right and left side panels No.6 and No.7 with the tapping screws No.13.
3. Remove the hexagonal screw on the top side panel and attach the snow-proof top side panel No.4 with the hexagonal screw removed from the snow-proof top side panel and the tapping screws No.13.

8. Supplement

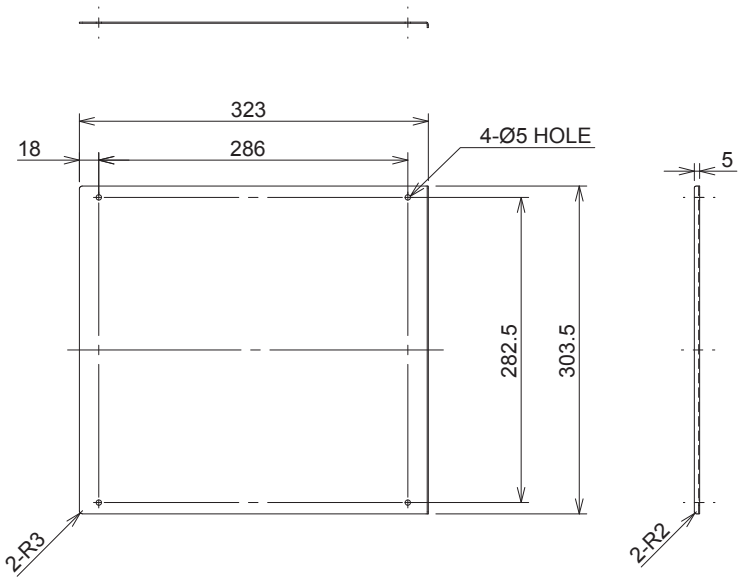
④ Reference diagram for Snow-proof Top side 1 (field supply)

Unit: mm



⑤ Reference diagram for Snow-proof Rear side 1 (field supply)

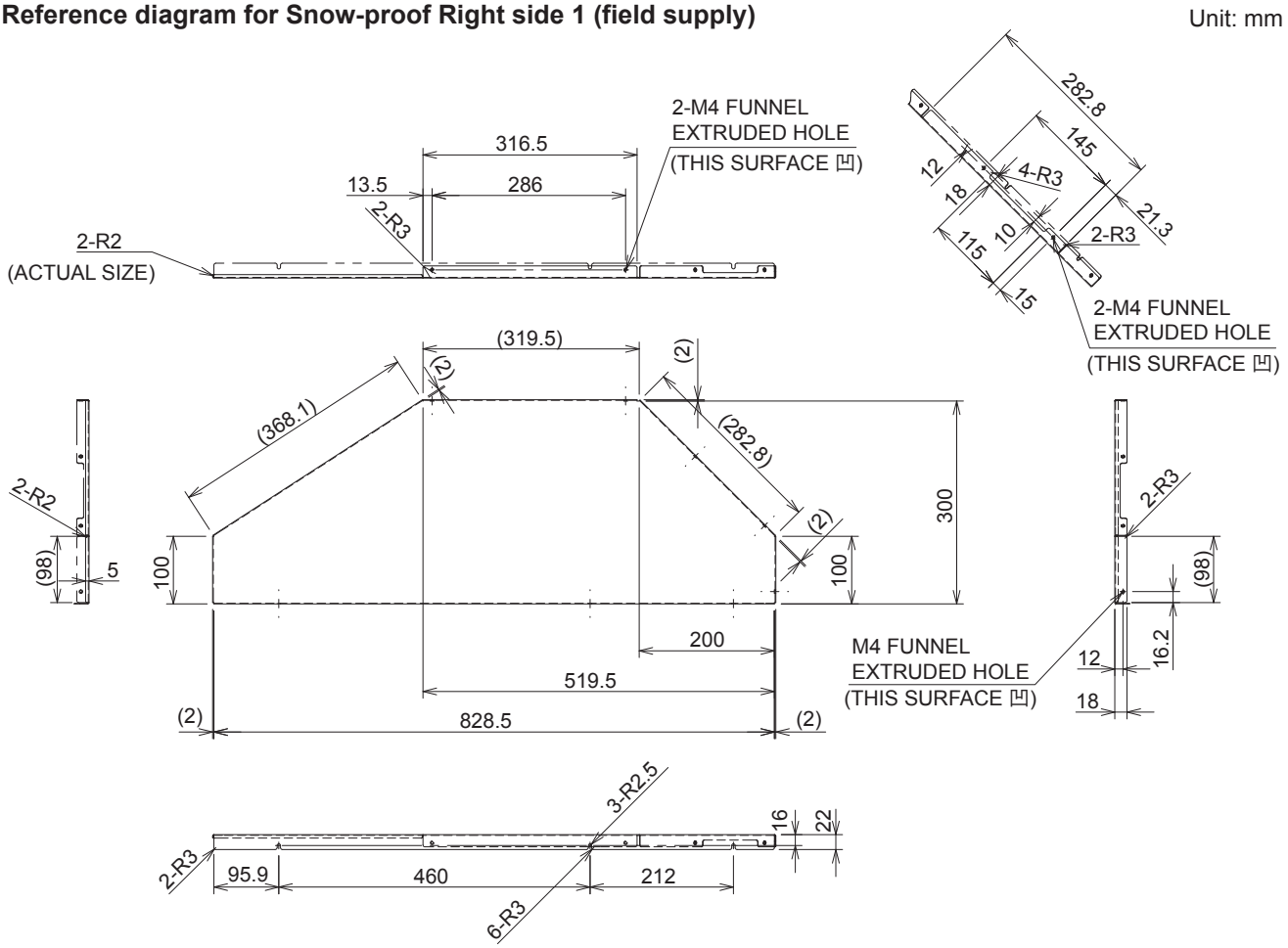
Unit: mm



8. Supplement

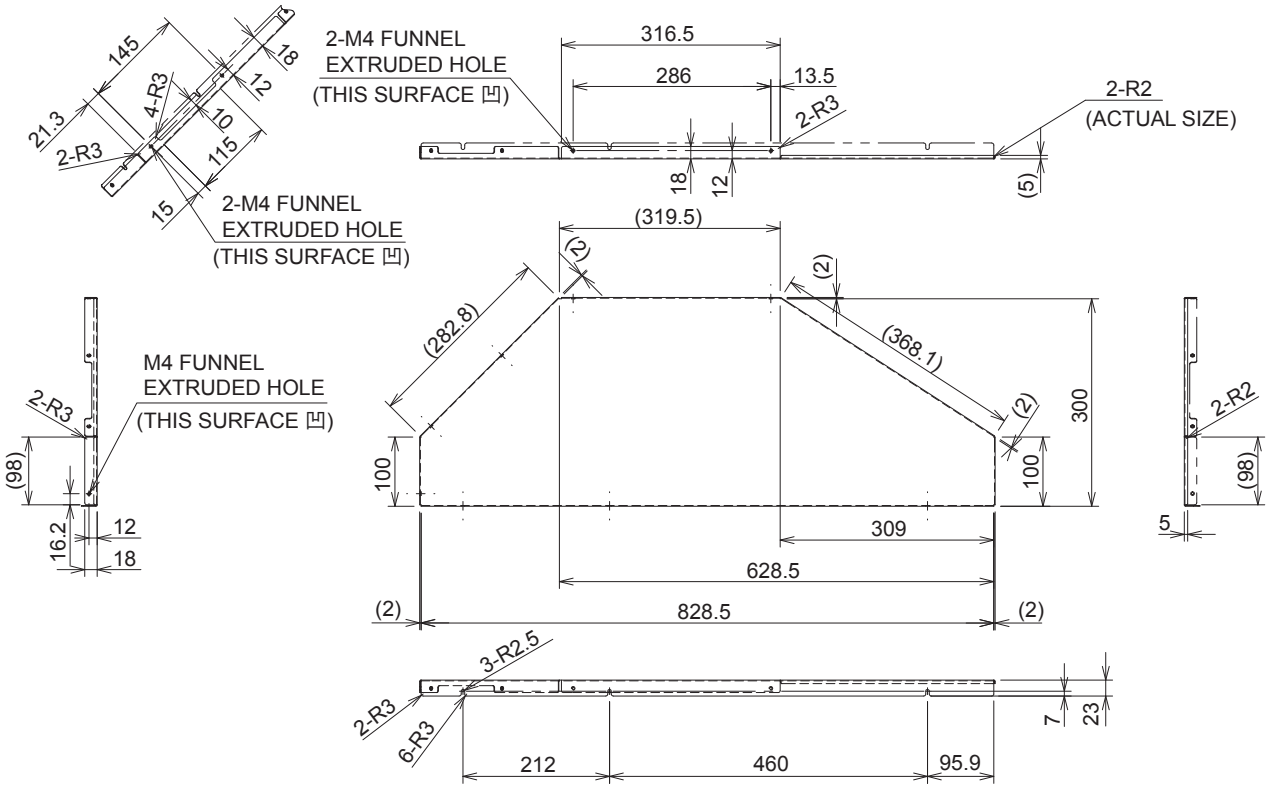
⑥ Reference diagram for Snow-proof Right side 1 (field supply)

Unit: mm



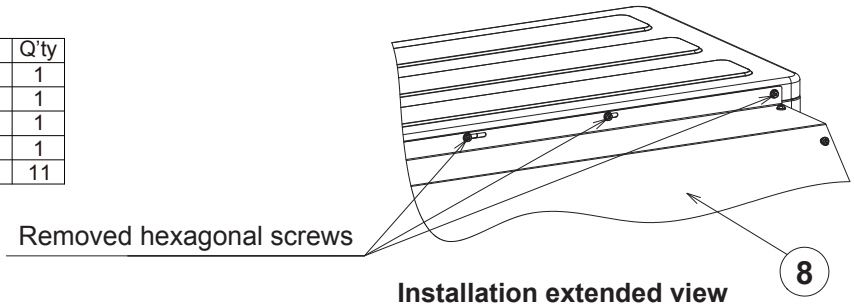
⑦ Reference diagram for Snow-proof Left side 1 (field supply)

Unit: mm

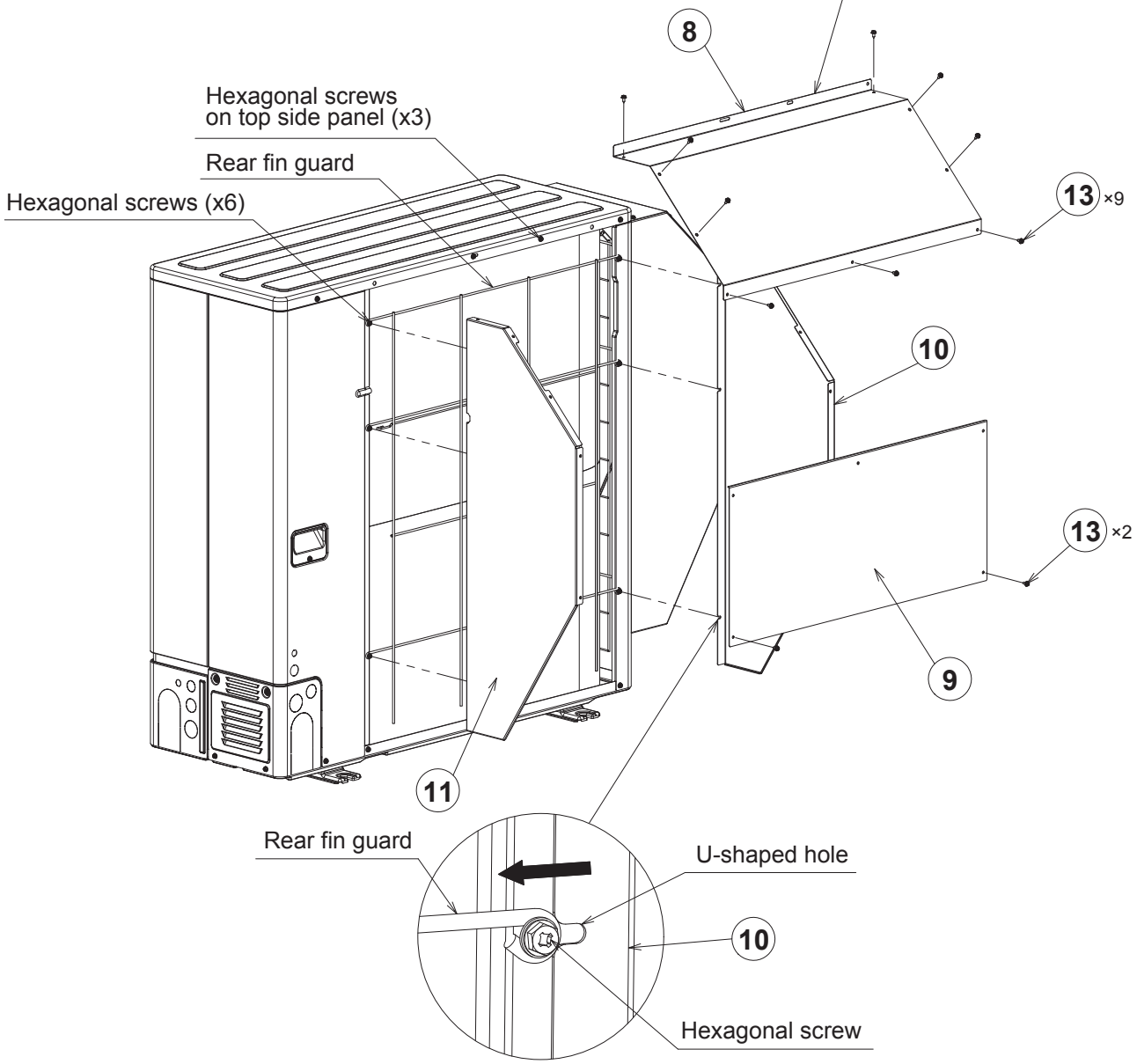


8. Supplement

RMK	PART NAME		Q'ty
⑧	Snow-proof Top side 2	t1.0	1
⑨	Snow-proof Rear side 2	t1.0	1
⑩	Snow-proof Right side 2	t1.0	1
⑪	Snow-proof Left side 2	t1.0	1
⑬	Tapping screw (4mm×12mm)		11



Installation extended view



Installation extended view

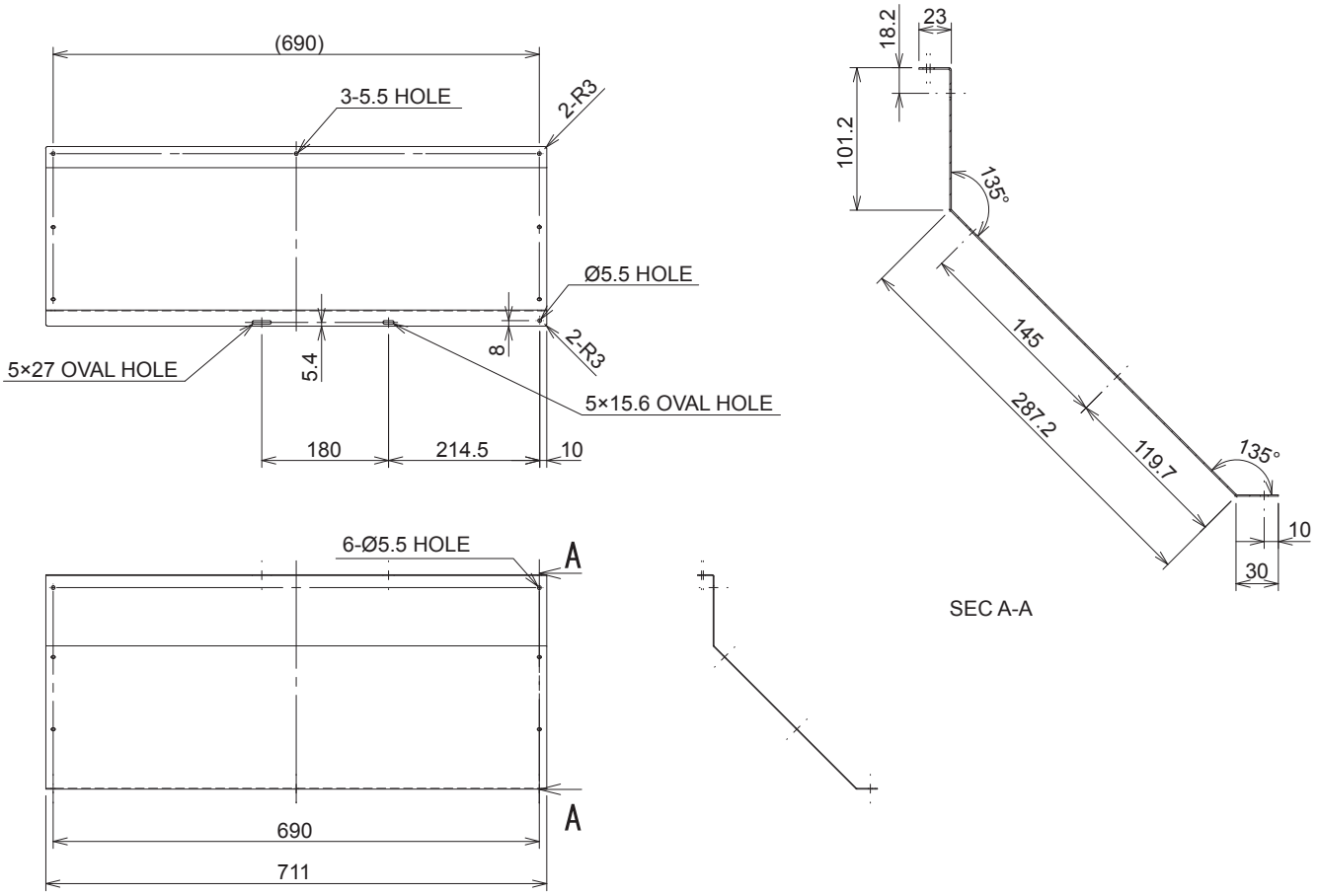
Assembling procedure

1. Loosen the hexagonal screws (6 locations) as shown in the installation extended view and insert the fin guard inside to the U-shaped hole of the snow-proof right side panel No.10. Then fasten screws. (The same the other side snow-proof left side panel No.11.)
2. Attach the snow-proof rear side panel No.9 to the snow-proof right and left side panels No.10 and No.11 with the tapping screws No.13.
3. Remove the hexagonal screws (3 locations) on the top panel and attach the snow-proof top side panel No.8 with the hexagonal screws removed from the snow-proof top side panel and the tapping screws No.13.

8. Supplement

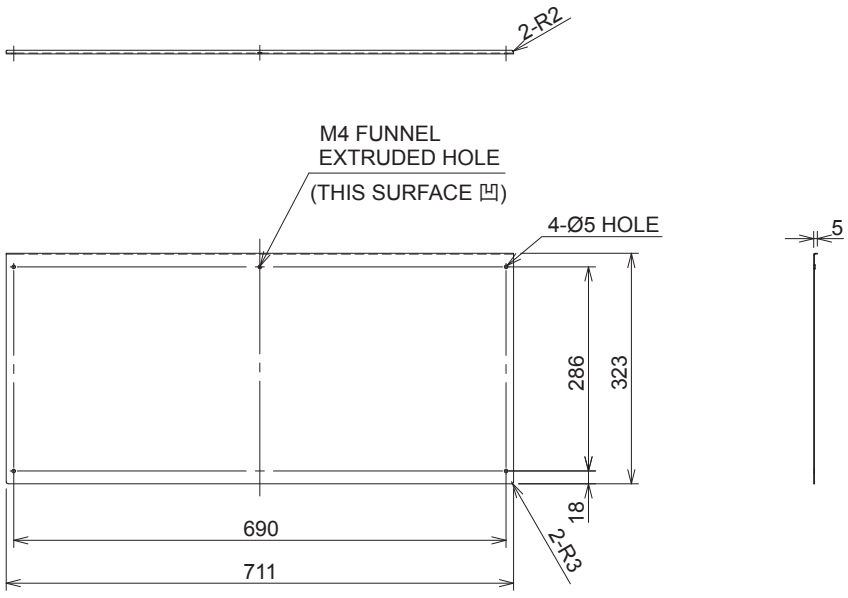
⑧ Reference diagram for Snow-proof Top side 2 (field supply)

Unit: mm



⑨ Reference diagram for Snow-proof Rear side 2 (field supply)

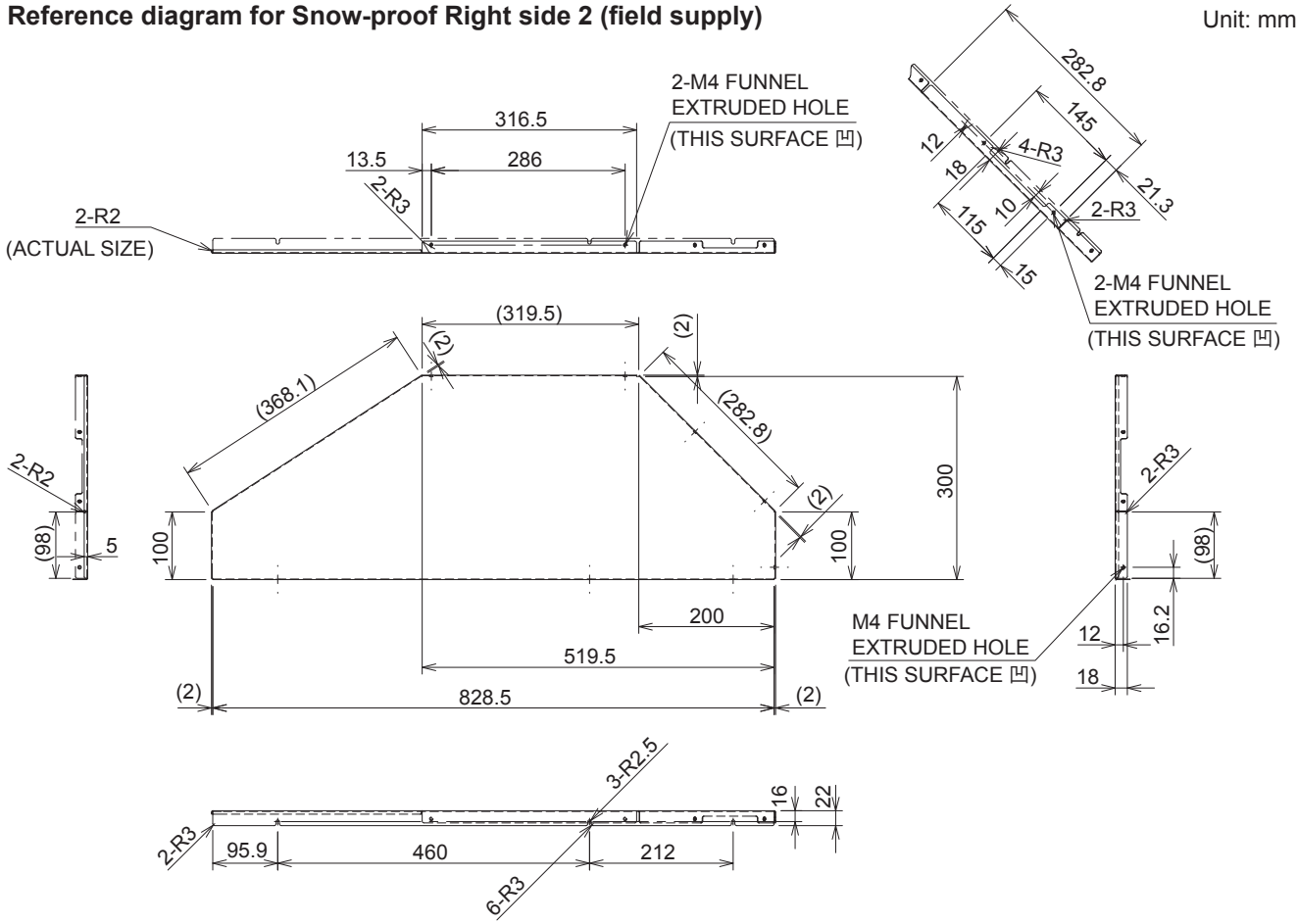
Unit: mm



8. Supplement

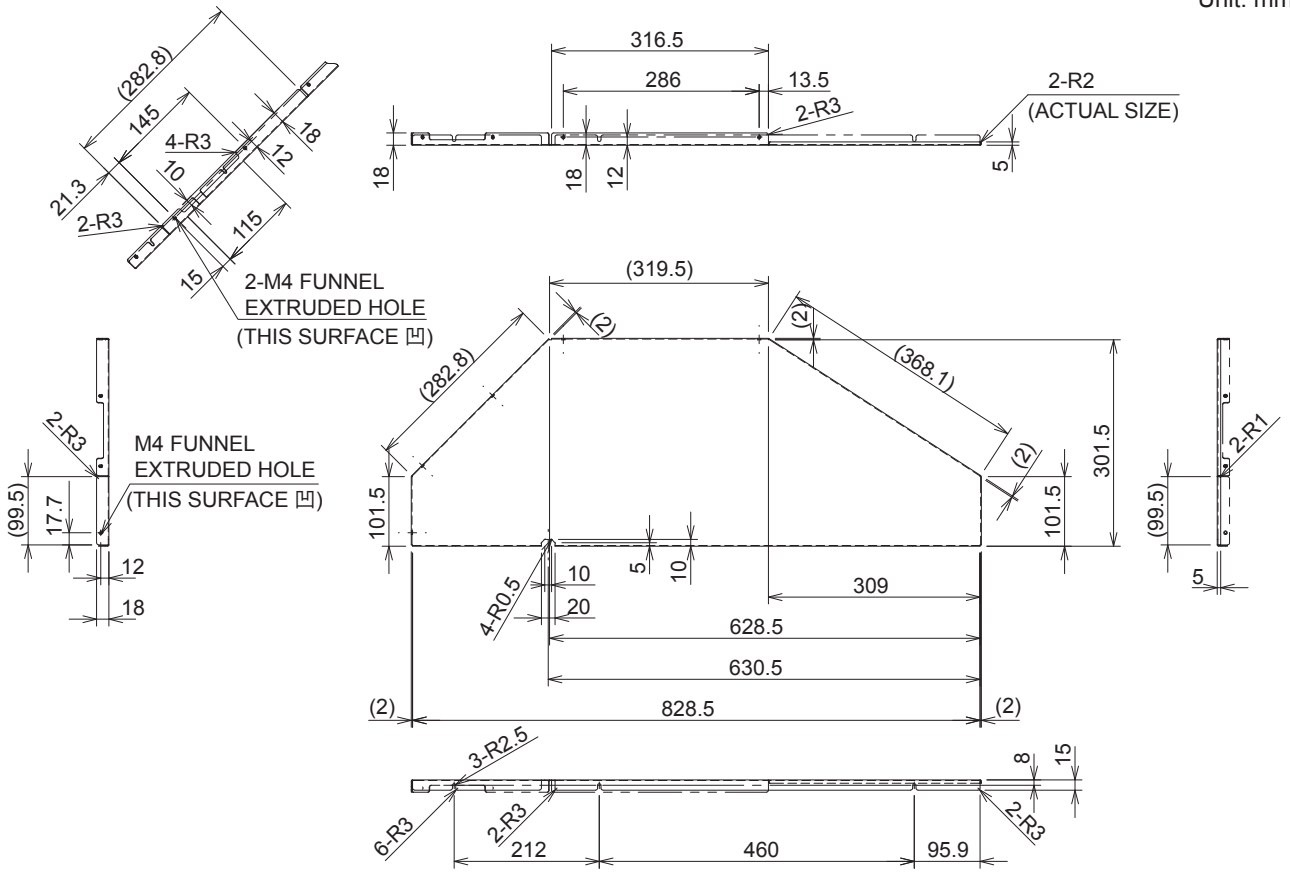
⑩ Reference diagram for Snow-proof Right side 2 (field supply)

Unit: mm



⑪ Reference diagram for Snow-proof Left side 2 (field supply)

Unit: mm



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1. Main Operating Functions

1. Room Temperature Control

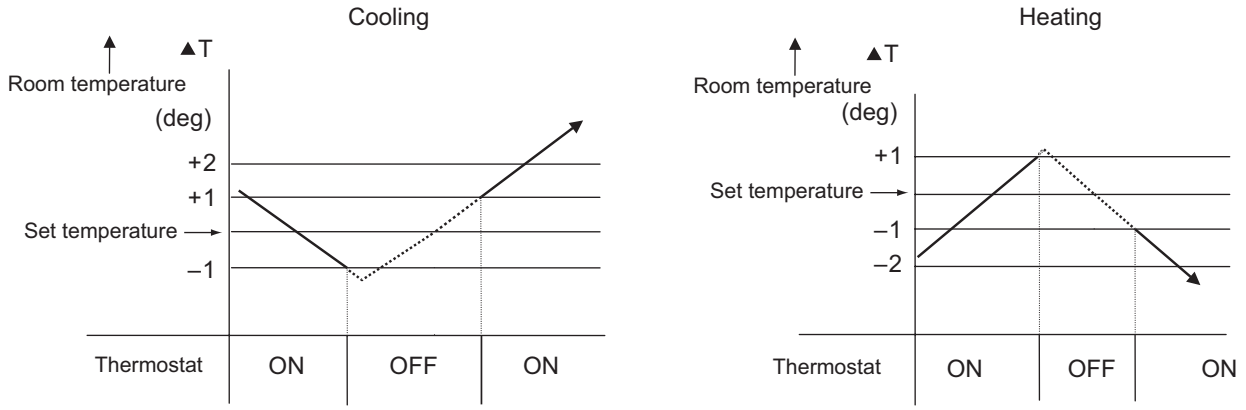
The thermostat is turned ON/OFF according to ▲T as shown below.

▲T = Room temperature - Set temperature	
When remote controller sensor is used	Room temperature = Temperature detected by the remote controller sensor
When body sensor is used	Room temperature = Temperature detected by the body sensor - Intake shift temperature*

* Intake shift temperature (enabled only during heating)

During heating, a difference in temperature occurs between the top and bottom of a room. This value is set in consideration for the difference between the temperature detected by the body sensor and the temperature at the bottom of the room.
<Value set for intake shift temperature at time of shipment>: 4°C

Note: The shift temperature can be selected in the range of 0 – 10°C, by using the remote controller simplified setting mode.



(1) After the thermostat turns ON, it will not turn OFF again as a result of ▲T for 5 minutes.

(2) After the thermostat turns OFF, it will not turn ON again for 3 minutes. (It also will not turn ON for 3 minutes after the power is switched ON.)

(3) The compressor turns OFF if the mode is changed cooling → heating (or heating → cooling) while the compressor is ON.

(4) If "test run" mode is selected, the thermostat will not turn OFF as a result of ▲T for 60 minutes. (The thermostat is forced ON.)

1. Main Operating Functions

2. Automatic Control for Heating and Cooling

Automatic Heating/Cooling Control

- This function is only valid as long as one indoor unit is installed within one refrigerant system or all indoor units are controlled within a group control.
- When operating in a group control, the sub-indoor units become the same operation mode of the main unit.
- As for the indoor units in a group control, install them in the same air conditioning circumstances.
- Use the temperature sensor which is built-in sensor of the indoor unit.

(1) When operation starts, heating or cooling is selected according to the set temperature and the room temperature.
- Room temperature ≥ Set temperature + 1 → Cooling
- Set temperature – 1 < Room temperature ≤ Set temperature + 1 → Monitoring mode (*1)
- Room temperature < Set temperature – 1 → Heating

*1: If the difference between the room temperature and set temperature is small when operation starts, the cooling thermostat remains in standby status (OFF) until the temperature difference increases. When the temperature difference increases, either cooling operation or heating operation is selected. This standby status is known as “monitoring mode.”

(2) After operation starts in the selected operating mode, the set temperature is automatically shifted by +2°C (cooling operation) or –2°C (heating operation).

Example: Temperature set on the remote controller is 20°C.

	Selected operating mode	Shifted set temp.	Remote controller display
1	Cooling	22°C	20°C
2	Heating	18°C	20°C

(3) Operating mode changes (heating → cooling, cooling → heating) which occur during operation as a result of temperature changes are handled as shown below.
- Heating → cooling: Room temperature → Shifted set temperature (set temperature + 2°C) + 0.5°C
- Cooling → heating: Room temperature → Shifted set temperature (set temperature – 2°C) – 1.0°C

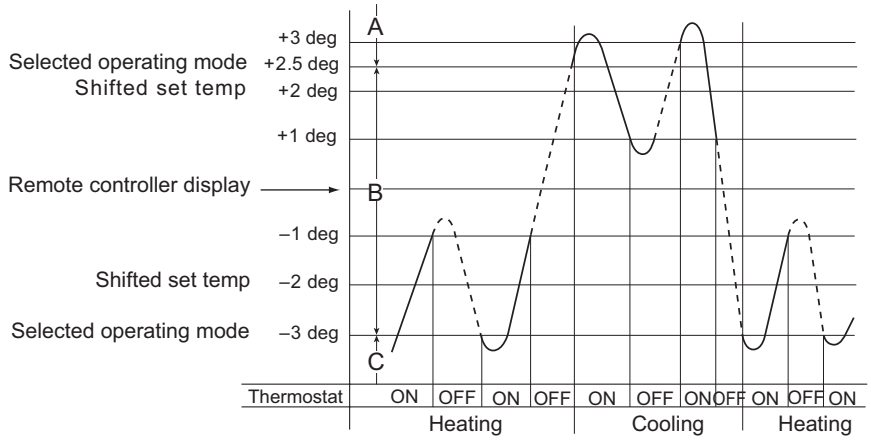
Example: Temperature set on the remote controller is 20°C.

	Operating mode change	Shifted set temp.
1	Heating → Cooling	20 + 2 + 0.5 = 22.5°C or higher (*2)
2	Cooling → Heating	20 – 2 – 1.0 = 17°C or lower

*2: During heating operation when the body sensor is used, a temperature shift is applied to the intake temperature detected by the sensor, in consideration of the difference in temperature at the top and bottom of the room. (Refer to the “Room Temperature Control” item.) If this intake shift temperature is 4°C, then the heating → cooling change occurs when the temperature detected by the body sensor is 26.5°C or higher.

(4) Cooling (heating) operation does not change if the room temperature changes from area C → A (or A → C) within 10 minutes after the compressor turns OFF. (Monitoring mode is excepted.)

(5) When the heating/cooling change occurs, the 4-way valve switches approximately 30 to 50 seconds after the compressor turns ON.



2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

1. Important Safety Instructions

Before using the system, be sure to read these “Important Safety Instructions”.
After reading this manual, save it in a convenient place.

⚠ WARNING

Installation Precautions

- Do not install this equipment yourself.
  Installation should always be performed by your distributor or a professional service provider.
  Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Use only specified air conditioners.
  Always use onlyair conditions specified by the distributor.

Precautions for Use

- Do not touch switches with wet hands.
  Electric shock and damage to the system can result.
- Protect the remote controller from water because it may cause damage to the system.
- Stop the system and turn the power off if you notice unusual smells or other irregularities.
  Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system.
  Contact your distributor.
- Do not swallow the battery.

Moving and Repair Precautions

- Do not repair.
  Never repair the system by yourself.
- Contact your distributor before moving the system.
  Contact your distributor or a professional service provider about moving and reinstalling the system.
  Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2. Optional Controller (Remote Controller)

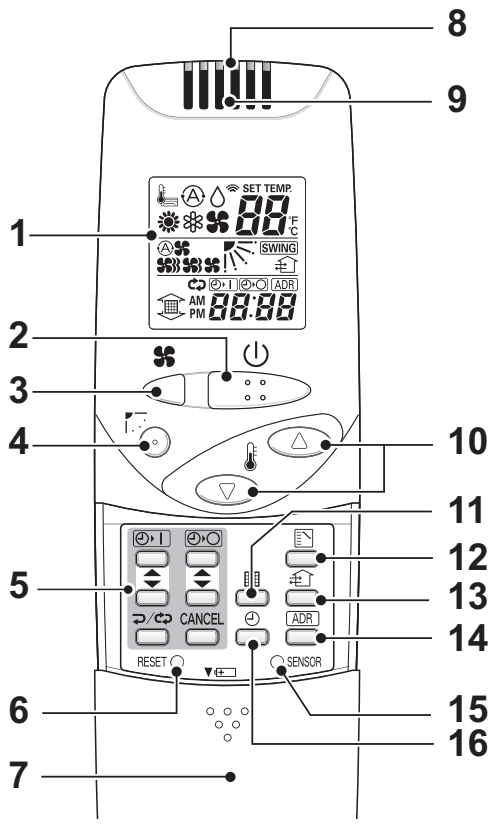
Wireless Remote Controller CZ-RWSU3 / CZ-RWSC3 / CZ-RWSK2 / CZ-RWST3N / CZ-RWSL2N / CZ-RWSD2

One remote controller can control a group of up to eight indoor units. (See page 3-2-7)

2-1. Names and Operations

REMOTE CONTROLLER

1. Operation Display	Displays the operation status. (The figure shows all the statuses.) • The auto-flap display may be different, depending on the installed unit. (See page 3-2-7)
2. Start/Stop button	Pressing this button once starts and pressing again stops the operation.
3. Fan speed button	
4. Swing/Wind Direction button	
5. Timer setting button	Use for operating with a timer.
6. Reset button	Use this button after changing the batteries.
7. Cover	Press at the top center and then slide down.
8. Transmitter	
9. Remote control sensor	Detects the temperature at the remote controller when detection has been switched to the remote controller by the sensor button.
10. Temperature setting buttons	raises the temperature setting 1 ℃ at a time. lowers the temperature setting 1 ℃ at a time.
11. Filter button	**CZ-RWSC3** Press to turn off the filter lamp on the receiver.
12. Mode Select button	Press to switch the operation mode.
13. Ventilation button	Use this when connected to an aftermarket fan. Pressing this button starts and stops the fan. When the air conditioner is started or stopped, the fan starts or stops at the same time. (appears on the display of the remote controller when the fan is operating.)
14. Address button ADR	
15. Sensor button	Use this to activate the temperature sensor on the remote controller instead of the one on the indoor unit. The temperature sensor on the indoor unit is selected before shipment. At this time is shown on the display.
16. Clock button	Use this to set the clock.



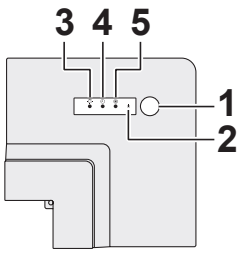
From this page, the names of remote controller's buttons will be indicated with the above illustrations.
E.g.: Start/Stop button → ⏻

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

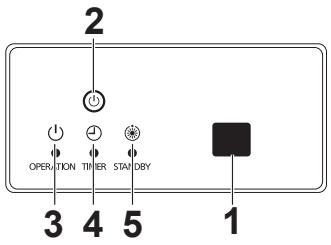
RECEIVER

1. Receiver	Receives the signal sent from the remote controller.
2. Emergency operation button	Display lamps When an error occurs, one of the lamps flashes. When a display lamp is blinking, refer to " Before Requesting Service ".
3. Operating lamp	This lamp is lit when the unit is operating.
4. Timer lamp	This lamp is lit when the timer is set.
5. Standby lamp	When the heater is working, the lamp lights at the following times. When the thermostat has operated during defrosting at the time of the startup. The lamp flashes when an error occurs.
6. Filter lamp	This lamp is for notifying you when the filter needs to be cleaned.
7. Address switch	See " 2-11. Addresses ".

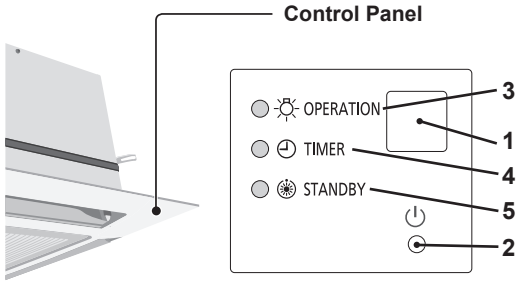
CZ-RWSU3



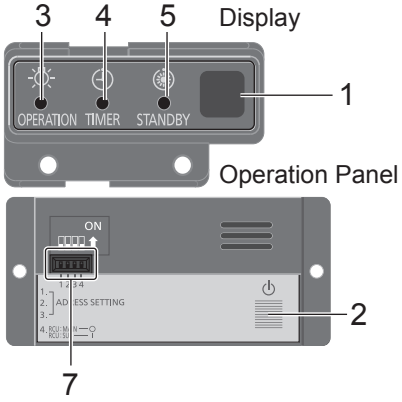
CZ-RWST3N



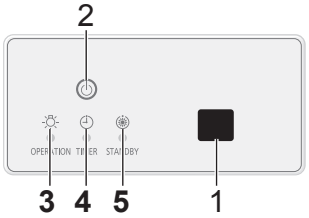
Indoor Unit : Type Y2



CZ-RWSL2N

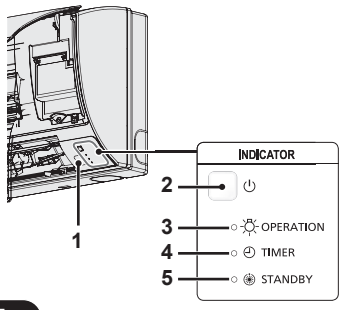


CZ-RWSD2

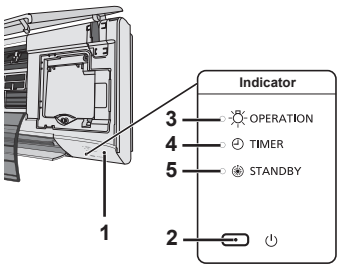


Indoor Unit : Type K2

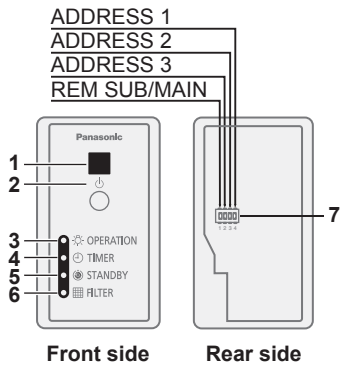
Type 15, 22, 28, 36



Type 45, 56, 73, 106



CZ-RWSC3



NOTE

- If a heat pump (2WAY) type is being used, it will beep twice and the operating lamp will light up on the display; if the timer and standby lamps blink alternately, a conflict between the heating and cooling exists, so the unit cannot operate in the desired mode. (On models that do not have an Auto function, even if Auto is selected, it works in the same way.)
- When the local operation is disabled by centralized control or similar cause, and if the Start/Stop ⏻, Mode or Temperature setting button △ ▽ is pressed, the unit will beep five times and the change will not be made.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

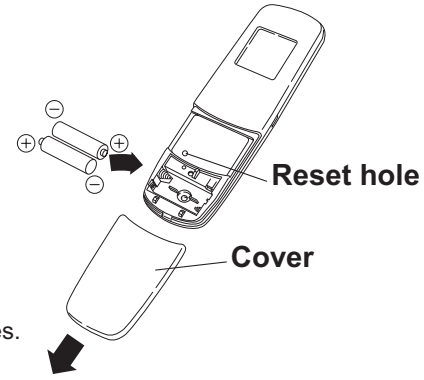
2-2. Installing Batteries

1. Remove the cover.

2. Insert two LR03 size batteries.

Put the batteries in with the polarity [+/–] as shown in the figure.

3. Gently insert one end of an unfolded paper clip (or a similar object that can fit) into the Reset hole and press the Reset button inside the hole, then put the cover back on.



NOTE

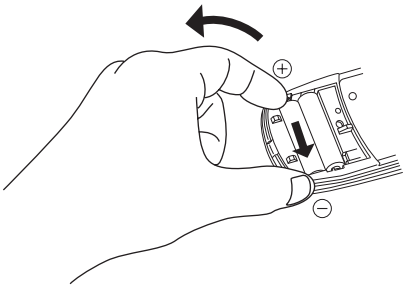
- Change the batteries when the display of the remote controller gets weak, or if it will not work unless close to the receiver.
  (Alkaline batteries generally last about one year.)
- When changing batteries, always use two fresh batteries of the same make.
- If the remote controller will not be used for a long period of time, remove the batteries.
- Please dispose of batteries appropriately.
- After changing the batteries, follow the procedures on the next page to reset the current time.

2-3. How to remove batteries

1. Remove the cover.

2. Press the battery toward the negative end and lift it out by its positive end. (See the figure on the right.)

3. Remove the other battery in the same way.



NOTE

- Dispose of the used batteries at the designated location in compliance with the applicable local ordinances.

⚠ WARNING

- Do not swallow the battery.
- After removing the battery from remote controller, keep it out of the reach of children.
  The battery can cause death by suffocation if swallowed.
- When inserting the battery, make sure the polarities (+ and -) are correct.

2-4. Setting the Current Time

After changing the batteries and pressing the Reset button, be sure to reset the current time.
(When the Reset button is pressed, the current time reverts to [0:00])

1. Press ◴ for two seconds or more.

Once the clock displays starts blinking, the clock can be set.

2. Set the hour with ▲/▼ of the ◴I.

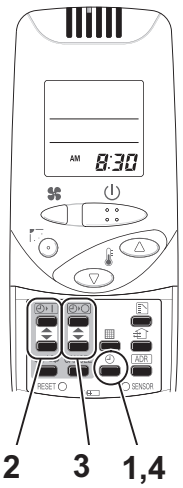
If you press and hold the button, the time changes quickly.

3. Set the minutes with ▲/▼ of the ◴O.

If you press and hold the button, the time changes quickly.

4. Pressing ◴ completes the time setting.

- While you are setting the current time, the time display flashes and the colon lights up.
- If the buttons are not pressed for three minutes while setting the current time, it is set to the displayed time.

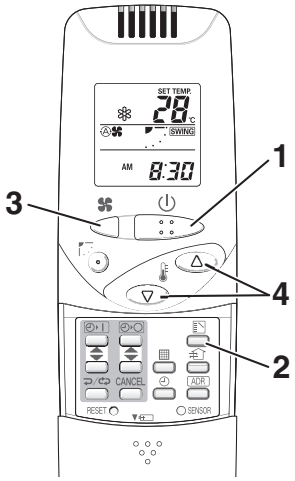


NOTE

When the Reset button is pressed, the timer settings are canceled.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-5. Operation



Auto Ⓐ, Heat ☼, Dry ♢, Cool ❄, Fan ✣

Models that only provide the cooling function cannot operate in the auto or heating mode.

Power: Turn on the circuit breaker beforehand, referring to the operating instructions for the unit.

1. **Press ⏻.**
2. **Press ▤ and select from among Auto Ⓐ, Heat ☼, Dry ♢,Cool ❄ and Fan ✣.**
3. **Press ✣ and select the desired speed.**
   If set to Auto Ⓐ✣, the fan speed switches automatically.
   (Auto does not work in Fan mode.)
4. **Press one of the ▽ △ buttons and set the desired temperature.**
   Temperature settings cannot be made in Fan mode.

	Auto Ⓐ	Heat ☼	Dry ♢ / Cool ❄
MAX (°C)	27	30	30
MIN (°C)	17	16	18

Stop: Press ⏻.

When the unit is stopped with the remote controller, the fan on the outdoor unit may continue to run for a while, even though the compressor of the outdoor unit stops.

If the unit is not heating very effectively with a Low fan speed ✣, switch the fan speed to High ✣ or Medium ✣.

Depending on the indoor unit being used, it may indicate a function that it does not have. (The fan speed is constant.)

If you cannot turn the air conditioner off in the normal way.

Disconnect the power to the indoor unit and contact the distributor where the product was purchased.

<Auto Operation>

Only when identical refrigerant system inside all the indoor units or cooling/heating free-type are under control as one group.

It heats or cools automatically via the differences between the set temperature and the room temperature.

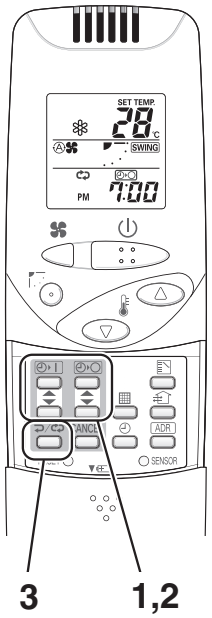
<Dry Operation>

- Depending on the indoor unit used, the remote controller may have a [Dry] ♢ indicator on its display even though the unit does not have the Dry function. (Same as cooler operation)
- When the room temperature approaches the temperature setting, the unit continues to start up or stop automatically.
- When the drying mode stops operating, the indoor unit's fan blows a gentle breeze in order to keep the moisture from returning to the room at a minimum.
- Depending on the indoor unit used, and/or the temperature in the room, the fan speed may not be adjustable.
- Depending on the unit used, when the outside air temperature is 15 °C or less, the dry function will not operate.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-6. Timer Operation

- When setting the timer, make sure the current time on the remote controller is accurate.
- The timer's clock can only be set when the display of the remote controller is ON.
- After setting the timer, put the remote controller for in a place where its signal will reach the receiver of the indoor unit. (When the time set for the timer is reached, a signal is sent from the remote controller to Start or Stop the unit.)



Using the Timer

1. Press either ▲ / ▼ of the ⏲I or ⏲O, and while the time is being displayed, if you press ▲ / ▼ again, a scheduled time can be set.
The time last set on the timer is displayed.
"--:--" indicates time to change the batteries.

2. Press either ▲ / ▼ of the ⏲I or ⏲O and set the timer to the desired time.
Every time you press ▲/▼, the time changes in 10 minute increments.
If you press and hold the button, the time changes quickly.

3. After setting the timer, if you press ⇄, the time you set changes to a steady display, indicating settings are complete.
After the timer setting is displayed for three seconds, the display reverts to the current time.

Combining ON and OFF Timers

- The ON and OFF timers can be set respectively.

Checking the timer setting

- If you press either ▲/▼ for the ⏲I or the ⏲O, the scheduled time is displayed for four seconds.
- When no timer setting has been made, it displays --:--. (Initial Setting)

Changing a timer setting

- Press ▲/▼ for the ⏲I or the ⏲O, and then when the timer setting is displayed, press ▲ / ▼ for the timer again.

Canceling a timer setting

- If you press [CANCEL], the timer setting is canceled.
- If you wish to cancel the setting for either the ⏲I or the ⏲O timer, press ▲ / ▼ , and long-press [CANCEL] while the scheduled time is displayed.

Using the same timer setting every day

- If you press ⇄ for 2 or more seconds, " ⟲ " is displayed and the **ON timer** or the **OFF timer** will operate repeatedly every day.
- If you press ⇄ again for two seconds or more, " ⟲ " goes off and the timer operates only one time.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-7. Adjusting the Wind Direction

- Never try to manually move the flap (up-down wind direction plate) that is operated by the remote controller.
- When the unit stops, the flap (up-down wind direction plate) automatically faces downwards.
- When the unit is in heating standby, the flap (up-down wind direction plate) faces upwards.
  Also, bear in mind that the flap starts swinging after the heating standby mode is released, but the display on the remote controller indicates Auto Flap during standby heating as well.

CZ-RWSU3 / Indoor Unit (Type K2,Type Y2) / CZ-RWST3N / CZ-RWSL2N / CZ-RWSD2

Setting the Wind Direction

While the unit is operating, every time you press ☞ ⊙, the direction the flap faces changes.

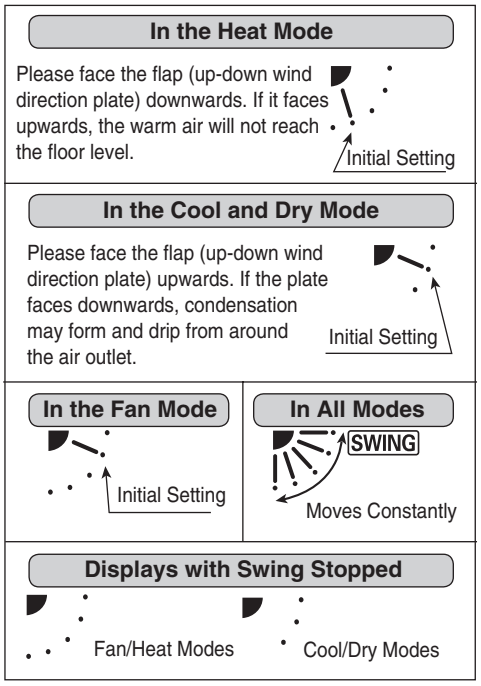
Setting Flap to Swing

If you press ☞ ⊙ to set the flap (up-down wind direction plate) in its most downward facing position, and then press ☞ ⊙ again, SWING is displayed and the flap swings automatically up and down.

Stopping Flap Swing

If you press ☞ ⊙ again while the flap is swinging, you can stop the flap from swinging and set it in place as desired. Thereafter, if you press ☞ ⊙, you can set the wind direction starting from the most upward position.

- When the unit is in the Cool or Dry mode, the flap cannot stop facing downwards. If you try to stop the flap from swinging while it is facing downwards, it will continue moving until it is in the third position from the top.



CZ-RWSC3

The available functions differ depending on the indoor unit being used.
The wind direction cannot be set via remote controller for any models other than those noted below.
For more information, please refer to the users' manual that came with your indoor unit.

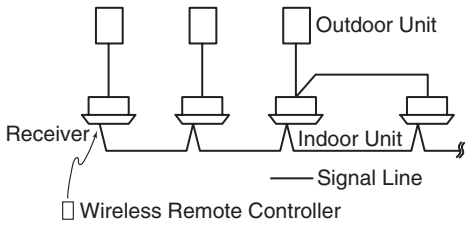
4-Way Cassette Models, Ceiling Models, Wall-Mounted Models

Please refer to *Setting the Wind Direction and Stopping Flap Swing.*

2-8. Operating Multiple In/Outdoor Units Simultaneously (Group Control)

Group control works well for providing air conditioning to one large room with more than one air conditioning units.

- One remote controller can operate up to eight indoor units.
- All the indoor units have identical settings.
- Set temperature sensing to the indoor unit (Main sensor).
  (See page 3-2-2)



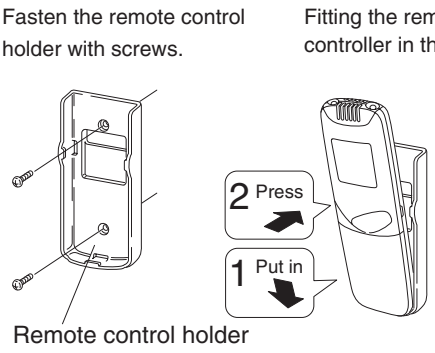
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-9. Using the Remote Controller

- Point the transmitter of the remote controller at the receiver. When the signal is received correctly, it will beep once time. (It only beeps two times when the unit starts operating.)
- The signal can be received at a distance of up to about 6 meters. This distance should be used only as a guide. It depends on battery strength.
- Make sure nothing is between the remote controller and the receiver that could block the signal.
- Do not leave the remote controller in direct sunlight, where the wind from the air conditioner can blow directly on it, or near any other heat source.
- Take care not to drop, throw or wash the remote controller with water.
- The signal from the remote controller may not be received in rooms with rapid start fluorescent lighting, inverter lights, plasma displays, LCD televisions (monitor), etc. For more information, please contact the distributor where the product was purchased.

Wall Mount Use

- Press ⏻ from the location you wish to mount the remote controller and make sure the signal is received properly.
- Pull the remote controller forward to remove it.



2-10. For Best Results

Don't get the remote controller too far away from the receiver.
This may cause a malfunction. Be sure to keep the remote controller in the same room as the receiver.

Point the remote controller at the receiver.
When the signal is received properly, it will beep one time.

Avoid locating the remote controller where it is covered, such as behind a curtain.
Keep it out in the open.

2-11. Addresses

In both multi and single unit installations, when more than one indoor units are installed in the same room with a compatible wireless remote controller, addresses can be set up to avoid crosstalk. By setting the address switches on the receivers and matching them with the number of addresses on the remote controller, up to six indoor units can be controlled separately with the remote controller. (When using units in a flexible combination or operating multiple units simultaneously, they cannot be controlled individually as they are operated at the same time.) There are separate address settings: receiver addresses for the receivers *1 and transmitter addresses for the remote controller.

For more information, please contact the distributor where the product was purchased.

- The setting procedure is different for Indoor Unit (Type K2,Type Y2). (See page 3-2-9)
- These settings are saved in nonvolatile memory in the remote controller, so even when its batteries are changed, the settings do not have to be made again.

*1 CZ-RWST3N is of receivers (Inside the indoor unit); CZ-RWSL2N and CZ-RWSD2 are of operation panels.

Checking Addresses

When you press [ADR] on the remote controller, its current address appears on the display. If this address corresponds to the address of a receiver *2, the buzzer sounds. (If it is on ALL, the buzzer will always sound.)

If it is on ALL, it can be operated regardless of receiver addresses. Point the remote controller at the receiver you wish to operate and transmit.

*2 CZ-RWSL2N is of an operation panel (Indoor unit).

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

Matching up Addresses

Setting Remote Controller Addresses

1. If you press [ADR] and ⇄ at the same time, "SET" will blink.

2. While holding [ADR] down, every time you press ⇄, it cycles from ALL → 1 → 2 → 3… 6 → ALL.

Set it to the receiver address switch of the indoor unit you wish to operate.

3. When you release [ADR], the address that was displayed is set.

When you do this, if it corresponds to the receiver's address setting, the buzzer sounds.

Setting Addresses (CZ-RWSK2)

(Setting the address of the indoor unit)

1. Set the address for the remote controller following the procedure under the section "Setting Remote Controller Addresses" (See the above descriptions).

2. Press [Emergency Operation] ⏻ of the indoor unit for four seconds or longer

When you do this, the lamps of the display will blink one after another.

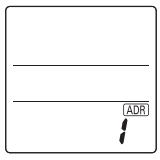
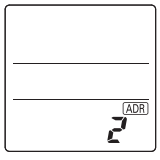
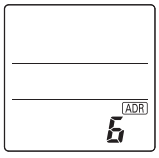
3. Press [ADR] on the remote controller.

4. The buzzer will sound and the address of the indoor unit will change to the address displayed on the remote controller.

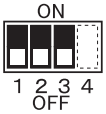
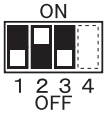
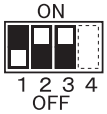
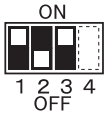
5. If you press [Emergency Operation] ⏻ of the indoor unit once, the lamps on the indoor unit's display will turn off.

NOTE

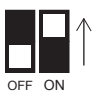
- Please do not hold the [Emergency Operation] ⏻ button of the indoor unit down while the indoor unit's display lamps are blinking one after another.
- Make sure to operate while the indoor unit is stopped.
- The address of indoor unit is set to "ALL" at the time of the shipment.

Wireless remote controller address display				• • • • •	

CZ-RWSU3 / CZ-RWSC3 / CZ-RWST3N / CZ-RWSL2N / CZ-RWSD2

	Address **ALL**	Address **1**	Address **2**	Address **3**	Address **4**	Address **5**	Address **6**
Address switch position	Receiving is possible at all address positions						

Interruptor ON/OFF



2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-12. Emergency Operation

Use [Emergency Operation] ⏻ in the following situations when there is an urgent need.

- When the remote controller's batteries have failed.
- When the remote controller is broken.
- When the remote controller is lost.

*1 Figures: CZ-RWSU3 and CZ-RWST3N are of receivers (inside indoor unit), and Indoor Unit (Type K2, Type Y2) is of its front panel.

CZ-RWSU3 / Indoor Unit (Type K2, Type Y2) / CZ-RWSC3 / CZ-RWST3N / CZ-RWSL2N / CZ-RWSD2

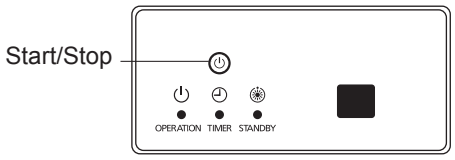
Start : press [Emergency Operation] ⏻ of the receiver.

If the indoor temperature is 24 °C or greater when the unit starts running, it will act as a cooler.

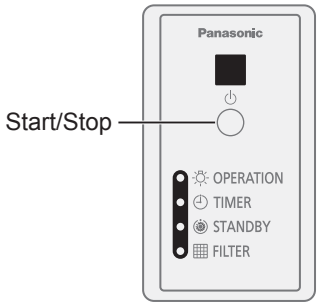
If the indoor temperature is less than 24 °C when the unit starts running, it will act as a heater.

Stop : press [Emergency Operation] ⏻ of the receiver again.

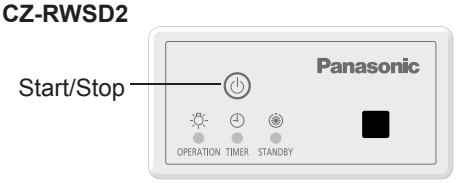
CZ-RWST3N



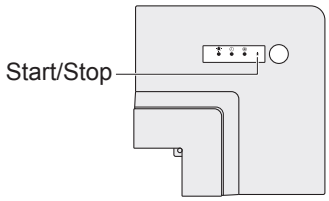
CZ-RWSC3



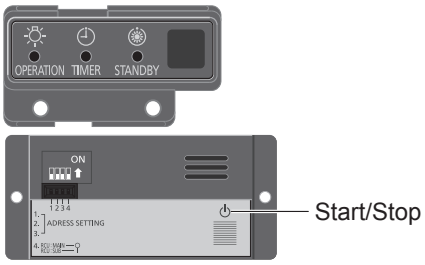
CZ-RWSD2



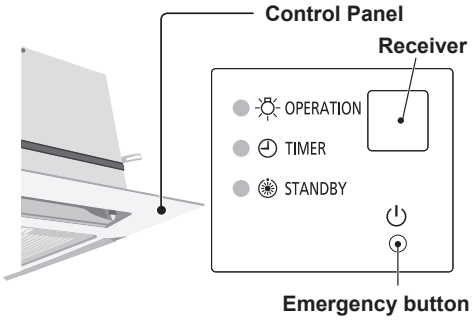
CZ-RWSU3



CZ-RWSL2N

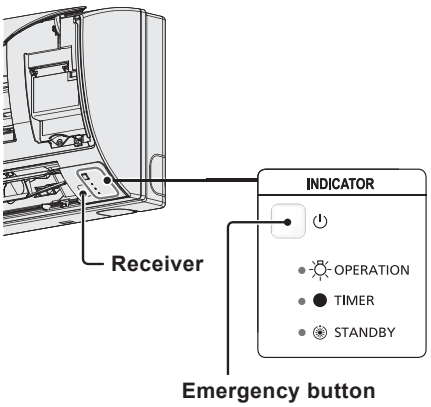


Indoor Unit : Type Y2

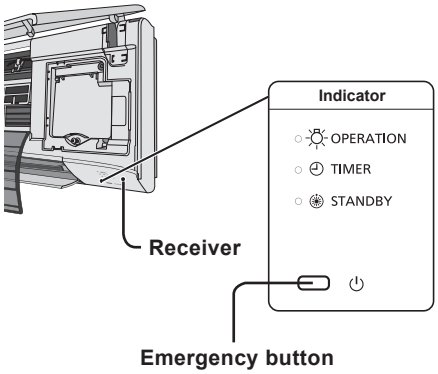


Indoor Unit : Type K2

Type 15, 22, 28, 36



Type 45, 56, 73, 106



2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-13. Miscellaneous Settings

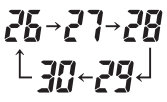
A variety of changes can be made to settings, depending on the indoor unit being used.

Operation mode indicator, time display (24 hour, AM/PM), heating maximum temperature

- (These settings are saved in nonvolatile memory in the remote controller, so even when its batteries are changed, the settings do not have to be made again.)
- First check the display of the remote controller when the unit is stopped and then make any desired settings.

How to Operate

- While holding down the buttons below, the remote controller's display changes every time ↻ is pressed.
- Whatever is being displayed when you release ↻ is set.

Setting Item	Operation Button	Setting Content	Remote Controller Display
Remote controller operation mode display setting when is pressed	Press ↻ while pressing	Heat Pump (with Auto)	
		Heat Pump (without Auto)	
		Dedicated air conditioner	
Clock display setting	Press ↻ while pressing	24-hour	
		AM/PM	
Max possible temperature setting in the Heat mode	Press ↻ while pressing	Maximum heating temperature range is 26 °C – 30 °C	

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2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2-14. Before Requesting Service

Before requesting service, please check the followings.

Problem	Cause	Solution
The unit doesn't work even when ⏻ is pressed on the remote controller.	The power to the indoor unit is not ON.	Make sure the power to the indoor unit is ON.
	Is the Normal/Stop All switch in the Stop All position? (See page 3-2-3)	Switch it to the Normal position and cancel operation.
	Are the remote controller's batteries dead?	Change the batteries.
	Is there a mismatch between the display lamp and cooling/heating or is it set to something other than Auto? (The operating lamp stays lit, while the timer lamp and the standby lamp blink alternately.)	Change the operating mode.
	Do the addresses match one another?	Check the addresses of the receiver and the remote controller. (See page 3-2-8)
The air conditioner starts and stops on its own.	Has the timer been set to repeat?	Check the timer settings. (See page 3-2-6)
"E0" is displayed on the remote controller when the unit is stopped.	An error has occurred in the non-volatile memory.	Please contact your sales outlet.
Although the unit is for air conditioning only, either Auto or Heat is indicated in the display.		Make settings to the remote controller's operation mode display. (See page 3-2-11)
After the batteries are put in the remote controller, even when it is operated, the display does not change.		Press the Reset button on the remote controller. (See page 3-2-4)
The timer cannot be set.		Make the settings when the remote controller is in Operation Display. (See page 3-2-6)

If the problem persists even after you check the foregoing items, stop the unit, disconnect the power to the indoor unit and contact the distributor where the product was purchased with the model number and problem you are having.
As it is dangerous, under no circumstances should you undertake repairs yourself.
Further, when the receiver's lamps are blinking; please contact your retailer with that information.

■ Specifications

CZ-RWSU3/CZ-RWSC3/CZ-RWSK2/CZ-RWST3N/CZ-RWSL2N/CZ-RWSD2

Wireless Remote Controller	Dimensions	182 mm (H) X 61 mm (W) X 18.5 mm (D)
	Power source	Two LR03 size batteries
	Clock Accuracy	±30 seconds per month (at 25 °C)

CZ-RWSU3/CZ-RWSC3/CZ-RWST3N/CZ-RWSD2

Receiver	Dimensions	CZ-RWSU3	29.7 mm (H) X 211.8 mm (W) X 211.8 mm (D)
		CZ-RWSD2	65 mm (H) X 130 mm (W) X 22 mm (D)
		CZ-RWSC3	120 mm (H) X 70 mm (W) X 20 mm (D)
		CZ-RWST3N	65 mm (H) X 141 mm (W) X 22.5 mm (D)
	Power source		16 V DC (Supplied from the terminal strip of the indoor unit's remote controller)

CZ-RWSL2N

Display	Dimensions	37 mm (H) X 70 mm (W) X 22 mm (D)
	Power source	5 V DC (supplied from the operation panel)
Operation Panel	Dimensions	55 mm (H) X 120 mm (W) X 16 mm (D)
	Power source	16 V DC (Supplied from the terminal strip of the indoor unit's remote controller)

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

3. Wiring for the Receiver

■ **Common to All Models**

3-1. Installation Location for the Receiver

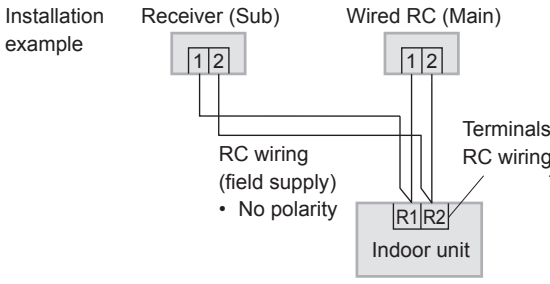
- The wireless remote controllers use a very weak infrared light for its signal, which can result in the signal not being received because of the following influences, so take care in where the unit is installed.
- Inverter or rapid-start type fluorescent lights. (Models without glow lamps)
- Plasma display or LCD televisions.
- Direct sunlight or other sources of bright light.

3-2. Installation location for the Wireless Remote Controller

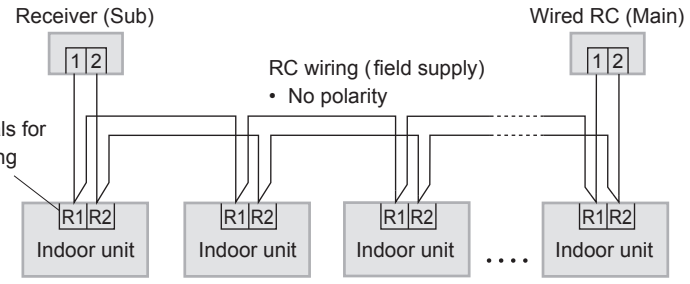
- If a remote controller is to be operated from a remote control holder that is hung on a wall, turn on the lights in the room as well as any electrical appliances and then check to make sure the air conditioner works with the remote controller in the location where it will be installed. If it works, continue with installation.
- If the main sensor is to be switched from the indoor unit to a remote controller, pay attention to the following when installing.
- Locate where no warm or cold air will affect it.
- Locate in a place free from direct sunlight.
- Locate where it will not be affected by any other heat/cold source.

Installation when setting Main/Sub for the remote controller and the receiver

■ Using 1 indoor unit



■ Using more than 1 indoor unit

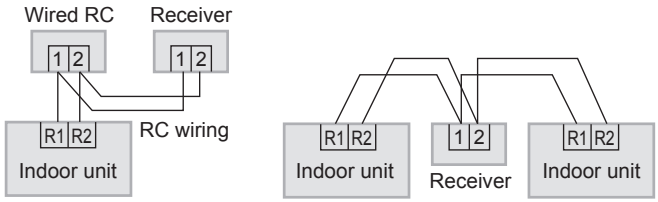


After installation, according to the “Settings” section, set one to [Main] and the other to [Sub].
Setting the wired remote controller to [Main] is recommended.

Attention

- Multiple wireless remote controllers cannot be used simultaneously for a single indoor unit.
- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

* Wiring shown below is prohibited.



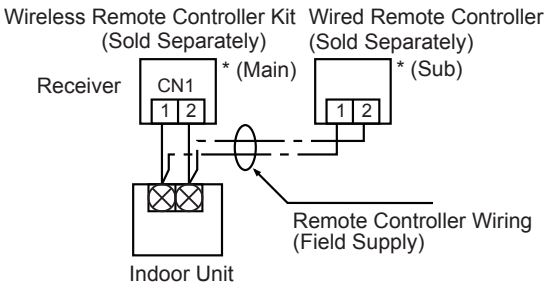
NOTE

The remote controller and the receiver can be connected to any indoor unit for operation.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

When 1 indoor unit is operated by 2 remote controllers:

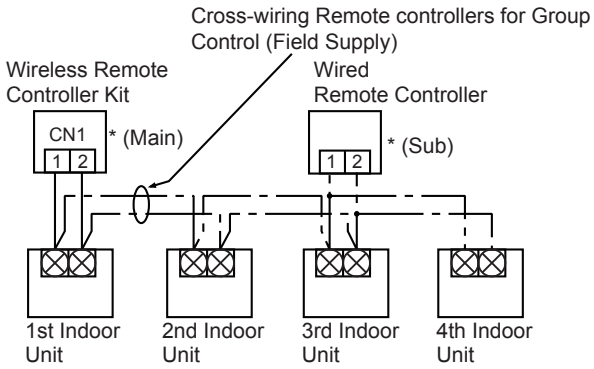
* Either of the remote controllers can be set to main/sub.



- Use wiring of 0.5 mm^2 to 2 mm^2 for field supply.
- Use a total wire length of no more than 400 m.

If a group of units are to be controlled by 2 remote controllers:

* Main/sub remote controllers will work regardless of which indoor unit they are installed to

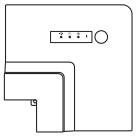
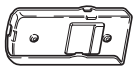
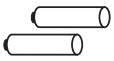


- Use wiring of 0.5 mm^2 to 2 mm^2 for field supply.
- Make the total wire length when cross-wiring a group no more than 200 m.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ CZ-RWSU3

1. Accessories

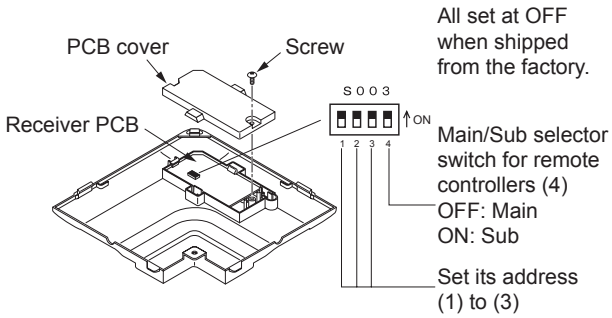
Supplied accessories							
Receiver (1)	Wireless Remote Controller (1)	Remote Control Holder (1)	LR03 Size Battery (2)	Operating Instructions (1)	Quick Reference (1)	Wood Screw M4 × 16 (2)	Clamper (1)
							

2. Settings

Setting for Receiver

- Check the settings of the [S003] DIP switch on the receiver's PCB.

  * Remove the cover from the receiver when performing the PCB settings.



3

Setting Address Switches

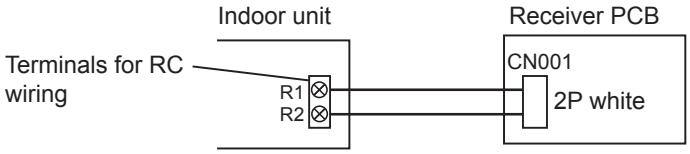
- When more than 1 receiver is installed in the same room, setting addresses prevents interference.
- For how to change addresses of wireless remote controllers, see the operating instructions of wireless remote controllers.
- To change the receiver's address, remove the cover from the receiver's PCB and set No.1 to No.3 of the [003] DIP switch on PCB.

Remote Controller Address Display	Address **ALL**	Address **1**	Address **2**	Address **3**	Address **4**	Address **5**	Address **6**	ON/OFF States
Position of the receiver's address switch	Receipt is possible at all of the address positions	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 OFF ON

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

3. Wiring the Receiver

- **Wiring Diagram**



How to Connect the Wires

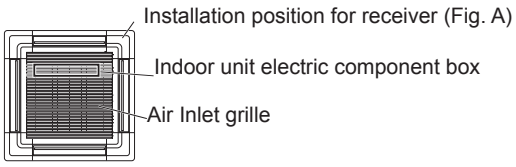
- Connect the wires from the receiver to the terminals for RC wiring on the indoor unit. (No polarity)

4. Installing the Receiver

- The receiver can be installed only on the corner shown in Fig. A. Consider the direction where the panel is attached to the indoor unit.

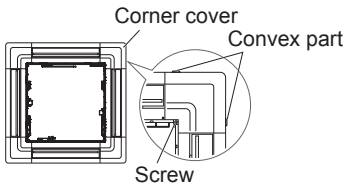
1 **Remove the air inlet grille**

Indoor unit electric component box

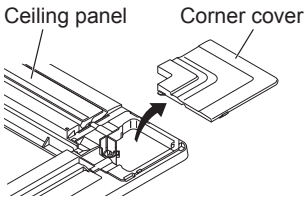


2 Remove the corner cover.

① Remove the screw fixing the corner cover.

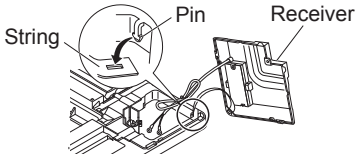


② Place a hand on both the right and left convex parts of the corner cover to remove it.



3 **Wire the receiver.**

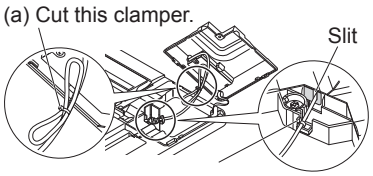
① Hang the string of the receiver on the pin of the ceiling panel.



② Pass the wiring from the wireless receiver section into the slit. (See “Wiring for the receiver”)

③ Fix the wiring with the clamper (supplied) while leaving enough length of wiring to remove the receiver.

- When attaching the filter chamber, cut the clamper (a), and attach the receiver.

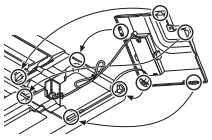


Fix with the clamper (supplied).

4 **Fix the receiver.**

① Fit the receiver to the ceiling panel so the 5 claws are properly set, and fix it with the removed screw.

- Make sure the wire is not caught.
- Refer to the installation instructions supplied with the panel.



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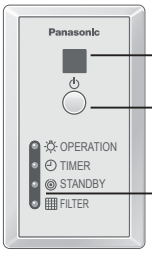
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ **CZ-RWSC3**

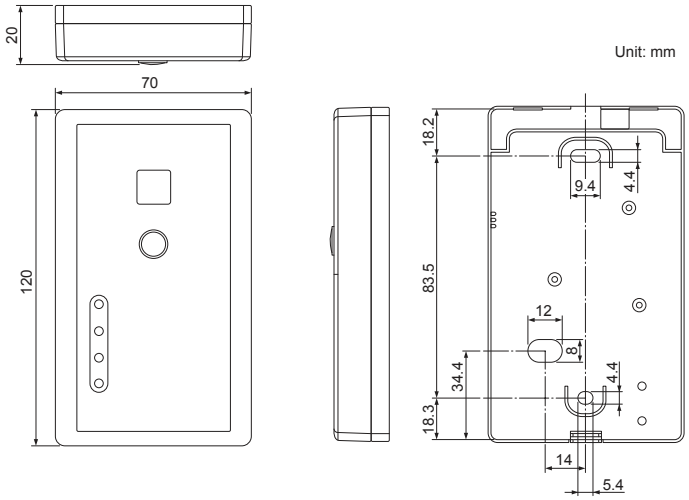
Installation Instructions
Wireless Receiver for ALL

Part Names



(1) Light receiving section
Receives signals.
(2) Emergency operation button
Starts/Stops emergency operation.
(3) Indication lamp
Indicates operation status.

Dimensions



Safety Precautions

Read before installation

- Read the Installation Instructions carefully to install the unit correctly and safely.
  Be sure to read the Safety Precautions in particular before installation.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructons or methods without using specified parts.
  Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- Read the installation instructions supplied with indoor units as well.

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

⚠ WARNING

- Turn off the circuit breaker of the units before installation.
- Ask your dealer or professionals for installation and electric work.
- This receiver shall be installed in accordance with National Wiring Regulations.
- Securely connect and fix the specified cables for wiring.
- Do not allow the connection to be exposed to the external force of the cables.
- Choose an installation location that sufficiently supports the weight of the receiver.

⚠ CAUTION

- Do not use at the following locations.
  - Location where condensation occurs
  - Location where flammable gases, etc. may leak
  - Location where corrosive gases, etc. may leak
  - Location with lots of water or oil droplets (including machine oil)
  - Location where voltage fluctuation frequently occurs
  - Location where there is a machine producing electromagnetic radiation
  - Location where droplets of organic solvents spread
    Location where acidic or alkaline solutions or special sprays are frequently used
- Do not operate with wet hands.
- **Do not wash with water.**

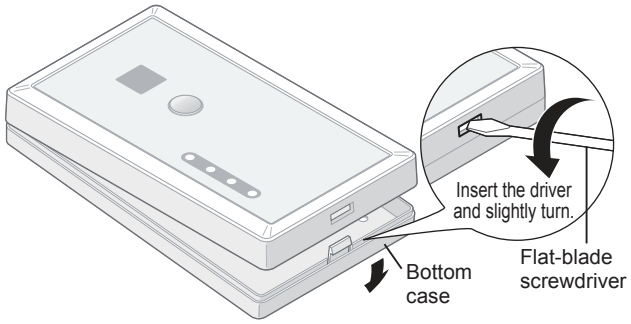
1. Accessories

Supplied accessories	
Wood screw M4 × 15.5 (2)	Clamper (1)

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

2. Installing the Receiver

1 Remove the bottom case.

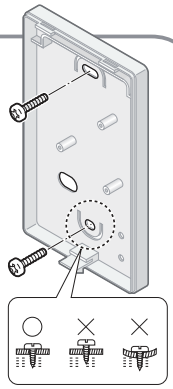


2 Mount to the wall.

Attention

Mounting the bottom case

- Tighten the screws securely until the screw heads touch the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)



Connecting the remote control wiring

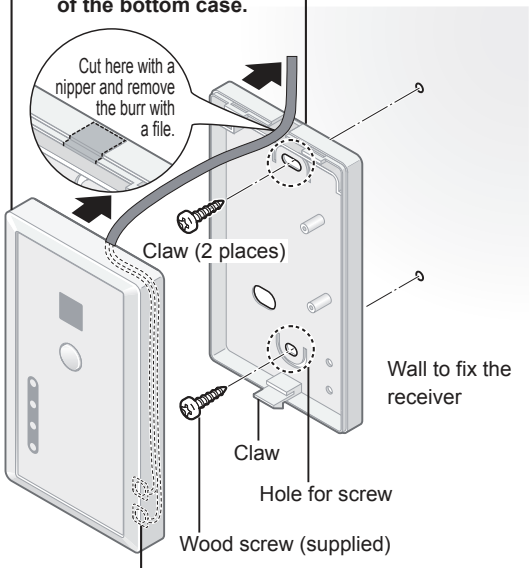
- Arrange the wires as shown in the illustration for ❷ in step 2, avoiding unnecessary wires being stored in the case. (Caught wires may destroy the PCB.)
- Avoid wires touching parts on the PCB. (Caught wires may destroy the PCB.)

Exposed type

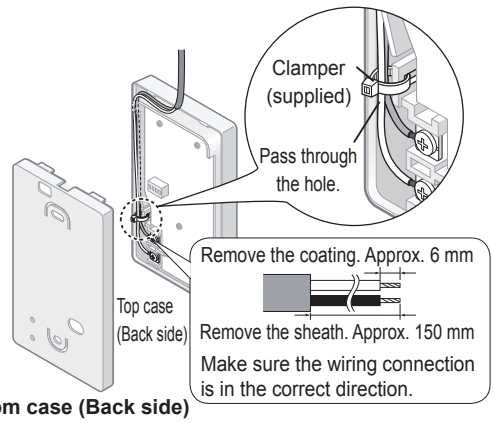
Preparation: Make 2 holes for screws using a driver.

3 Mount the top case.
- **Align the claws of the top case and then align the claws of the bottom case.**

1 Mount the bottom case to the wall.



2 Connect the remote control wiring.
- Arrange the wires along the groove of the case.

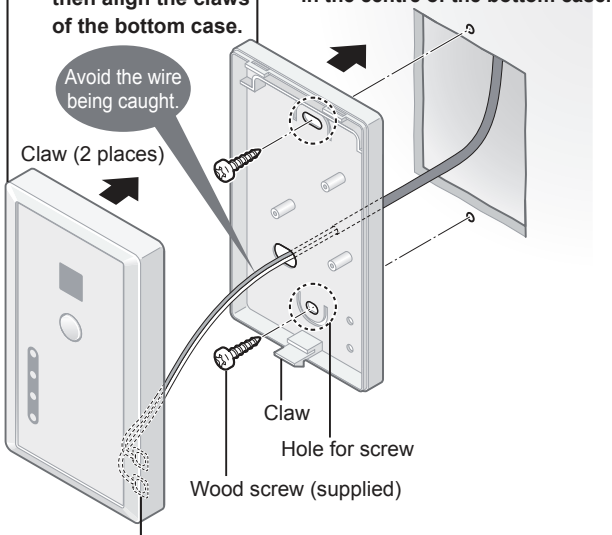


Embedded type

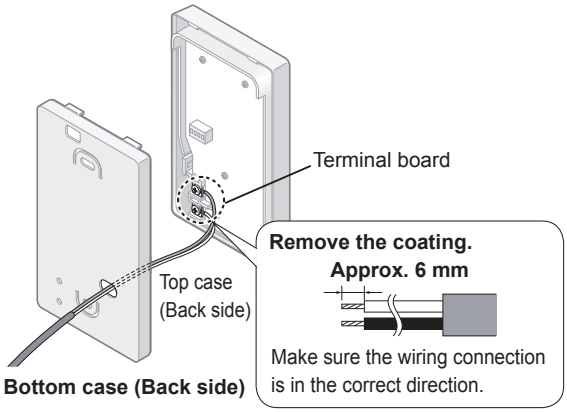
Preparation: Make 2 holes for screws using a driver.

3 Mount the top case.
- **Align the claws of the top case and then align the claws of the bottom case.**

1 Mount the bottom case to the wall.
- **Pass the wire through the hole in the centre of the bottom case.**



2 Connect the remote control wiring.

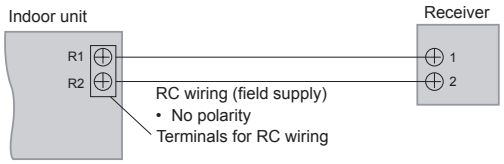


2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

3. Wiring the Receiver

Wiring for the receiver

- **Wiring diagram**
- **Type of wiring**
  Use cables of 0.5 to 1.25 mm^2.
- **Total wire length:** 400 m or less
  (The wire length between indoor units should be 200 m or less.)
- **Number of connectable units**
  Remote controller and receiver: Max. 2, Indoor unit: Max. 8

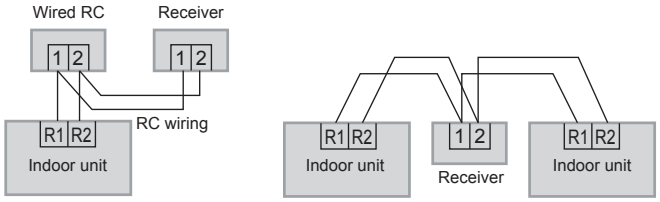


Attention

- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

- For the RC wiring of field supply, please use insulated wires with sheath. The insulation thickness should be at least 1 mm.
- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
- You must ensure that installation complies with all relevant rules and regulations.

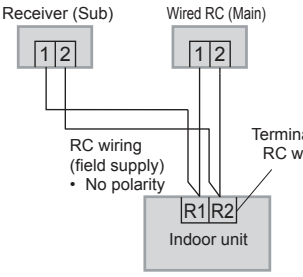
*Wiring as shown below is prohibited.



Installation when setting Main/Sub for the remote controller and the receiver

■ Using 1 indoor unit

Installation example



■ Using more than 1 indoor unit

After installation, according to the "Main/Sub setting" in the "Setting" section, set one to [Main] and the other to [Sub].
Setting the wired remote controller to [Main] is recommended.

Note The remote controller and the receiver can be connected to any indoor unit for operation.

Specifications

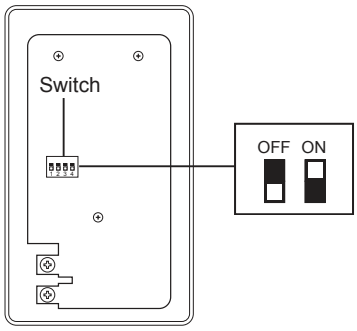
Model No.	CZ-RWSC3
Dimensions	(H) 120 mm × (W) 70 mm × (D) 20 mm
Weight	75 g
Temperature/Humidity range	0 °C to 40 °C / 20 % to 80 % (No condensation) *Indoor use only.
Power Source	DC16 V (supplied from indoor unit)

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

4. Setting Address Switches

■ **Main/Sub setting** ■ **Address setting**

Remove the top case of the receiver for setting.



Main/Sub setting

- **Use this to set Main/Sub for the remote controller and the receiver.**
- **Set one to [Main] and the other to [Sub].**
- **Factory default: [Main]**
- **It is recommended to set the wired remote controller to [Main].**

Main/Sub	MAIN	SUB
Main/Sub switch position	 1 2 3 4	 1 2 3 4

Address setting

- When more than 1 receiver is installed in the same room, setting addresses prevents interference.
- For how to change addresses of wireless remote controllers, see operating instructions of wireless remote controllers.

Wireless remote controller address display	Address **ALL**	Address **1**	Address **2**	Address **3**	Address **4**	Address **5**	Address **6**
Address switch position	Receiving is possible at all address positions.	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4

5. Test operation

Preparation : Turn on the circuit breaker of units and then turn the power on. After the power is turned on, remote controller operation is ignored for approx. 1 minute because setting is being made. This is not malfunction. (Contents received while setting are disabled.)

1. To start test operation, press and hold the emergency operation button for 10 seconds.
2. The indication lamps (OPERATION, TIMER, STANDBY) blink during test operation.
3. To finish test operation, press and hold the emergency operation button for 10 seconds.

Attention

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

Self-diagnostics table and detected contents

- The "Alarm Display" as shown in the table below expresses the alarm contents displayed when the wired remote controller is connected. For how to handle the alarms, see installation instructions of indoor units or technical guide.

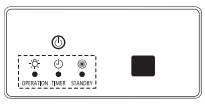
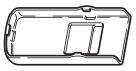
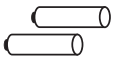
Detected contents		Indication lamp on the receiver			
	Alarm Display	OPERATION	TIMER	STANDBY	Blinking
Communication error in the remote control circuit	E01–E03, E08–E14, E17, E18	□	●	●	
Communication error either in the in/outdoor operation line or the sub-bus of the outdoor unit	E04–E07, E15, E16, E19–E31	●	●	□	
Operation of indoor protection device	P01, P09–P14	●	□	□	Alternately
Operation of outdoor protection device	P02–P08, P15–P31	□	●	□	Alternately
Error in the indoor thermistor	F01–F03, F10–F11	□	□	●	Alternately
Error in the outdoor thermistor	F04–F09, F12–F28	□	□	○	Alternately
Error in the indoor EEPROM	F29	□	□	●	Simultaneously
Error in the outdoor EEPROM	F30, F31	□	□	○	Simultaneously
Error related to the compressor	H01–H31	●	□	●	
Error in indoor settings	L01–L03, L05–L09	□	●	□	Simultaneously
Error in outdoor settings	L04, L10–L31	□	○	□	Simultaneously
Inconsistency in Air/Heat (Including an auto-temp setting for a model without auto-temp settings)		○	□	□	Alternately
Oil Alarm (Same as operation of outdoor protection device)		□	●	□	Alternately
Test operation		□	□	□	Simultaneously

●: OFF ○: ON (Illuminated) □: Blinking (0.5 seconds interval)

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

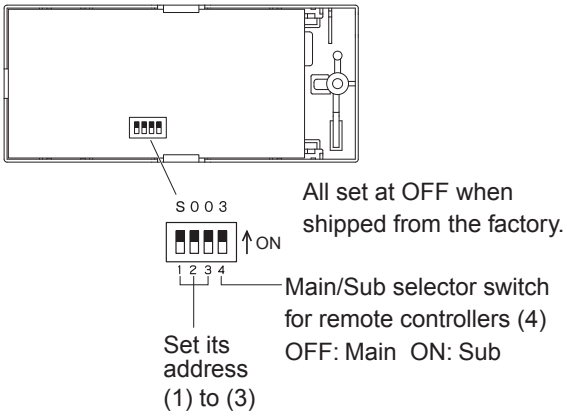
■ CZ-RWST3N

1. Accessories

Supplied accessories							
Receiver (1)	Wireless Remote Controller (1)	Remote Control Holder (1)	LR03 Size Battery (2)	Operating Instructions (1)	Quick Reference (1)	Wood Screw M4 × 16 (2)	Clamper (1)
							

2. Settings

- Before installing the receiver, see the sections on "Wiring for the Receiver" and "Setting Address Switches". Then check the settings of the [S003] DIP switch on the receiver's PCB.
  * Remove the cover from the receiver when performing the PCB settings.



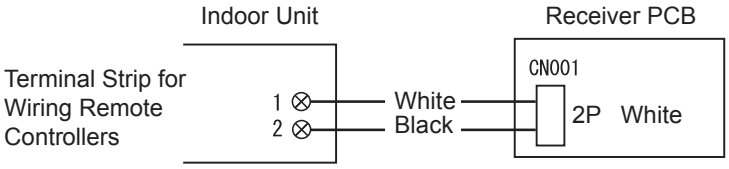
Setting Address Switches

- When more than 1 receiver is installed in the same room, setting addresses prevents interference.
- For how to change addresses of wireless remote controllers, see the operating instructions of wireless remote controllers.
- To change the receiver's address, remove the cover from the receiver's PCB and set No.1 to No.3 of the [003] DIP switch on PCB.

Remote Controller Address Display	Address **ALL**	Address **1**	Address **2**	Address **3**	Address **4**	Address **5**	Address **6**	ON/OFF States
Position of the receiver's address switch	Receipt is possible at all of the address positions	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 1 2 3 4	 OFF ON

3. Wiring the Receiver

Wiring Diagram



Connections

Connect the wires from the receiver to the remote controller terminal strip on the indoor unit. (Polarity does not matter)

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

4. Installing the Receiver

● **Ceiling Suspended Model**

(1) Remove the screw, and slide the latch to open the air-intake grille. (Fig. 3-2-1)

(2) Insert a flat-head screwdriver from the side, and remove the cover while pressing down on the two cover tabs. (Fig. 3-2-2)

(3) Route the remote controller wiring through the panel, and mount the receiver into the panel holes. (Fig. 3-2-3)

(4) Route the remote controller wiring through the adjustable clamper, and draw in the wire from the remote controller wiring inlet to the inside of the indoor unit. (Fig. 3-2-3) (See Fig. 3-2-4 for how to loosen the adjustable clamper.)

(5) Route the remote controller wiring through the three saddles, and draw the wire into the electrical box. (Fig. 3-2-4)
* Draw in the power wire and remote controller wiring separately.

(6) Connect the remote controller wiring to the terminal board, route through the cable tie (accessory) to the holding clamp, and secure the remote controller wiring. (Fig. 3-2-5)

(7) Mount the side cover, and close the air-intake grille.

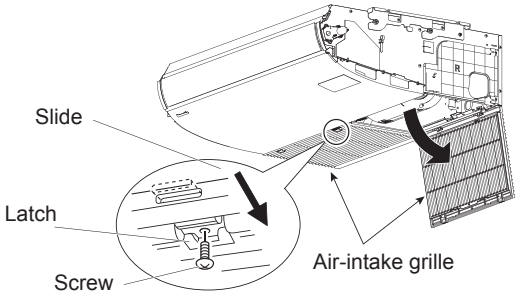


Fig. 3-2-1

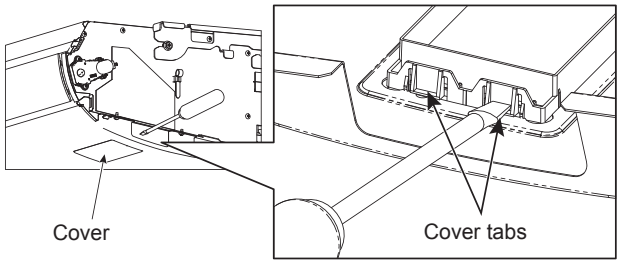


Fig. 3-2-2

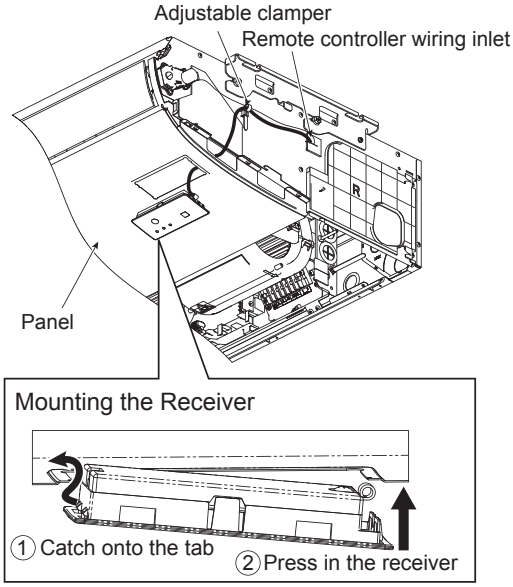


Fig. 3-2-3

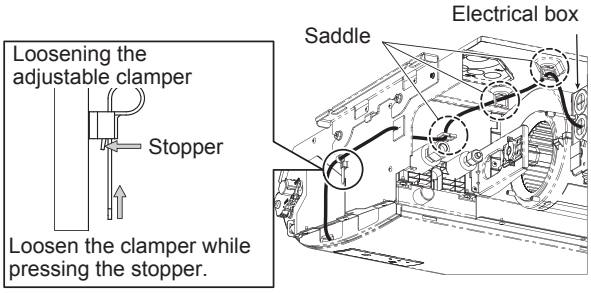


Fig. 3-2-4

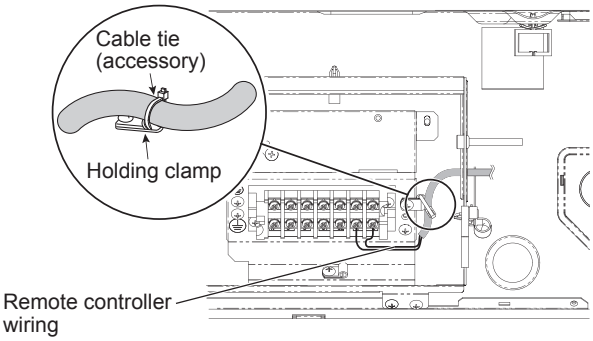


Fig. 3-2-5

● **Removing and Mounting the Side Cover**

Removing the side cover

Remove the side cover mounting screw, and slide the side cover to the front side (direction of arrow in Fig. 3-2-6) to remove.

Mounting the side cover

Slide in the side cover from the indoor unit front side, mount to the latch tabs, and secure using the side cover mounting screw.

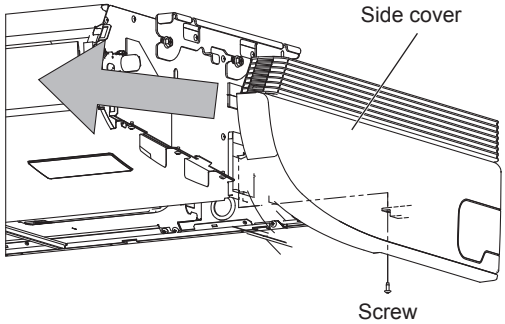
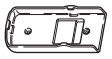


Fig. 3-2-6

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ **CZ-RWSL2N**

1. Accessories

Supplied accessories							
Wireless Remote Controller (1)	Remote Control Holder (1)	LR03 Size Battery (2)	Operating Instructions (1)	Quick Reference (1)	Wood Screw M4 × 16 (2)	Pan Head Self-Tapping Screw 4 × 10 (4)	Clamper (3)
							

2. Installing the Receiver/Operation Panel

Resin Panel

Installing the Operation Panel

(1) Remove the 2 screws. Then remove the cover A from the back of the panel. (Fig. 3-2-7)

(2) Fasten the operation panel to the location shown in the figure below with the 2 enclosed screws (4 ×10). (Fig. 3-2-8)

(3) Pass the receiver wiring (6P white connector) through the back of the panel.

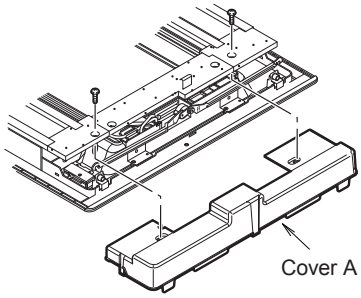


Fig. 3-2-7

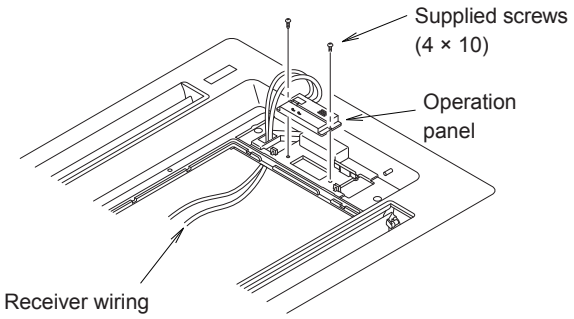


Fig. 3-2-8

Installing the Receiver

(1) The cover B is fitted in the cover A. Remove the 1 screw and detach it by pressing on it from the front side of the panel. (Fig. 3-2-9)

(2) Connect the receiver wiring (6P white connector) that is sticking out from the operation panel to the receiver and fit the receiver into the panel.
Make sure the 6P white connector is fully plugged in all the way.

(3) Bend the lead wire of the receiver into shape so that it does not come in contact with the louver shaft.
There is a groove to pass the wire (circled part in Fig. 3-2-9) Insert the lead wire into this groove with no slack.

(4) Attach the cover A until it is firmly engaged in the claws indicated by arrows. (Fig. 3-2-10)

(5) Arrange the lead wire of the operation panel appropriately and fasten it with the supplied clamper.

(6) Install the ceiling panel.

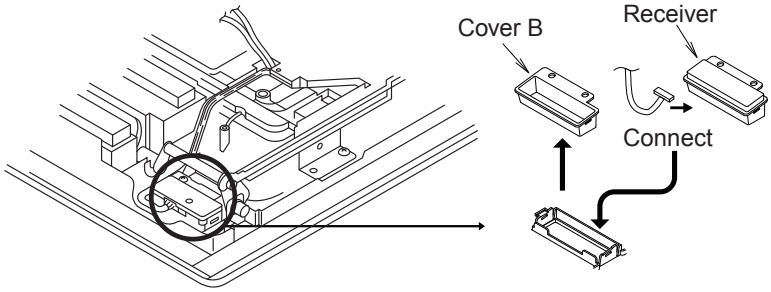


Fig. 3-2-9

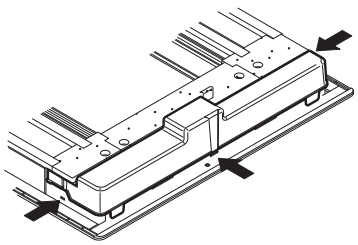


Fig. 3-2-10

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

Metal Panel

Installing the Operation Panel

(1) Remove the 2 screws and remove the cover A from the back of the panel. (Fig. 3-2-11)
(2) Fasten the operation panel to the location shown in the figure below with the 2 enclosed screws (4 × 10). (Fig. 3-2-12)
(3) Pass the receiver wiring (6P white connector) through the back of the panel.

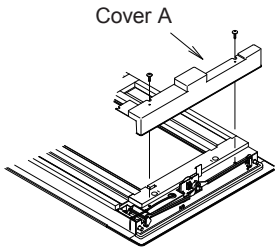


Fig. 3-2-11

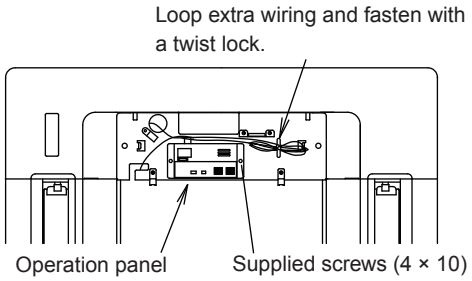


Fig. 3-2-12

Installing the Display

(1) The cover B is fit in the Cover A. Spread the points as indicated in figure 3-2-13 and remove it.
The tape holding cover B is only to protect it during transport. Remove and discard it.
(2) Connect the receiver wiring (6P white connector) that is sticking out from the operation panel to the receiver and fit the receiver into the panel.
Make sure the 6P white connector is fully plugged in all the way.
(3) Pass the lead wire for the receiver through the cutout in the panel and the hole in the metal panel. Then fasten it to the hole in the metal panel with the plastic clamper. (Fig. 3-2-14)
(4) Attach cover A.
(5) Properly route the lead wire of the operation panel and fasten it with the twist lock. (Fig. 3-2-12)
(6) Install the ceiling panel.

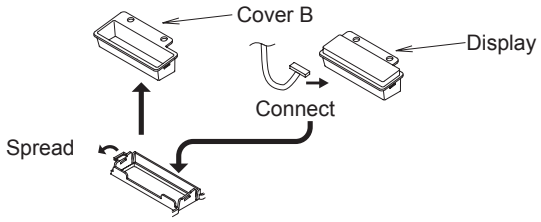


Fig. 3-2-13

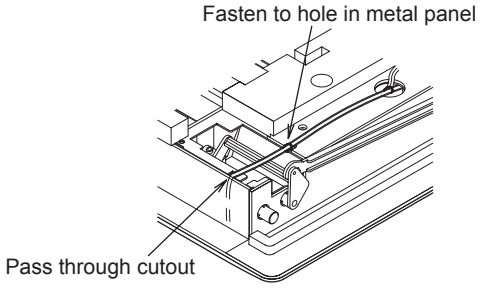


Fig. 3-2-14

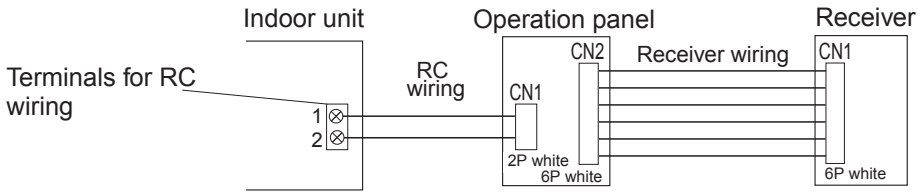
NOTE

(1) If the wiring to the operation panel is bundled together with other wiring, such as the incoming line from the power source, it can cause a malfunction, so avoid doing so.
(2) If something causes the unit's power source to make noise it will be necessary to resolve the problem, such as by installing a noise filter.

- For more information about wiring or test runs, refer to Wiring the Receiver and Test Run.

3. Wiring for the Receiver

Wiring Diagram



Connections

(1) Connect the remote controller wiring to the terminals for RC wiring on the indoor unit. (No polarity)
(2) Connect the receiver and the operation panel with the receiver wiring.

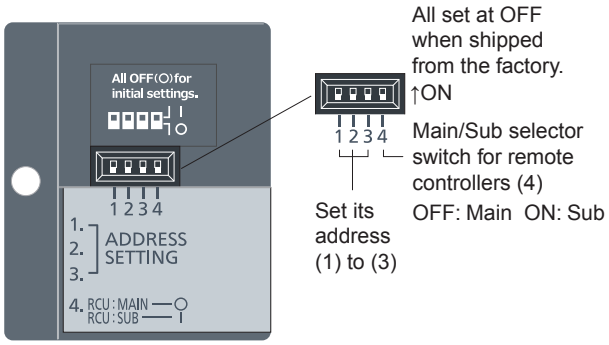
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

4. Test Operation

Implementing a Test Run

1. Turn the #1 DIP switch of the operation panel from OFF to ON (Down → Up) and operate the wireless remote control with its Start/Stop button.
2. During a test run, all display lamps on the display will light up.
3. During a test run, it is not possible to adjust the temperature.
4. After completing a test run, be absolutely sure to turn the #1 DIP switch from ON to OFF (Up → Down) and make sure none of the display lamps are blinking. Also, replace the PCB cover back as it was and fasten it; while holding the wiring in the cable clamp, tighten its screw.

- Before installing the operation panel, see the sections on “Wiring for the Receiver” and “Setting Address Switches”. Then check the settings of the operation panel switches.



3

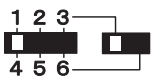
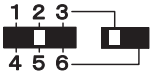
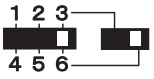
NOTE

(1) This is hard on the device, so only use this for the test run.

(2) After turning on the power, the unit will not receive any commands from the remote control for about 1 minute. This is not an error. (In fact it does receive signals, but they are cancelled)

5. Setting Address Switches

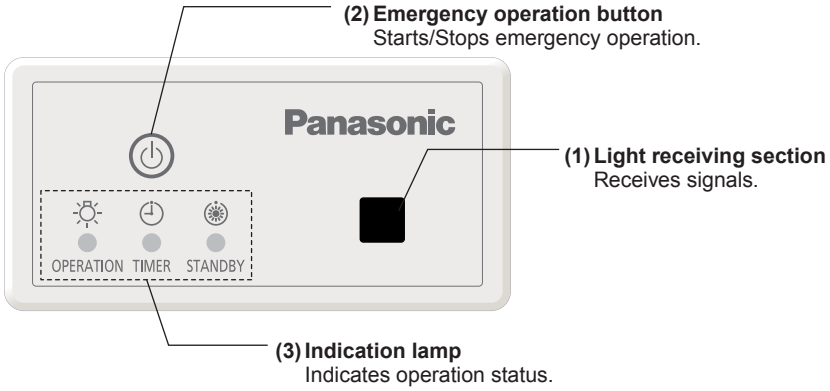
- When more than one display/operation panel and remote control are installed in the same room, setting up addresses allows them to avoid interfering with each other.
- Refer to the Users Manual for information on how to change the addresses of the remote controls.

Address Display on the Remote Control	AL L	1	2	·····	6
Position of the Receiver’s Address Switch	It doesn’t matter where the receiver’s address switch is.			·····	

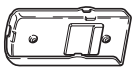
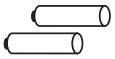
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ CZ-RWSD2

1. Part Names

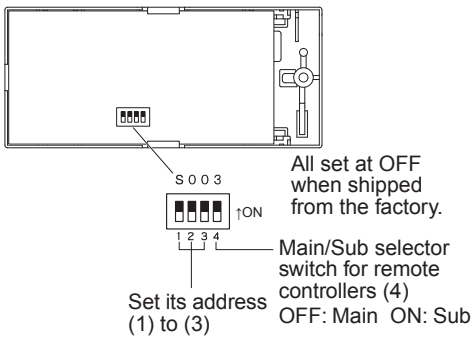


2. Supplied accessories

Supplied accessories						
Wireless Remote Controller (1)	Remote Control Holder (1)	LR03 Size Battery (2)	Operating Instructions (1)	Quick Reference (1)	Wood Screw M4 × 16 (2)	Clamper (1)
						

3. Settings

- Before installing the receiver, see the sections on “Wiring for the Receiver” and “Setting Address Switches”. Then check the setting of the [S003] DIP switch on the receiver’s PCB.
  * Remove the cover from the receiver when performing the PCB settings.



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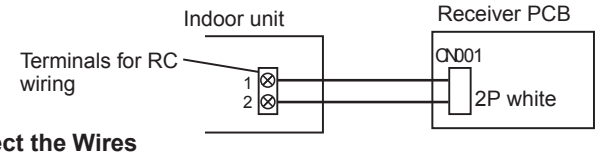
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

4. Wiring for the Receiver

Wiring Diagram



How to Connect the Wires

Connect the wires from the receiver to the terminals for RC wiring on the indoor unit. (No polarity)

5. Installing the Receiver

(1) While spreading the tabs of the cover, pull it out from the panel to the front. (Fig. 3-2-15)
(2) When installing on the 1-WAY cassette (high-ceiling), pass the lead wire through the panel and install the receiver in the hole in the panel. (The projecting parts of the receiver are fixed in the hole in the panel.)
(3) Route the lead wire from the receiver along the rib on the back of the panel. Pass it through the cutout. (Fig. 3-2-16)
(4) Install the panel on the indoor unit.
(5) Fasten the lead wire sticking out from the panel with the clamper in the indoor unit. (Fig. 3-2-17)
(6) Draw the lead wire into the electrical box through the hole on the bottom and connect it to the remote controller terminal board.
When installing to the 1-WAY cassette (high-ceiling), fasten the wire at the latch of the fan casing with the supplied clamper. (Fig. 3-2-18)

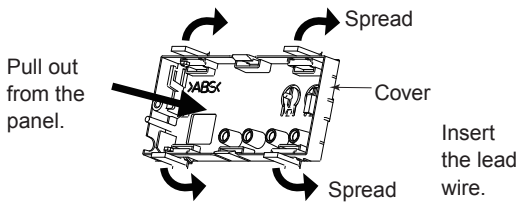


Fig. 3-2-15

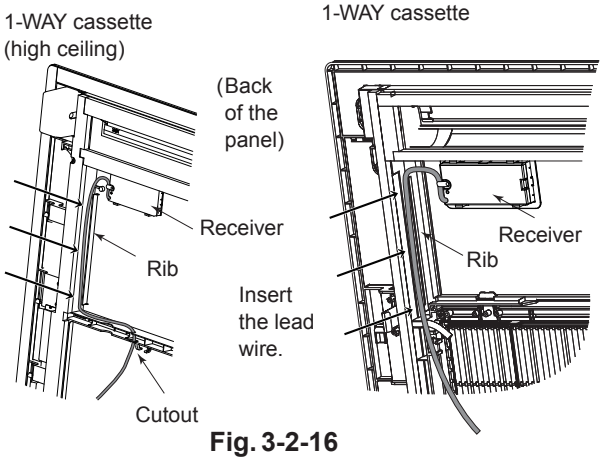


Fig. 3-2-16

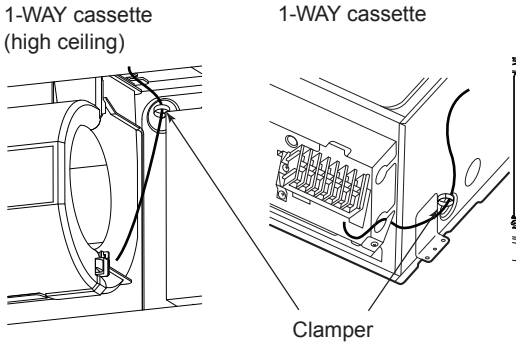


Fig. 3-2-17

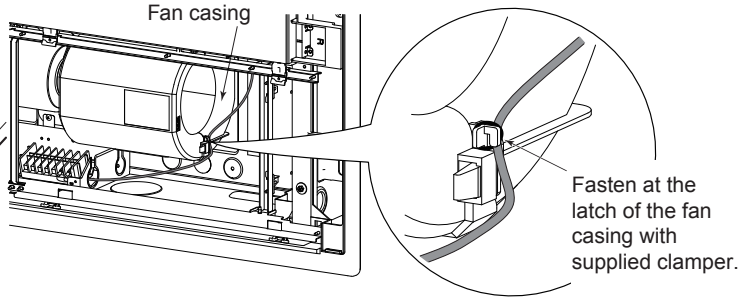


Fig. 3-2-18

- Fasten the lead wire securely so that it does not get wrapped up in the fan.
- For more information about wiring and test operation, see the sections on “Wiring for the Receiver” and “Test Operation”.

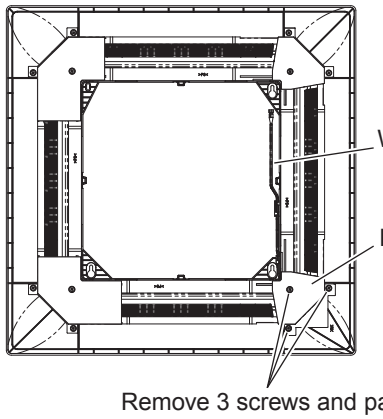
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ When Using Wireless Remote Controller Instead of Wired Remote Controller

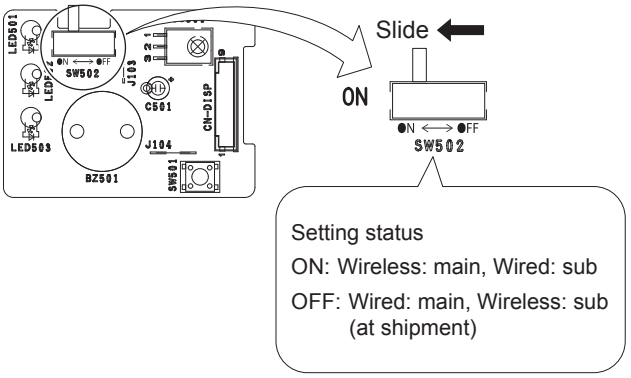
● Type Y2 : S-15MY2E5A / S-22MY2E5A / S-28MY2E5A / S-36MY2E5A / S-45MY2E5A / S-56MY2E5A

When the wireless remote controller is to be used, slide the switch (SW502) on the indoor unit control PCB to the ON position.
● If this setting is not made, an alarm will occur. (The operation lamp on the display blinks.)

Reverse side view of Decorative Panel

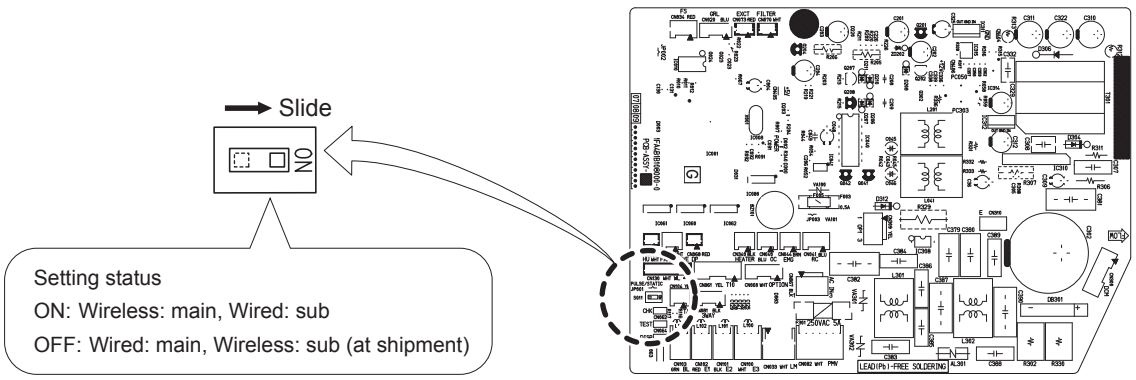


PCB inside panel cover



● Type K2 : S-15MK2E5A / S-22MK2E5A / S-28MK2E5A / S-36MK2E5A

When the wireless remote controller is to be used, slide the switch (S011) on the indoor unit control PCB to the ON position.
● If this setting is not made, an alarm will occur. (The operation lamp on the display blinks.)



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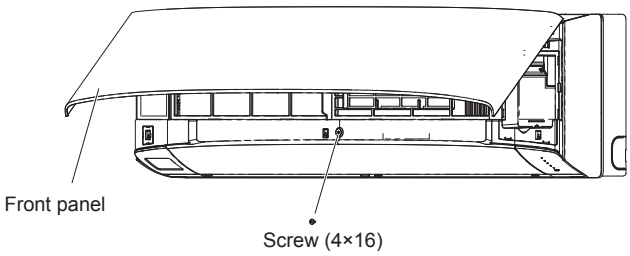
2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

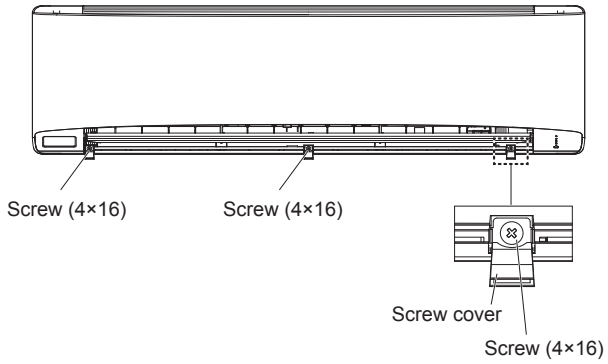
● Type K2 : S-45MK2E5A / S-56MK2E5A / S-73MK2E5A / S-106MK2E5A

<Optional parts setting and wiring>

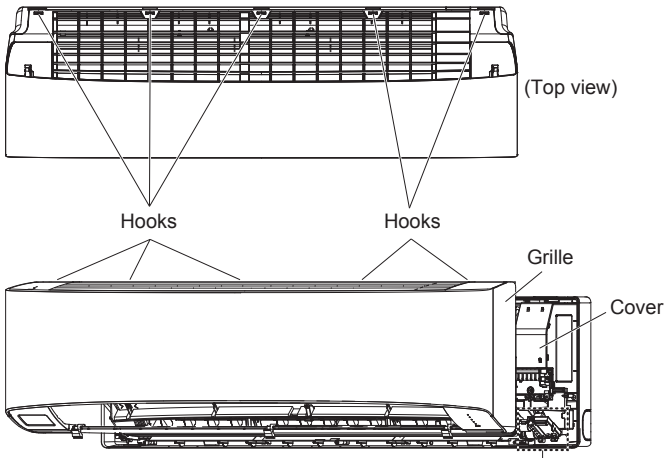
(1) Open the front panel and remove the screw (×1).
Then close the panel.



(2) Open the flap and then open the screw covers (×3).



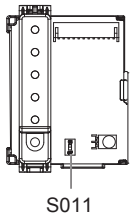
(3) Disengage the hooks holding and lifting both ends of the grille.
Remove the cover of electrical component box.

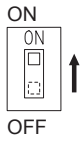


<When Using Wireless Remote Controller Instead of Wired Remote Controller>

When the wireless remote controller is to be used, slide the switch (S011) to the ON position.

- If this setting is not made, an alarm will occur. (The operation lamp on the display blinks.)





Setting status	
ON:	Wireless: main, Wired: sub
OFF:	Wired: main, Wireless: sub (at shipment)

3

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ Common to All Models

1. The Self-Diagnosis Function Display and What is Detected

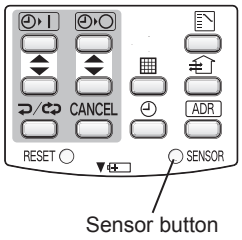
- The “Alarm Display” shown in the table below expresses the alarm contents displayed when the wired remote controller is connected. For how to handle the alarms, see installation instructions of indoor units or technical guide.

Detected contents	Alarm Display	Indication lamp on the receiver			
		OPERATION	TIMER	STANDBY	Blinking
Communication error in the remote controller circuit	E01–E03, E08–E14, E17, E18	◎	●	●	
Communication error either in the in/outdoor operation line or the sub-bus of the outdoor unit	E04–E07, E15, E16, E19–E31	●	●	◎	
Operation of indoor protection device	P01, P09–P14	●	◎	◎	Alternately
Operation of outdoor protection device	P02–P08, P15–P31	◎	●	◎	Alternately
Error in the indoor thermistor	F01–F03, F10–F11	◎	◎	●	Alternately
Error in the outdoor thermistor	F04–F09, F12–F28	◎	◎	○	Alternately
Error in the indoor EEPROM	F29	◎	◎	●	Simultaneously
Error in the outdoor EEPROM	F30, F31	◎	◎	○	Simultaneously
Error related to the compressor	H01–H31	●	◎	●	
Error in indoor settings	L01–L03, L05–L09	◎	●	◎	Simultaneously
Error in outdoor settings	L04, L10–L31	◎	○	◎	Simultaneously
Error in the gas heat pump air conditioner	A01–A31	●	◎	◎	Simultaneously
Inconsistency in Cooling/Heating (Including an auto-temp setting for a model without auto-temp settings)		○	◎	◎	Alternately
Oil alarm (Same as operation of outdoor protection device)		◎	●	◎	Alternately
Test operation		◎	◎	◎	Simultaneously

● : OFF ○ : ON (Illuminated) ◎ : Blinking (0.5 seconds interval)

2. Room Temperature Sensor Settings

- The indoor unit and the wireless remote controller are equipped with room temperature sensors. The sensing of room temperature works via one of them.
- When the unit is shipped, it is set to the indoor unit. To switch it to the remote controller, press the sensor button (the fi gure on the right) inside the remote controller’s cover and then check that Main Sensor on the LCD screen goes off.



Sensor button

NOTE

Be sure to install the remote controller so as to face the receiver.

If the unit does not receive any room temperature data from the remote controller for ten minutes even with its sensing function activated, the indoor unit sensor will automatically start sensing the room temperature.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

3. Setting Up Remote Controller Functions

The functions of the wireless remote controller can be set on site.
(These settings are saved in nonvolatile memory in the remote controller. Therefore, the settings do not revert to the defaults even when its batteries are changed.)

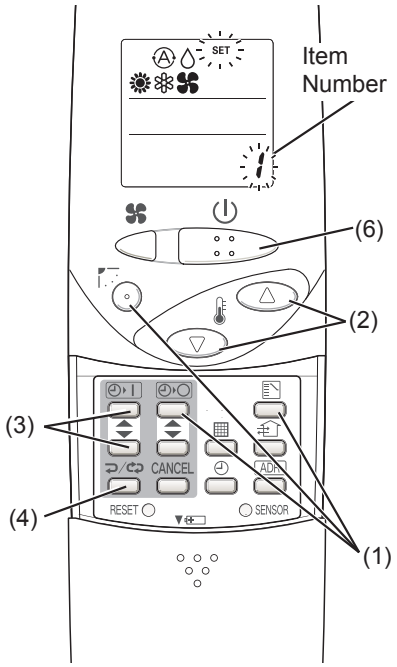
NOTE

Only service personnel should make the settings because the operation of the air conditioner may be affected, depending on the settings made.
Furthermore, making changes to these settings may cause actual operation to deviate fromwhat is printed in the Operating Instructions, so be sure to fully explain this to the customer.

Making Settings (Do with unit stopped)

(1) Holding down the swing/flap ( ) + OFF timer ( ) + mode select ( ) buttons at the same time for 4 or more seconds will open the setting screen. (See figure below.)
(2) Use the Temperature setting buttons (/) to select the number of the item to be set.
(3) Use the ON timer buttons / ( ) to change settings.
(4) The settings are saved with the once/every day button ( ). When this is done, the SET displayed on the LCD changes from blinking to lighting.
(5) If other settings are to be changed, repeat steps (2) to (4).
(6) When all settings have been made, press the start/stop ( ) button.

Operation procedure and function display



Detected contents		Set Contents	Factory setting
1	Operation Mode	→ → → → →	
2	Flap Display	→ → →(No Display) (*1)	
3	Select Fan Speed	→ → →(No Display)	
4	Display of Set Temperature	°C → °F → Setting Off (*2)	°C
5	Time Display	24 Hour (No Display) → AM/PM	24 Hour
6	Ventilation Fan ON/OFF	OFF (No Display) → ON	OFF (*3)
7	Cool temp Max	05 to 35°C	30
8	Cool temp Min	05 to 35°C	18
9	Heat temp Max	05 to 35°C	30 (*4)
10	Heat temp Min	05 to 35°C	16
11	Dry temp Max	05 to 35°C	30
12	Dry temp Min	05 to 35°C	18
13	Auto temp Max	05 to 35°C	27
14	Auto temp Min	05 to 35°C	17
16	Address Setting Max Value	00 (ALL only) → 01 to 031	06 (*5)
17	Heat temp Max ON/OFF	JP (Heater Max Temp Change Off) → EP (ON)	JP

Attention

- While the unit is in the SWING mode (swing/flap), the flap cannot be stopped in a desired position.
- When Setting OFF is selected, "°C" is displayed on the LCD.
- You can toggle between ON and OFF by pressing ventilation "( )" button for 4 seconds or more.
- If the Heater Max ON/OFF setting is not changed to EP (ON), the setting change will not be reflected.
- This is the number of addresses that can be set in the address change mode. Do not set it to 07 or above.

2. HOW TO INSTALL THE WIRELESS REMOTE CONTROLLER RECEIVER

■ Test Operation

Preparation: Turn on the circuit breaker of units and then turn the power on. After the power is turnedon, remote controller operation is ignored for approx. 1 minute because setting is being made. This is not malfunction. (Contents received while setting are disabled.)

1. To start test operation, press and hold the emergency operation button for 10 seconds.
2. The indication lamps (OPERATION, TIMER, STANDBY) blink during test operation.
3. To finish test operation, press and hold the emergency operation button for 10 seconds.

Attention

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

3. Remote Controller

3-1. Timer Remote Controller / CZ-RTC4

Safety Precautions

WARNING	CAUTION
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.
Matters to be observed	Prohibited matters

WARNING

Do not use this appliance in a potentially explosive atmosphere.

In case of malfunction of this appliance, do not repair by yourself. Contact the sales or service dealer for repair.

In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the mains power.



CAUTIONS

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Do not operate with wet hands.
- Do not wash with water.

Note:

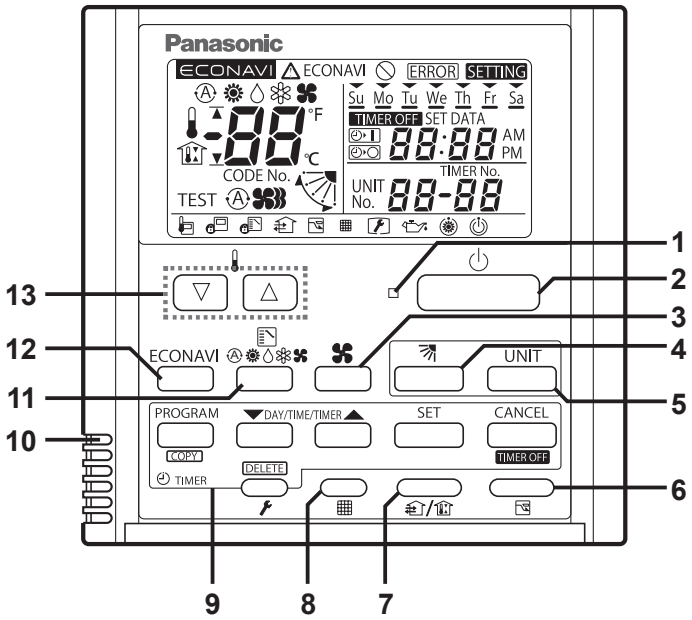
- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Specifications

Model No.		CZ-RTC4
Dimensions		(H) 120 mm × (W) 120 mm × (D) 20 + 4.75 mm
Weight		160 g
Temperature/ Humidity range		0 ℃ to 40 ℃ / 20 % to 80 % (no condensation) *Indoor use only.
Power Source		DC16 V (supplied with indoor unit)
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 ℃) *Adjust periodically.
	Holding time	24 hours (when fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 8 units

Part Names

Control panel



1 Operation indicator
Illuminates during operation. Blinks during alarm.

2 Start/Stop button
Starts/Stops operation.

3 Fan speed
Changing the fan speed.

4 Swing/Air direction
Use this button to set the auto swing or air direction to a specific angle.

5 Unit select
When more than one indoor unit is operated by one remote control unit, this button is used to select a unit when adjusting the air direction.

6 Sleeping

7 Ventilation
Use this button when you installed a fan available in the market. Pressing this button turns on and off the fan. When turning off the air conditioner, the fan will be also turned off.

8 Filter reset
Use this button to reset the filter sign. When▦ is displayed, press this button after cleaning the filter.

9 Timer setting buttons

10 Remote control sensor
Normally, the temperature sensor of the indoor unit is used to detect the temperature. However, it is also possible to detect the temperature around the remote control unit.

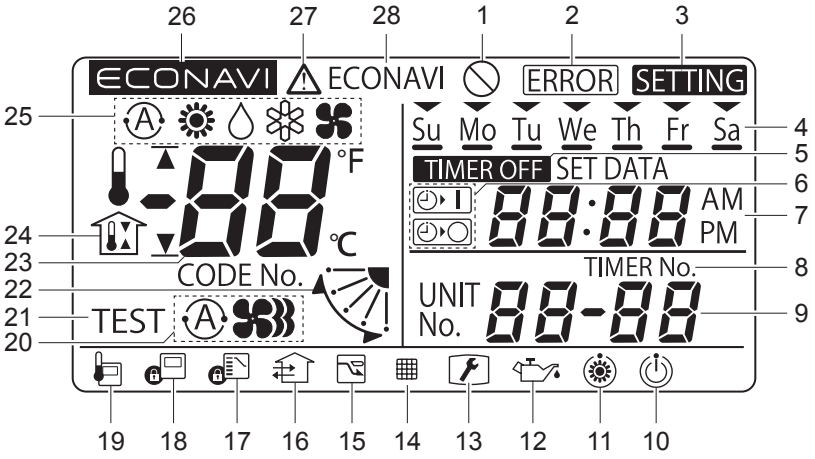
11 Mode select
Pushing this button selects an operation mode.

12 ECONAVI
Use this button to turn on/off the ECONAVI Function.

13 Temperature setting buttons
Changing the temperature setting.

3. Remote Controller

Screen display



1 Displayed if the selected feature was disabled during installation.
2 Displayed when a mistake is made during timer setting.
3 Appears when the timer program is being set.
4 Indicates today's day of the week.
5 Displayed when the timer has been turned OFF.
6 Timer program indication
: The indoor unit starts operation at the programmed time.
: The indoor unit stops operation at the programmed time.
7 Displays the present time on a 24-hour clock. Also, displays settings in the various setting modes.
8 Appears when the time program is being set.
9 Indicates the unit No. of the selected indoor unit.
10 Appears during the peak cut mode (Demand) if an electric heat pump (EHP) air conditioner is used or during standby if a gas heat pump (GHP) air conditioner is used.
11 Appears when the fan of the indoor unit is stopped or in low fan speed.
12 The engine oil needs to be replaced. (Only when using a gas heat pump air conditioner.)
13 Appears when the maintenance function (monitoring sensor temperatures) is activated.
14 The indoor unit filter needs to be cleaned.
15 Appears during the sleeping function.
16 Appears when a fan available in the market is installed and is operating.
17 Switching operation modes is prohibited. (Switching to Auto mode is also prohibited.)
18 Remote control operation is restricted by a central control device.
19 Appears when the remote control sensor is used.
20 The selected fan mode is displayed.
21 Appears while in test operation.
22 Indicates the flap position.
23 Indicates the set temperature.
24 Appears during the outing function.
25 Displays the selected operation mode.
(AUTO Ⓐ /HEAT ☼ /DRY ◊ /COOL ❄ /FAN)
26 Appears when ECONAVI is being set to ON.
27 When inspection is required.
28 Appears with displaying 27 if there is a problem on ECONAVI.

Basic Operations

Setting the Present Time

1 Press and hold [SET] for more than 2 seconds to enter the present day and time setting mode.

Once you enter the setting mode, “SETTING”, “▼”(day) and “time” flash.

2 Set “ ▼” to today’s day of the week.

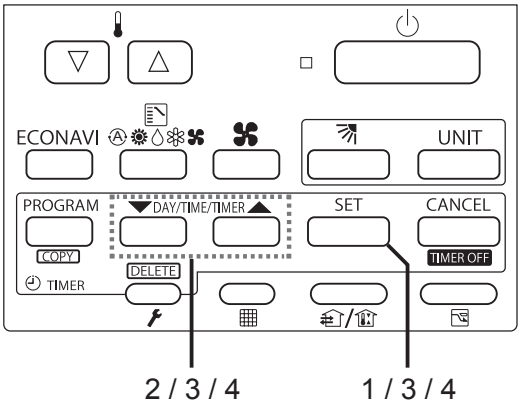
Press [▲] to move “▼” (flashing on the display) in the order of: Su → Mo → Tu → .... Press [▼] to move it in the order of: Su → Sa → Fr → ....
Press [SET] to store.

3 Press [▼/▲] to change the present “hour” in the range of 0 to 23*¹.

Set the present hour and press [SET]. The “hour” digits light up, and the “minute” digits start flashing.
*¹ If the clock uses the 12 hours AM/PM setting, the hour is displayed in the range of AM 1 to 12 / PM 1 to 12.

4 Press [▼/▲] to change the present “minute” in the range of 0 to 59.

Set the present minute and press [SET]. The day and time are set and the unit finishes the setting mode.



Note

- If the present time is invalid, “– – : – –” is displayed. If the power failure occurs, check if the set data of day and time are valid.

How to Operate

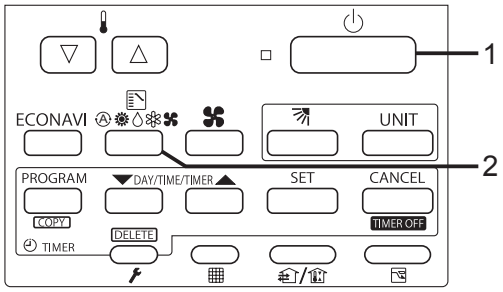
Turn on the indoor unit before operation. See operating instructions of the indoor unit.

Start/Stop operation / Operation mode

1. Press [Start/Stop] to start operation.

2. Press the mode select button to select the mode among AUTO Ⓐ, HEAT ☼, DRY ♢, COOL ❄ and FAN ✣.

* Auto: The mode is automatically switched to Cool or Heat to achieve the set temperature.



Fan speed / Set temperature / Flap

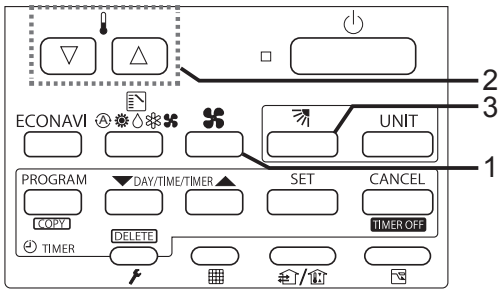
1. Press the fan speed button to set the fan speed.

Ⓐ✣: Automatically switches the fan speed.

2. Press [▽/△] to set the desired temperature.

Cannot be set in Fan mode.

3. Press the flap button to adjust the flap position.



Weekly Program

1. Press [PROGRAM] to enter the program confirmation mode.

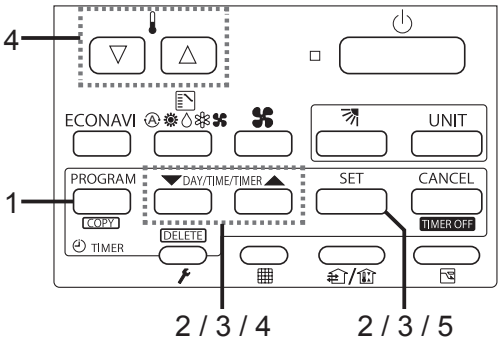
2. Select the day with [▼/▲], and press [SET].

3. Select a Timer number with [▼/▲], and press [SET].

4. Select the hour / minute / program pattern with [▼/▲].

You can also set the temperature with [▽/△].

5. Press [SET] to store the timer programme.



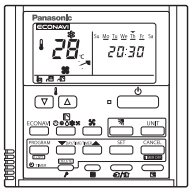
Note

- If the heating performance is insufficient in Low ✣ fan speed, change the fan speed to Medium ✣ or High ✣.
- The temperature range that can be set varies depending on the model.
- Temp sensor detects temperature in the vicinity of the air inlet of the indoor unit. The detected temperature slightly differs from the room temperature depending on the installation condition. The set temperature is a guideline of room temperature.

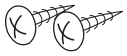
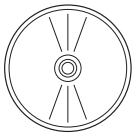
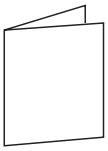
3. Remote Controller

Installation Instructions Timer Remote Controller

Model No.
CZ-RTC4

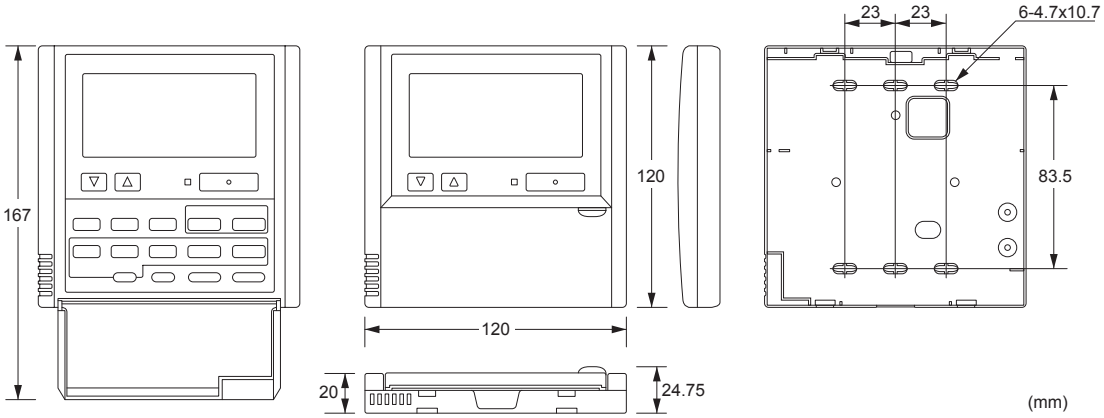


Supplied accessories

 (2)	 (1)	 (1)
Screw M3.8 × 16	**Operating Instructions**	**Quick Reference**

*Remote control wiring is not supplied. (field supplied item)

Dimensions



3

Safety Precautions

Safety Precautions

Read before installation

- Read the Installation Instructions carefully to install the remote controller correctly and safely. Be sure to read the Safety Precautions in particular before installation.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- Read the installation instructions supplied with indoor units as well.

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

⚠ WARNING

- Turn off the circuit breaker of the units before installation.
- Ask your dealer or professionals for installation and electric work.
- This controller shall be installed in accordance with National Wiring Regulations.
- Connect and fix the specified cables for wiring securely.
- Do not allow the connection to be exposed to the external force of the cables.
- Choose an installation location that sufficiently supports the weight of the remote controller.

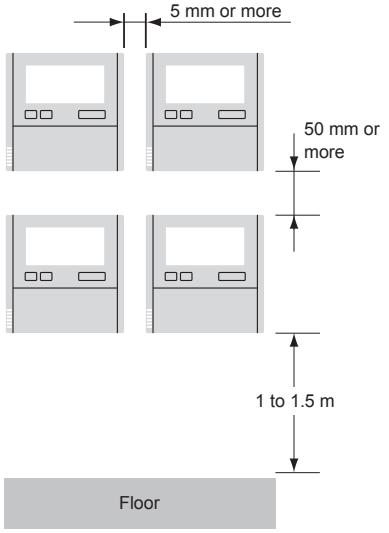
⚠ CAUTION

- Do not use the remote controller at the following locations.
  - Location where condensation occurs
  - Location where flammable gases, etc. may leak
  - Location where corrosive gases, etc. may leak
  - Location with lots of water or oil droplets (including machine oil)
  - Location where voltage fluctuation frequently occurs
  - Location where there is a machine producing electromagnetic radiation
  - Location where droplets of organic solvents spread
  - Location where acidic or alkaline solutions or special sprays are frequently used
- Do not operate with wet hands.
- Do not wash with water.

NOTICE **The English text is the original instructions. Other languages are translation of the original instructions.**

Installation Precautions

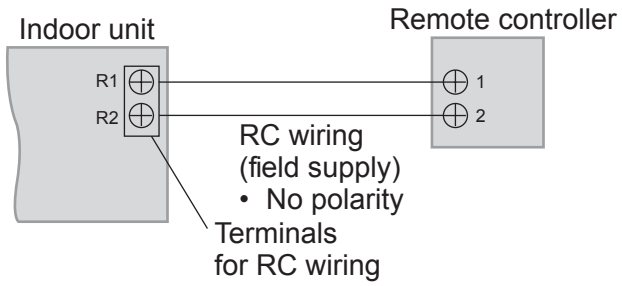
Installation location



- Install at the height of 1 to 1.5 m from the floor (Location where average room temperature can be detected).
- Install vertically against the floor.
- When installing more than 1 remote controller next to each other, keep distance of 5 mm on the right and left and 50 mm on top and bottom.
- Avoid the following locations for installation.
  - By the window, etc. exposed to direct sunlight or direct air
  - In the shadow or backside of objects deviated from the room airflow.
  - Location where condensation occurs (The remote controller is not moisture proof or drip proof.)
  - Location near heat source
  - Uneven surface
- Keep distance of 1 m or more from the TV, radio and PC. (Cause of fuzzy images or noise)

Remote control wiring

■ **Wiring diagram**



■ **Type of wiring**
Use cables of 0.5 to 1.25 mm^2.

■ **Total wire length:** 500 m or less
(The wire length between indoor units should be 200 m or less.)

■ **Number of connectable units**
Remote controller: Max. 2 Indoor unit: Max. 8

Attention

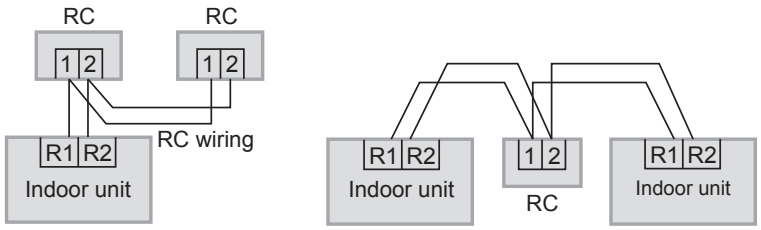
- Use the field supplied RC wiring with at least 1 mm in thickness of insulation part including the sheath.
  Regulations on wire diameters differ from locally to locally. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must ensure that installation complies with relevant rules and regulations.
- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

Installation Precautions (Continued)

Remote control wiring (Continued)

***Wiring as shown below is prohibited.**

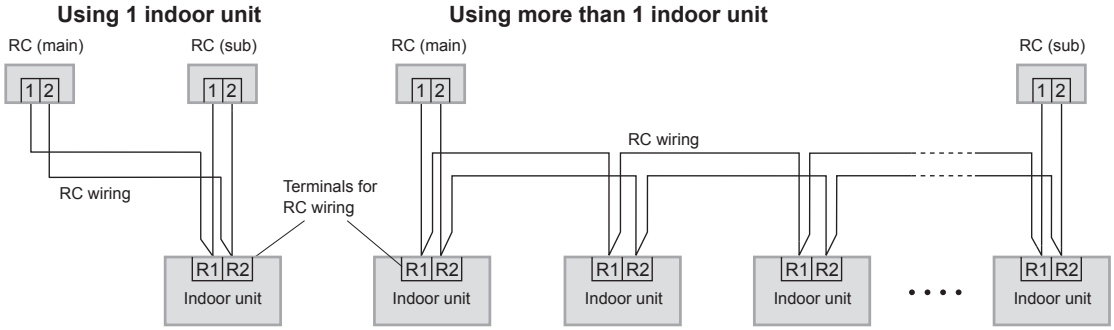
Installation example



When setting both the main and sub remote controllers

After installation, set one remote controller to [Main] and the other to [Sub] for [Main/sub] for "Setting" (P.3-3-12).

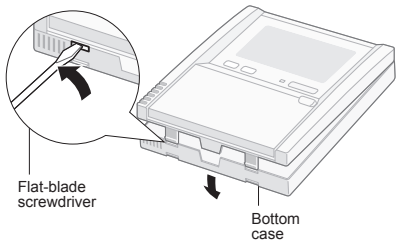
Installation example



*Remote controllers can be connected to any indoor unit for operation.

Mounting

1 **Remove the bottom case.**
Insert the driver and slightly turn.
*Do not insert the screw driver too deep. Doing so may cause the claw to be broken.



Attention

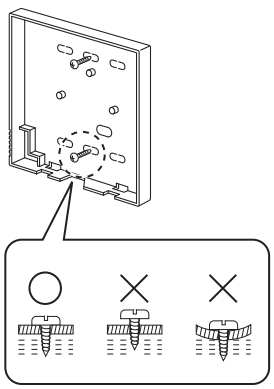
Mounting the bottom case

- Tighten the screws securely until the screw heads touch the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)

Connecting the remote control wiring

- Arrange the wires as shown in the illustration for ⑥ in step 2 (P.3-3-11) and ⑤ (P.3-3-11), avoiding unnecessary wires being stored in the case.
- Avoid the wires touching parts on the PCB.
- Avoid the wires coming in contact with the metallic object protruded from the PCB.

(Caught wires may destroy the PCB.)



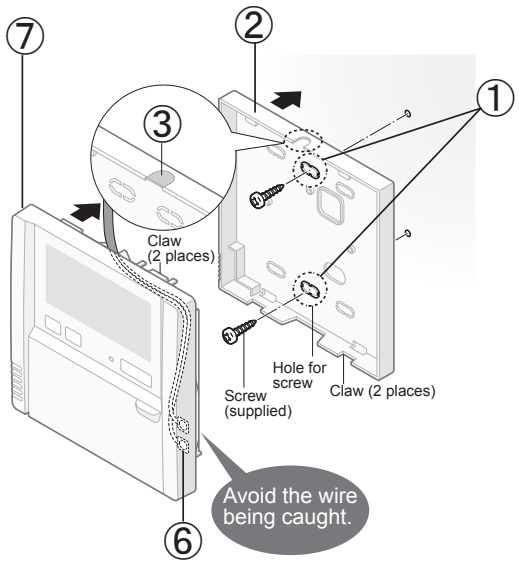
Mounting the top case

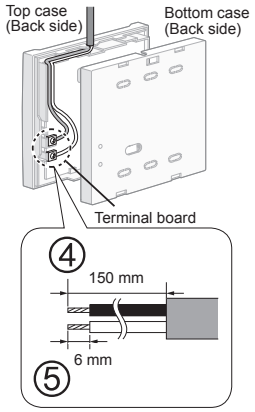
- Do not push the top case with excessive force. (Doing so may cause the protrusions of the bottom case to hit and destroy the PCB.)

Mounting (Continued)

2 Mount to the wall.

Exposed type

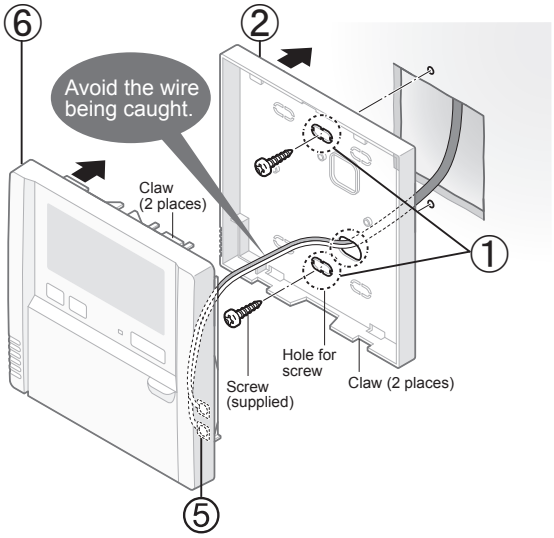


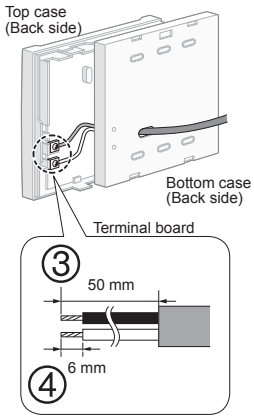


① Make 2 holes for screws using a driver.
② Mount the bottom case to the wall.
③ Cut here with a nipper and remove the burr with a file.
④ Remove the sheath. Approx. 150 mm
⑤ Remove the coating. Approx. 6 mm
⑥ Connect the remote control wiring.
- Make sure the wiring connection is in the correct direction.
- Arrange the wires along the groove of the case.
- Avoid the wire being caught.

⑦ Mount the top case.
- Align the claws of the top case and then align the claws of the bottom case.

Embedded type





① Make 2 holes for screws using a driver.
② Mount the bottom case to the wall.
- Pass the wire through the hole in the centre of the bottom case.

③ Remove the sheath. Approx. 50 mm
④ Remove the coating. Approx. 6 mm
⑤ Connect the remote control wiring.
- Make sure the wiring connection is in the correct direction.
- Avoid the wire being caught.

⑥ Mount the top case.
- Align the claws of the top case and then align the claws of the bottom case.

Setting / Test operation / Specifications

EN

Setting

- Clock
- RC. setting mode (Main/sub, Clock type)
- Detailed setting mode (Ventilation fan output setting, Room temperature sensor, Temperature display setting)

Clock

1 Press and hold SET for several seconds.

2 Set day of the week, hour and minute.
▼DAY/TIME/TIMER▲ → SET (Repeat)
"▼": Su ↔ Mo ↔ … ↔ Sa

RC. setting mode

1 **Press and hold the 2 buttons for several seconds simultaneously.**
Ⓐ❋♨❄✾, SET

2 **Select the Code no.**
▽ △

3 **Select the Set data.**
▼DAY/TIME/TIMER▲ → SET
The indicator illuminates after blinking.
Press .

Code no.	Item	Set data	
		0000	0001
01	Main/sub	Sub	Main
02	Clock type	24 hours	12 hours (AM/PM)

Detailed setting mode

1 **Press and hold the 3 buttons for several seconds simultaneously.**
, SET, CANCEL

2 **Select the Code no.**
▽ △

3 **Select the Unit no.**
UNIT

4 **Select the Set data.**
▼DAY/TIME/TIMER▲ → SET
The indicator illuminates after blinking.
Press .

Code no.	Item	Set data	
		0000	0001
31	Ventilation fan output setting	Not connected	Connected
32	Room temperature sensor	Main unit	RC
33	Temperature display setting	°C	°F

Test operation

Turn on the circuit breaker beforehand, referring to the operating instructions for the unit. The remote controller starts.

1 **Press and hold for several seconds.**
[TEST] display appears. (The unit enters the test operation mode.)

2 **Press . Perform the test operation.**
[TEST] is displayed during the test operation.

3 **Press . Finish the test operation**
[TEST] display disappears.

4 **Delete the error history.**
Press and hold the 2 buttons for several seconds simultaneously.
, SET
Information of errors is displayed.
To delete the error history, press CANCEL.
Press to finish service mode.

Attention
- Do not use this mode for purposes other than the test operation.
  (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

Specifications

Model No.		CZ-RTC4
Dimensions		(H) 120 mm × (W) 120 mm × (D) 20 + 4.75 mm
Weight		160 g
Temperature/ Humidity range		0 °C to 40 °C / 20 % to 80 % (no condensation) *Indoor use only.
Power Source		DC16 V (supplied with indoor unit)
Clock	Precision	± 30 seconds/month (at normal temperature 25 °C) *Adjust periodically.
	Holding time	24 hours (when fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 8 units

3-2. High-spec Remote Controller / CZ-RTC5A

Safety Precautions

WARNING	CAUTION
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.
Matters to be observed	Prohibited matters

WARNING

Do not use this appliance in a potentially explosive atmosphere.

In case of malfunction of this appliance, do not repair by yourself. Contact the sales or service dealer for repair.

In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the mains power.



CAUTIONS

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Do not operate with wet hands.
- Do not wash with water.

Note:

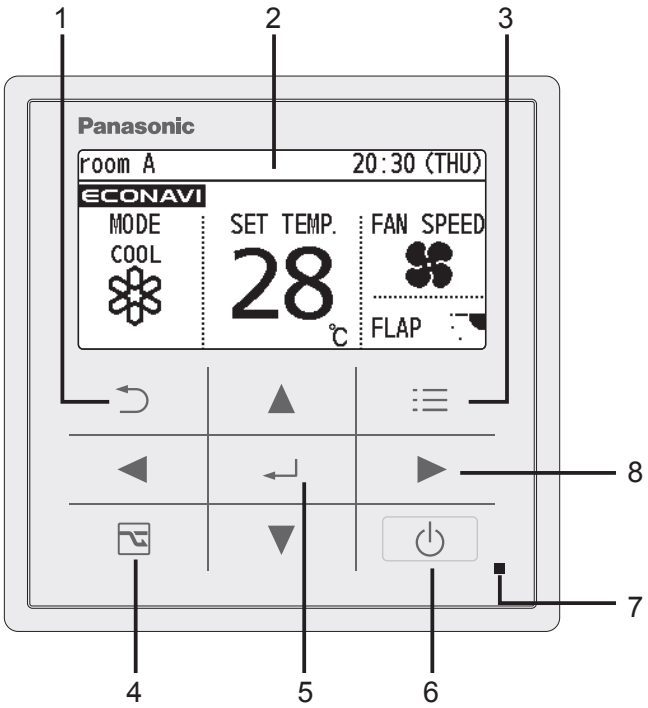
- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Specifications

Model No.		CZ-RTC5A
Dimensions		(H) 120 mm x (W) 120 mm x (D) 16 mm
Weight		180 g
Temperature/ Humidity range		0 ℃ to 40 ℃ / 20 % to 80 % (No condensation) *Indoor use only.
Power Source		DC16 V (supplied with indoor unit)
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 ℃) *Adjust periodically.
	Holding time	72 hours (When fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 8 units

Part Names

Control panel



1 Return button
Returns to the previous screen.

2 LCD screen

3 Menu button
Displays the menu screen.

4 Energy saving button
Switches Energy saving/Normal operation.

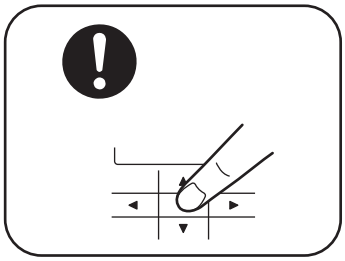
5 Enter button
Fixes the selected content.

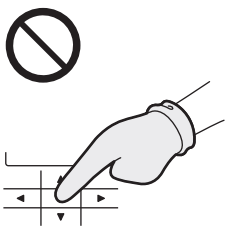
6 Start/Stop button
Starts/Stops operation.

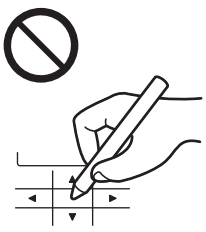
7 Operation indicator
Illuminates during operation. Blinks during alarm.

8 Cross key buttons
Selects an item. (◄Left / ▼Down / ►Right / ▲Up)

Note

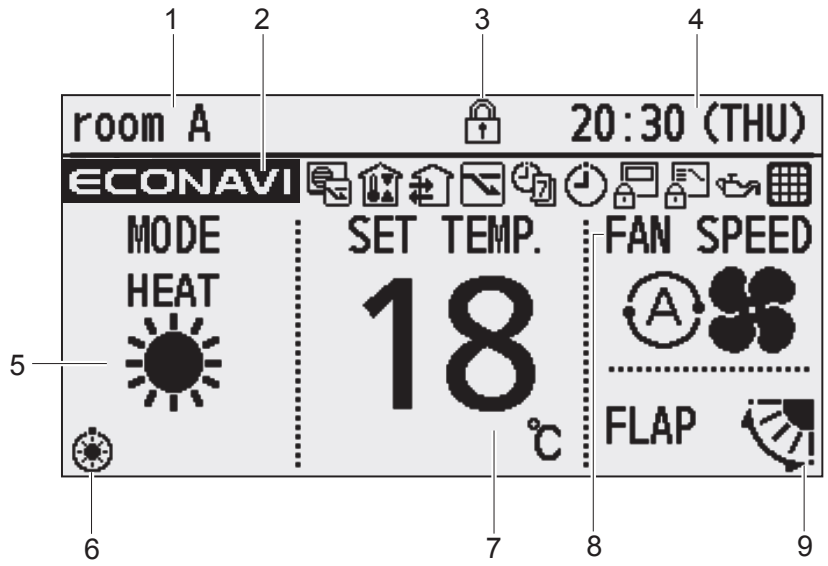

Press centre


No glove


No pen

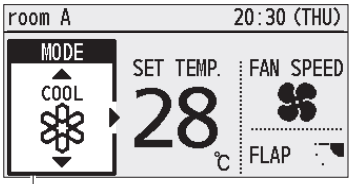
Screen display

Top screen



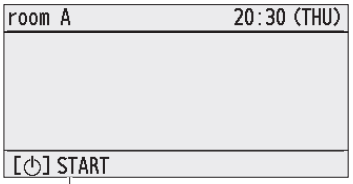
1 Remote controller name
2 Appears when ECONAVI is being set to ON.
3 Operation is locked.
4 Present time & day
5 Operation mode
6 The indoor unit is stopped or slight blow operation is in process.
7 Set temperature
8 Fan speed
9 Flap

■ Item selection screen



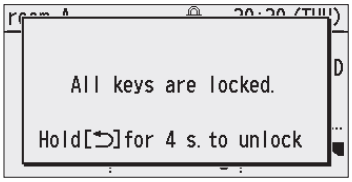
Cursor

■ Operation stop screen



Operation guide

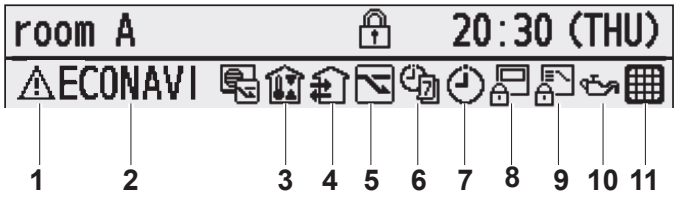
■ Lock screen display



[Operation lock] is functioning.

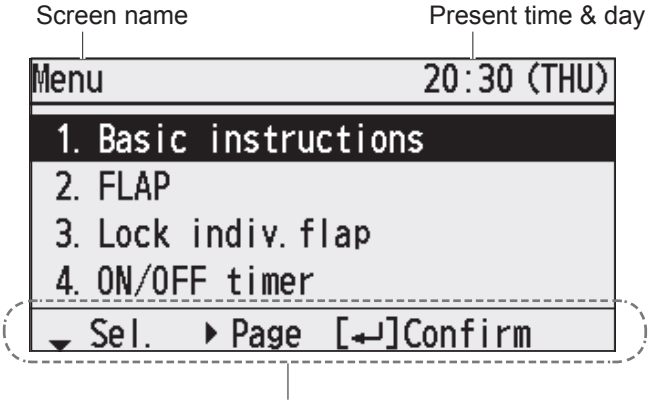
- **To cancel lock**
  Press ⮌ button for 4 seconds.

■Setting information icons displayed on the top screen



1 When inspection is required
2 Appears if there is a problem on ECONAVI.
3 Prevents the room temperature from increasing too much (or decreasing too much) when no one is in the room.
4 Fresh air is used for ventilation.
(Only when connecting a heat exchange ventilation unit or connecting a commercially sold fan.)
5 Energy saving operation is in process.
6 [Weekly timer] is set.
7 [ON/OFF timer] is set.
8 Remote control operation is restricted by a central control device.
9 Switching operation modes is prohibited.
(Switching to Auto mode is also prohibited.)
10 The engine oil needs to be replaced.
(Only when using a gas heat pump air conditioner.)
11 The indoor unit filter needs to be cleaned.

Menu screen



The currently operable content is simply displayed.
- ▲▼◀▶: Cross key buttons
- ↵: Enter button

Basic Operations

1 **Start operation.**

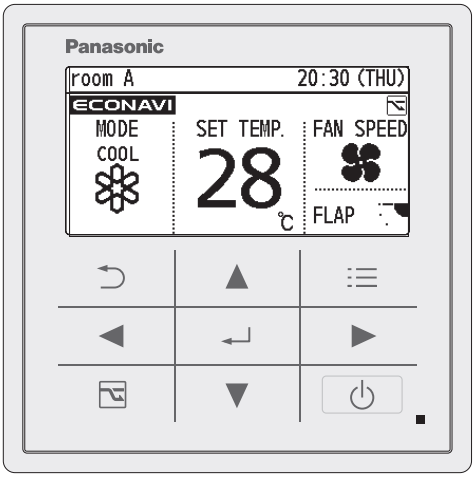
Press ⏻.
(The operation indicator illuminates.)

2 **Select the item to set.**

Press ◄ ↵ ►.

3 **Change the setting.**

Press ▲▼ → ↵.
(The cursor disappears.)



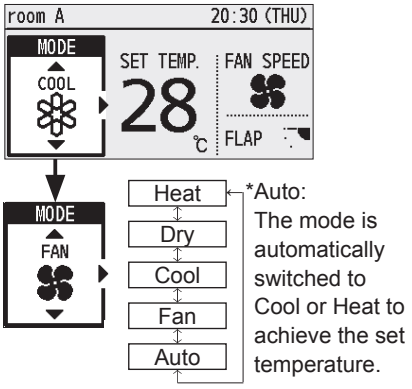
Note

- Operation modes that cannot be set are not displayed.
- The flap display differs from the actual flap angle.
- Pressing ⏻ after recovery from mains power failure will resume operation with the contents before mains power failure has occurred.
- If no operation is performed for a certain period of time, the backlight turns off to save electricity. (Press any button for illumination.)
- The energy saving operation restricts the maximum current value, resulting in decreased cooling/heating performance.
  (If the current of outdoor units does not reach the peak due to low load operation, the current value is not restricted.)
- The temperature range that can be set varies depending on the model.
- The set temperature range can be changed using the remote controller.
- Some models do not display the flap.

Perform the following operations in step 2 on page 3-3-18.

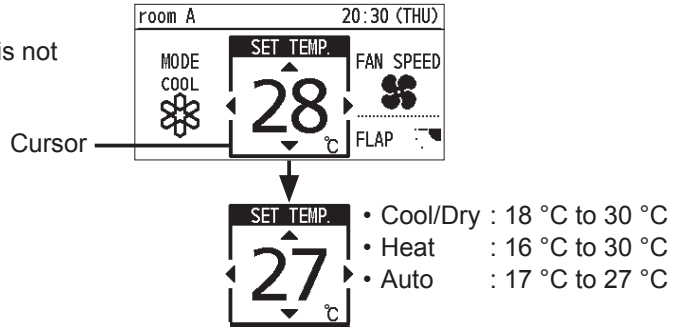
■ Operation mode (e.g. Cool, Heat, etc.)

Press ◄.



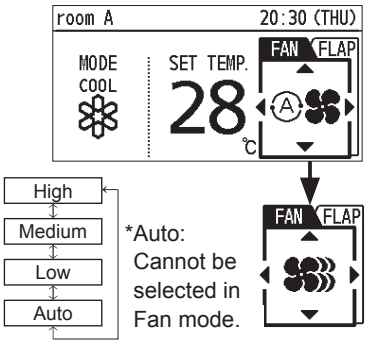
■ Set temperature

Press ↵. (When the cursor is not visible)



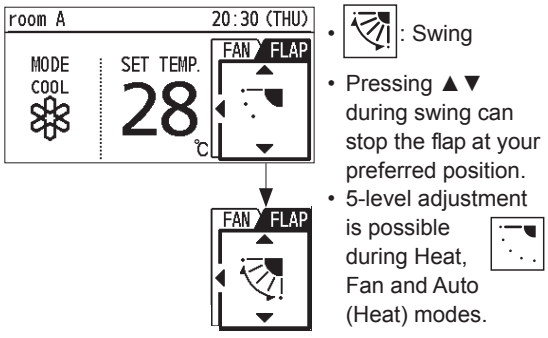
■ Fan speed

Press ►.



■ Flap

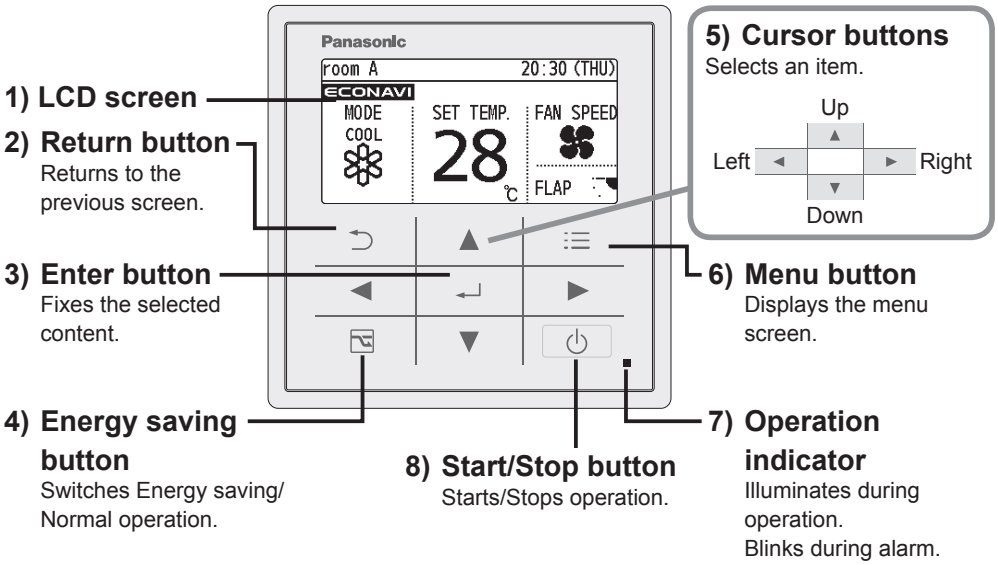
Press ► 2 times.



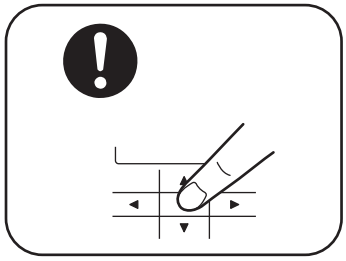
NOTICE

The English text is the original instructions. Other languages are translation of the original instructions.

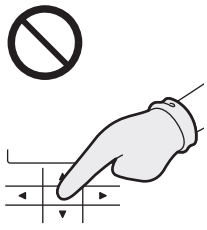
Part Names



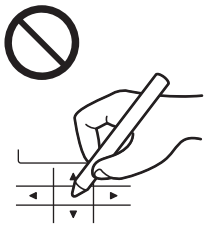
Note



Press centre



No glove



No pen

Safety Precautions

Read before installation

- Read the Installation Instructions carefully to install the remote controller correctly and safely. Be sure to read the Safety Precautions in particular before installation.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- Read the installation instructions supplied with indoor units as well.

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

⚠ WARNING

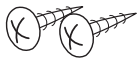
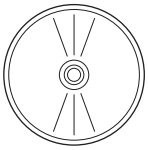
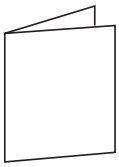
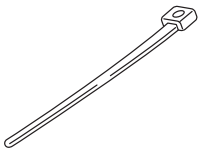
- Turn off the circuit breaker of the units before installation.
- Ask your dealer or professionals for installation and electric work.
- This controller shall be installed in accordance with National Wiring Regulations.
- Connect and fix the specified cables for wiring securely.
- Do not allow the connection to be exposed to the external force of the cables.
- Choose an installation location that sufficiently supports the weight of the remote controller.

⚠ CAUTION

- Do not use the remote controller at the following locations.
  - Location where condensation occurs
  - Location where flammable gases, etc. may leak
  - Location where corrosive gases, etc. may leak
  - Location with lots of water or oil droplets (including machine oil)
  - Location where voltage fluctuation frequently occurs
  - Location where there is a machine producing electromagnetic radiation
  - Location where droplets of organic solvents spread
  - Location where acidic or alkaline solutions or special sprays are frequently used
- Do not operate with wet hands.
- Do not wash with water.

NOTICE **The English text is the original instructions. Other languages are translation of the original instructions.**

CONTENTS

Supplied accessories			
Screw M3.8 x 16 (2)	**Operating Instructions** (1)	**Quick Reference** (1)	**Clamper** (1)
			

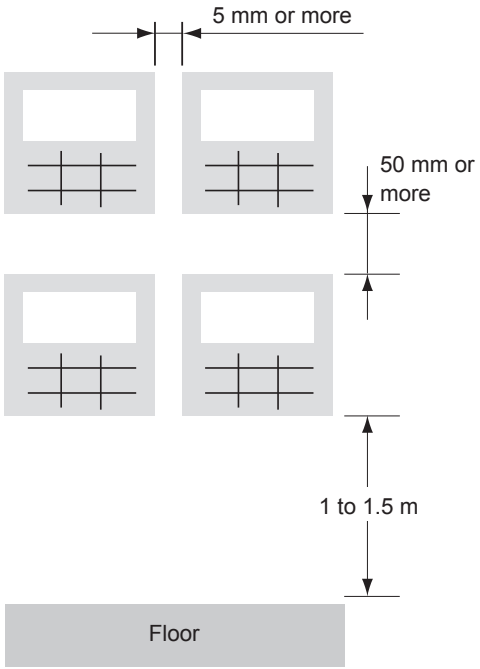
*Remote control wiring is not supplied. (field supplied item)

Specifications

Model No.		CZ-RTC5A
Dimensions		(H) 120 mm x (W) 120 mm x (D) 16 mm
Weight		180 g
Temperature/ Humidity range		0 ℃ to 40 ℃ / 20 % to 80 % (no condensation) *Indoor use only.
Power Source		DC16 V (supplied with indoor unit)
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 ℃) *Adjust periodically.
	Holding time	72 hours (when fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 8 units

Installation Precautions

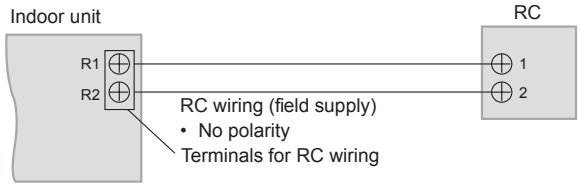
Installation location



- Install at the height of 1 to 1.5 m from the floor (Location where average room temperature can be detected).
- Install vertically against the floor.
- When installing more than 1 remote controller next to each other, keep distance of 5 mm on the right and left and 50 mm on top and bottom.
- Avoid the following locations for installation.
  - By the window, etc. exposed to direct sunlight or direct air
  - In the shadow or backside of objects deviated from the room airflow.
  - Location where condensation occurs (The remote controller is not moisture proof or drip proof.)
  - Location near heat source
  - Uneven surface
- Keep distance of 1 m or more from the TV, radio and PC. (Cause of fuzzy images or noise)

Remote control wiring

■ Wiring diagram



■ Type of wiring
- Use cables of 0.5 to 1.25 mm^2.

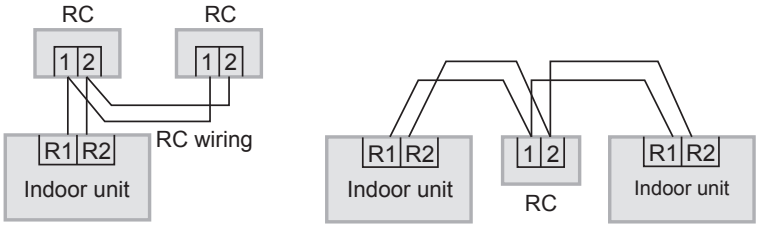
■ Total wire length: 500 m or less
(The wire length between indoor units should be 200 m or less.)

■ Number of connectable units
Remote controller: Max. 2
Indoor unit: Max. 8

Attention

- Use the field supplied RC wiring with at least 1 mm in thickness of insulation part including the sheath. Regulations on wire diameters differ from locally to locally. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must ensure that installation complies with relevant rules and regulations.
- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

***Wiring as shown below is prohibited.**



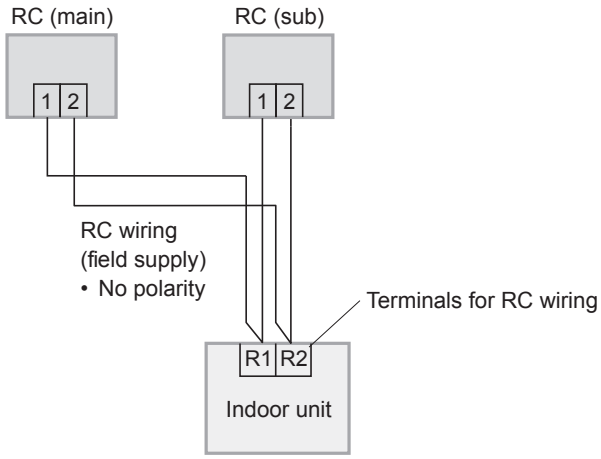
When setting both the main and sub remote controllers

After installation, set one remote controller to [Main] and the other to [Sub] for [Main/sub] for “Setting” (P.3-3-29).

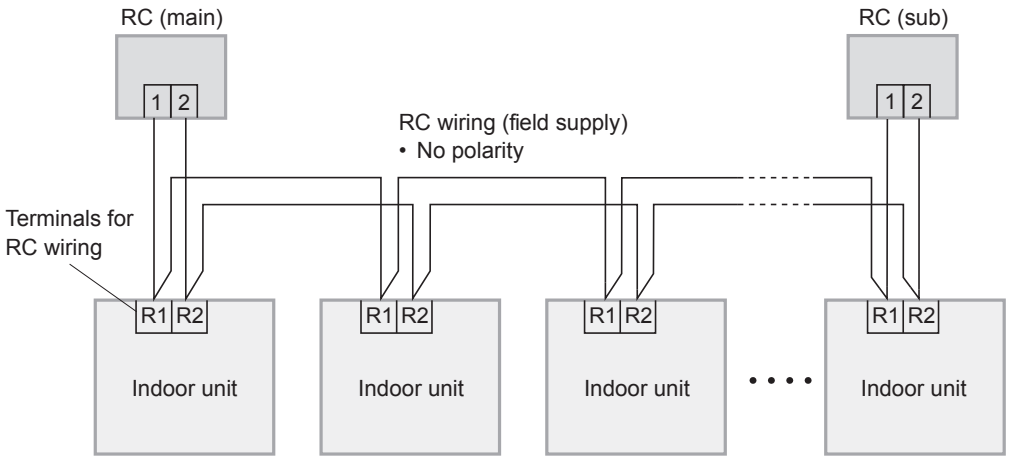
When using the remote controllers* in combination, set this unit to [Main].

*CZ-RTC2, CZ-RTC4, CZ-RE2C2, CZ-RELC2

■ Using 1 indoor unit



■ Using more than 1 indoor unit or heat exchange ventilation unit

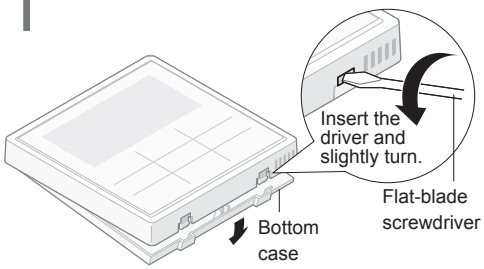


Note

- Remote controllers can be connected to any indoor unit for operation.

Mounting

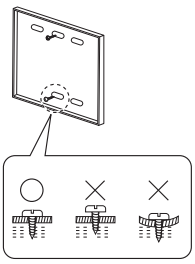
1 Remove the bottom case.



2 Mount to the wall.

Attention

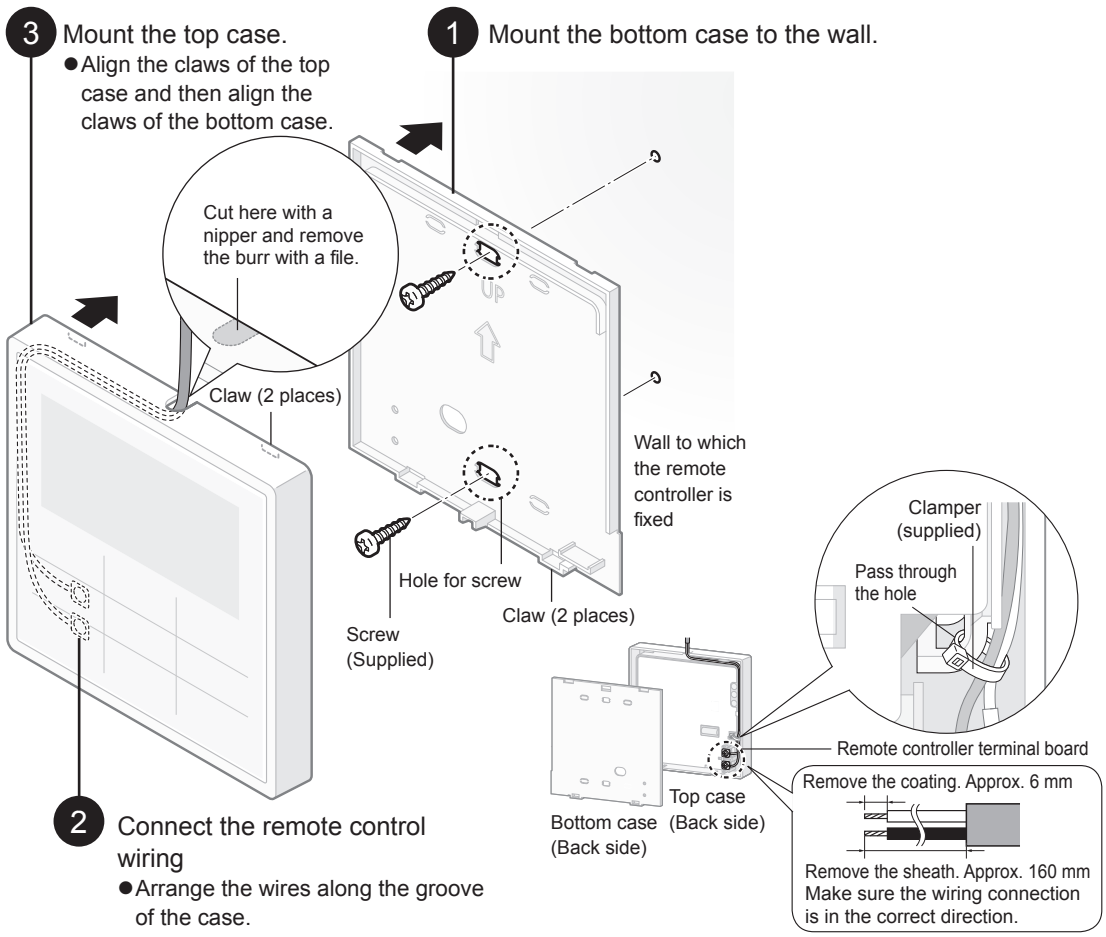
Mounting the bottom case
- Tighten the screws securely until the screw heads touch the bottom case.
  (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws.
  (The bottom case may be deformed, resulting in fall of the unit.)



Connecting the remote control wiring
- Arrange the wires as shown in the illustration for ❷ in step 2, avoiding unnecessary wires being stored in the remote controller case.
  (Caught wires may destroy the PCB.)
- Avoid wires touching parts on the PCB.
  (Caught wires may destroy the PCB.)

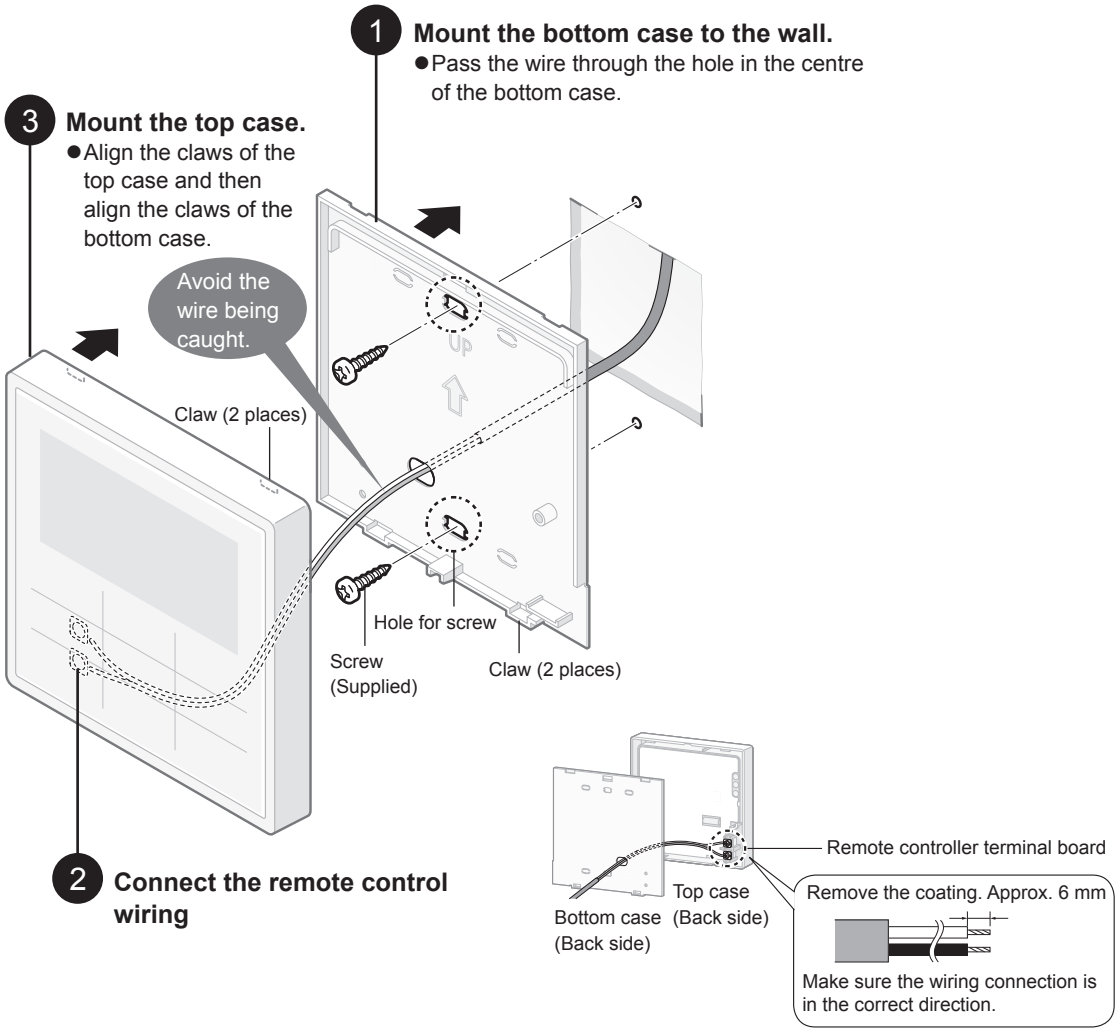
Exposed type

Preparation: Make 2 holes for screws using a driver.

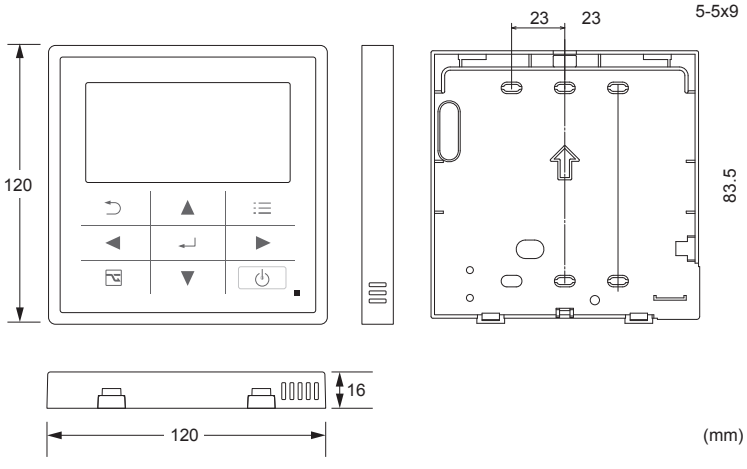


Embedded type

Preparation: Make 2 holes for screws using a driver.



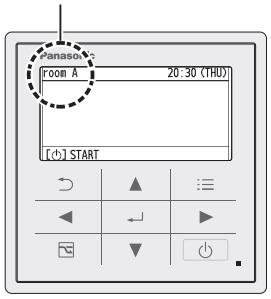
Dimensions



Setting

■ Language ■ Clock ■ Controller name

Controller name



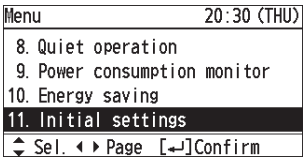
1 **Press ☰.**

2 **Select [Initial settings].**

▲ ▼ → ↵

3 **Select the item to set.**

▲ ▼ → ↵

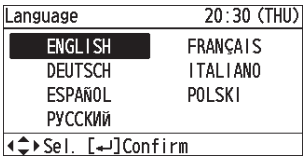


Default setting : English

Language

4 **Set.**

▲ ▼ → ↵

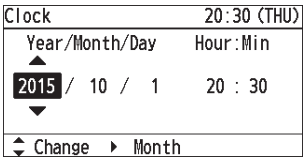


Clock

4 **Set.**

▲ ▼ → ▶ → ↵

(Repeat)

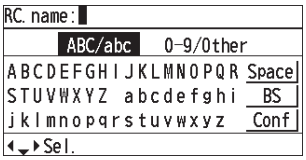


Controller name

4 **Set.**

▲ ▼ ◀ ▶ → ↵

(Repeat the same procedure for all characters.)



- Up to 16 characters
  (Space is included in the number of characters.)

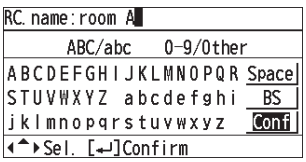
■ **To change the character type**
Select the character type with ▲ ▼ ◀ ▶ and press ↵.

■ **To enter space**
Select [Space] with ▲ ▼ ◀ ▶ and press ↵.

■ **To delete 1 character**
Select [BS] with ▲ ▼ ◀ ▶ and press ↵.

5 **Select [Conf].**

▲ ▼ ◀ ▶ → ↵



3

Setting

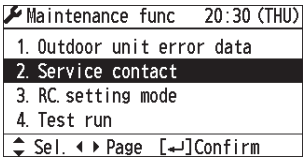
■ **Service contact**

1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ►

2 **Select the item to set.**

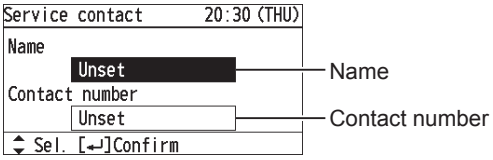
▲ ▼ → ↵



Service contact

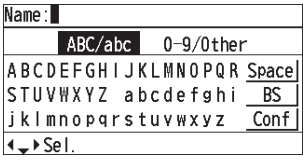
3 **Select.** (Name)

▲ ▼ → ↵



4 ▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all characters.)



- Up to 16 characters (Space is included in the number of characters.)

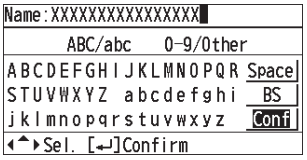
■ **To change the character type**
Select the character type with ▲ ▼ ◄ ► and press ↵.

■ **To enter space**
Select [Space] with ▲ ▼ ◄ ► and press ↵.

■ **To delete 1 character**
Select [BS] with ▲ ▼ ◄ ► and press ↵.

5 **Select [Conf].**

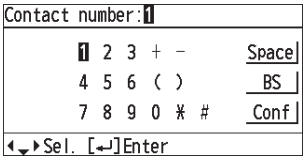
▲ ▼ ◄ ► → ↵



6 **Select on the screen for step 3.** (Contact number)

▲ ▼ → ↵

- Up to 16 characters (Space is included in the number of characters.)

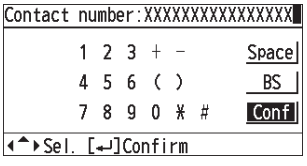


7 ▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all characters.)

8 **Select [Conf].**

▲ ▼ ◄ ► → ↵



Setting

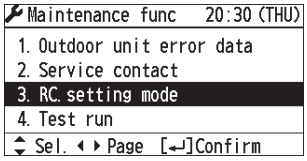
- **RC. setting mode (Main/sub, Clock type, Password change)**
- **Detailed settings (Vent output setting, Temp sensor setting, Temp display setting)**

1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ▶

2 **Select the item to set.**

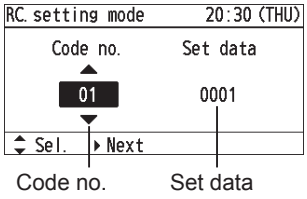
▲ ▼ → ↵



RC. setting mode

3 **Set.**
(Select the Code no. and Set data.)

▲ ▼ → ▶ → ↵
(Repeat)

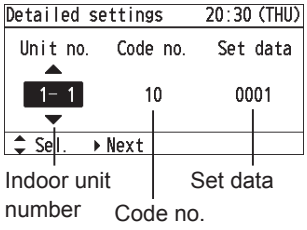


Code no.			Set data
01	Main/sub	Set this when using 2 remote controllers.	• 0000: Sub • 0001: Main (factory setting)
02	Clock type	Set the type of clock display.	• 0000: 24 hours • 0001: 12 hours (AM/PM)
36	Display of operation lock cancelling method	Set whether to display the operation lock cancelling method on the lock screen while operation is locked. (For the lock screen, see the "Part Names" section in the Quick Reference.)	• 0000: Displayed (factory setting) • 0001: Not displayed
2F	Password change	Set the administrator password.	• 0000 to 9999 • 0000 (factory setting)

Detailed settings

3 **Set.**
(Select the indoor unit number, Code no. and Set data.)

▲ ▼ → ▶ → ↵
(Repeat)



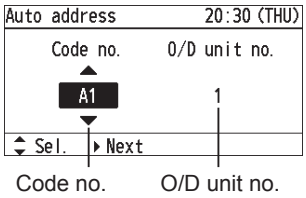
Code no.			Set data
31	Vent output setting	Set this when connecting a commercially sold fan, etc. to the ventilation fan output "FAN DRIVE:2P (White)" on the indoor control board. *Dedicated cables (optional) are required.	• 0000: Not connected • 0001: Connected
32	Temp sensor setting	Set this when measuring the room temperature with the room temperature sensor of the remote controller. • When using the main and sub controllers, the main one is enabled. • When controlling in group, set this for the main indoor unit number. (No setting is required for sub indoor units.) • When using with the remote sensor in combination, set the indoor unit setting data.	• 0000: Indoor unit • 0001: RC
33	Temp display setting	Set the type of temperature display.	• 0000: °C • 0001: °F

Setting

■ **Auto address** ■ **Set elec. consumption**

Auto address

3 **Set.**
(Select the Code no. [A1] and O/D unit no.)
▲ ▼ → ► → ↵
(Repeat)



Code no.		O/D unit no.
A1	Set the Auto address for each O/D unit no. Select the O/D unit no. (outdoor unit) for Auto address.	• Outdoor unit number

Note

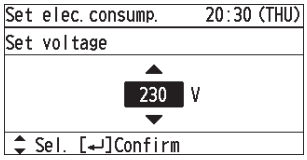
- After RC. setting mode, Detailed settings or Auto address is complete, the unit restarts.

Attention

- Set Auto address after all units are turned on and 1 minute and 30 seconds or more have passed.
- Operate the units after Auto address is set and 1 minute and 30 seconds or more have passed.

Set elec. consumption

3 **Set.**
(Select the power supply voltage of outdoor units.)
▲ ▼ → ↵



Note

- Set the power supply voltage of outdoor units to calculate electric consumption of the Power consumption monitor.
- If the setting differs from the power supply voltage of outdoor units, the electricity display error may occur.
- Depending on the outdoor unit model, this cannot be set.

■ When 3-phase model connections are used for outdoor units

Power supply voltage	Setting value
380 V	220 V
400 V	230 V
415 V	240 V

Confirming Information

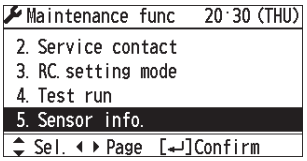
■ **Sensor info.**
■ **Service check**

1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

⮌, ↵, ►

2 **Select the item to set.**

▲ ▼ → ↵

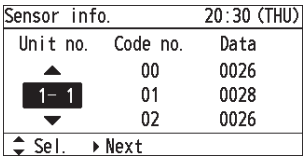


Sensor info.

This displays each sensor temperature of the remote controller, indoor units and outdoor units.

3 **Select.**
(Select the unit number.)

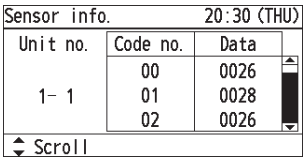
▲ ▼ → ►



4 **Confirm the content.**

▲ ▼

• Pressing ⮌ will return to the Maintenance func screen.

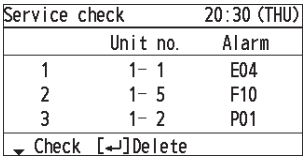


Service check

This displays the alarm history.

3 **Confirm the content.**

▲ ▼



Information of 4 errors is displayed.
[---] shows that no error has occurred.
• Pressing ⮌ will return to the Maintenance func screen.
• To delete the error history, press ↵ and select [YES].

Test Operation

Preparation: Turn on the circuit breaker of units and then turn the power on. The remote controller starts, and wait until the [Assigning] display disappears. (If [Assigning] continues to blink for 10 minutes or more, check the address setting of indoor units.)

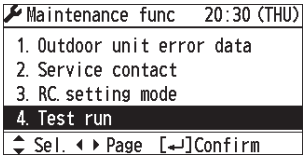
---

1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ►

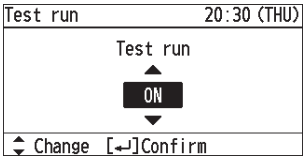
2 **Select [Test run].**

▲ ▼ → ↵

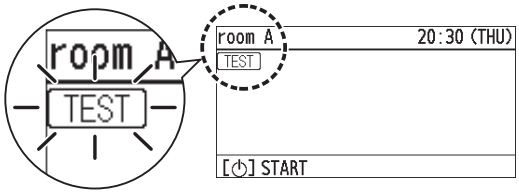


3 **Select [ON].** (The unit enters the test operation mode. Then, [TEST] turns on.)

▲ ▼ → ↵

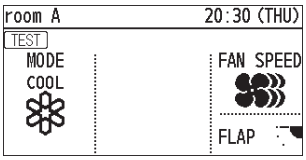


Press ↩.



4 **Perform the test operation.**

⏻



5 **Finish the test operation.**

Perform step 1 and 2, and then select [OFF] in step 3. ([TEST] display disappears.)

- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- The test operation mode is automatically turned off in 60 minutes. (To prevent continuous test operation)
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

Attention

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.

3-3. Simplified Remote Controller / CZ-RE2C2

■ Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".
After reading this manual, save it in a convenient place.

⚠ Warning

*** Installation Precautions**

1. Do not install by yourself.
   Installation should always be performed by your dealer or a professional service provider.
   Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
2. Use only specified air conditioners.
   Always use only air conditions specified by the dealer.

*** Moving and Repair Precautions**

1. Do not repair.
   Never repair the system by yourself.
2. Contact your dealer before moving the system.
   Contact your dealer or a professional service provider about moving and reinstalling the system.
   Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

*** Precautions for Use**

1. Do not touch switches with wet hands.
   Electric shock and damage to the system can result.
2. Protect the remote controller from water.
   Damage to the system can result.
3. Stop the system and turn the power off if you sense unusual smells or other irregularities.
   Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system. Contact your dealer.
4. Do not turn the air conditioner on and off from the power mains switch.
   Use the ON/OFF operation button.
5. Do not stick anything into the air outlet of the air conditioner.
   Doing so is dangerous because the fan is rotating at high speed.
6. Do not let children play with the air conditioner.
7. Do not cool or heat the room too much if babies or invalids are present.
8. Do not wipe the remote controller with benzine, thinner, or chemical cloth.

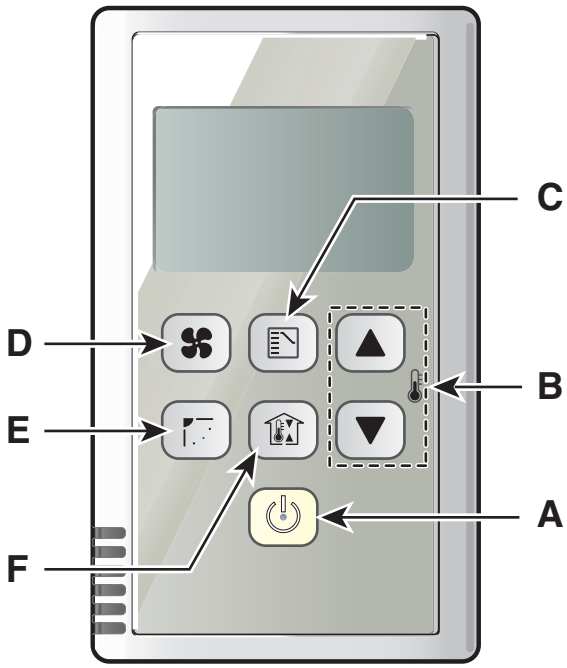
NOTE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not nstalled and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions.
  Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

3. Remote Controller

■ Names and Operations

Operation Section



A. **(Start/Stop)button**
Pushing this button starts, and pushing again stops the unit.

B. **/** **( ) (Temperature setting) buttons**
Changing the temperature setting.

C. **(Mode Select) button**
Pushing this button to select an operation mode. (AUTO /HEAT /DRY /COOL / FAN).

D. **(Fan speed) button**
Changing the fan speed.
(/ / /)

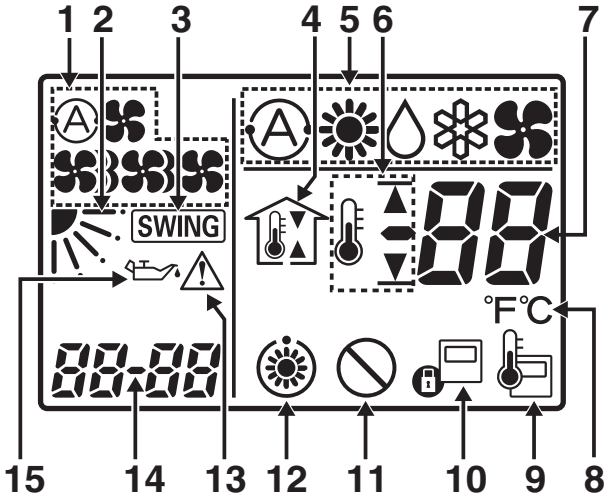
E. **(Swing/Air direction) button*1**
Use this button to set the auto swing or air direction to a specific angle.

*1 Do not move the flap (vertical airflow adjustment board) with your hand.
The flap is automatically directed down when the unit is stopped.
The flap is directed up during the HEAT standby.
The flap starts swinging after the HEAT standby is cancelled, although the AUTO flap indication on the remote control unit is displayed during the HEAT standby.

F. **(Outing function) button**
(Outing Function)

3. Remote Controller

Display Section



1. **(Fan mode select) indication**
   The selected fan mode is displayed.
2. **(Flap position) indication**
   Indicates the flap position.
3. **SWING (Swing) indication**
   Appears while the flap swings.
4. **(Outing) indication**
   (Outing Function)
   Appears when the outing function is set.
5. **Operation Mode indication**
   Displays the selected operation mode. (AUTO Ⓐ/HEAT ☼/DRY ◇/COOL ❄/ FAN).
6. **Upper and lower limit indication of the outing function**
   ▲ : Indicates the upper limit of the temperature.
   ▼ : Indicates the lower limit of the temperature.
7. **Temperature indication**
   Indicates the set temperature.
8. **°F / °C (Temperature unit) indication**
9. **(Remote control sensor) indication**
   Appears when the remote control sensor is used.
10. **(Centralized control) indication**
    Appears when operated in centralized control. If the remote control operation is not permitted to the remote unit, when the (Start/Stop) button, (Mode select) button, (Fan speed) button, (Swing/Air direction) button or ▲ / ▼ ( ) (Temperature setting) buttons are pressed, flashes and rejects the change.
11. **(Disabled feature) indication**
    Displayed if the selected feature was disabled during installation.
12. **(Heating standby mode) indication**
    appears when the fan of the indoor unit is stopped or in low fan speed.
13. **⚠ (Caution) indication**
    Appears when the protective device is activated or when an abnormality occurs.
14. **Alarm indication**
    This displays alarm messages when an error occurs.
15. **(Oil) indication**
    Appears when the engine oil needs to be changed. (Appears when the gas heat pump air conditioner is used.)

3. Remote Controller

■ Outing Function

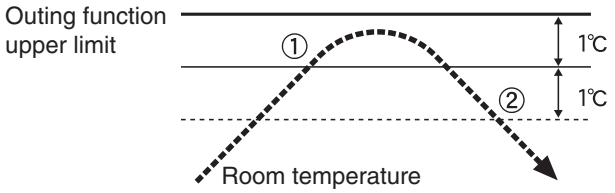
Outing function is a function that prevents the room temperature from increasing too much (or decreasing too much) when no one is in the room. An air conditioner works automatically if this function is set effective.

General Performance of the Outing Function

COOL / DRY

① The air conditioner starts operation when the room temperature increases up to –1°C of the upper limit.

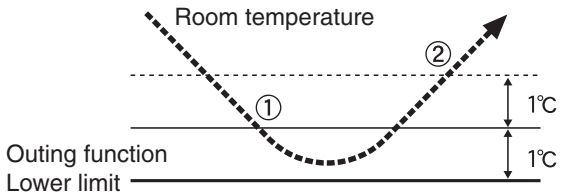
② The air conditioner stops operation when the room temperature decreases up to –2°C of the upper limit.



HEAT

① The air conditioner starts operation when the room temperature decreases up to +1°C of the lower limit.

② The air conditioner stops operation when the room temperature increases up to +2°C of the lower limit.

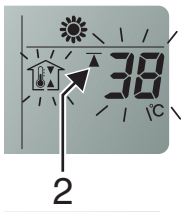


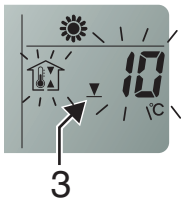
[Precautions]

- The outing control only starts/stops the air conditioner.
  It does not change the operation mode/temperature setting.
  Therefore, the operation mode/temperature needs to be set beforehand so that the outing function turns on the air conditioner with your desired operation mode/ temperature setting.
- If the room temperature rapidly changes, the room temperature may get over the upper or lower limit when the outing function is activated.
- The outing function is invalid during FAN/AUTO operation mode.
- The air conditioner's stop order (stated in ② /above) is valid only when the outing function is operated.
  If operated using other remote control units (or a centralized control device such as a system control), the outing function will not stop air conditioner operation.

• Setting the Outing Function

1. **Press and hold [⌂] for more than 4 seconds to display the upper limit temperature setting screen.**
   ⌂ , ▲ and the upper limit temperature start flashing.
   (The default value of the upper limit temperature is 38 °C.)
2. **Press [▲] / [▼] to select the upper limit temperature, and press [⌂] to fix the value.**
   The lower limit temperature setting screen is displayed.
3. **Press [▲] / [▼] to select the lower limit temperature, and press [⌂] to fix the value.**
   The outing function setting is completed.
   (The default value of the lower limit temperature is 10 °C.)





* The unit returns to the normal mode if [↩] is pressed or there is no operation made for 3 minutes during the setting. In this case, all the settings in progress will be lost.

• Canceling the outing function

Press and hold [⌂] for more than 4 seconds while the outing function is set.

• Outing function indication

Outing function indication	Status
Off	The outing function is not set.
Flashing	The outing function is now being set, or under operation.
Lighting	Although the outing function is set, not under operation.

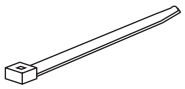
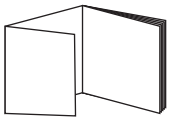
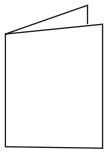
NOTE

If a blackout occurs during outing function operation and power is cut, the remote controller will lose the infomation for outing function operation. It reverts from the blackout, and an air conditioner does not drive in outing function when operation is started. At this time, an air conditioner does not stop at outing function.

3. Remote Controller

■ Basic Installation

● Parts supplied with simplified remote controller

Simplified remote controller	Wood screws	Binding strap	Instruction manual	Installation manual
				

● Simplified remote controller installation guidelines (Place of installation)

1. Mount the simplified remote controller at a height of 1 to 1.5 meters above the floor where it can sense the average temperature of the room.
2. Do not mount the simplified remote controller in a place exposed to direct sunlight or a place exposed to outside air such as near a window.
3. Do not mount the simplified remote controller behind an object so that it is separated from the air circulation of the room.
4. Mount the simplified remote controller within the room being air conditioned.
5. The simplified remote controller must be mounted on the wall or other surface vertically.

● How to install the simplified remote controller

- **When used as embedded type**

1. Insert a screwdriver or the like in the groove on the lower side of the simplified remote controller body to pry off the back case. (See Fig. 3-3-2)
2. After passing the simplified remote controller wiring through the conduit on the back case of the controller, secure it with the two screws (field supply). (See Fig. 3-3-1)

   NOTE Do not apply excessive strain to the back case when securing it. Deformation of the back case may result in the remote controller falling off.
3. Connect the simplified remote controller wiring to the simplified remote controller main unit. (See “How to wire the simplified remote controller”.) When connecting the locally supplied 2 core lead wires to the terminal block, check the terminal numbers in the indoor unit to make sure that the wires are correctly connected. (See Fig. 3-3-3) (The simplified remote controller is damaged if 220 / 240 V AC is applied.)
4. Fit the simplified remote controller to the tabs of the back case and mount it.

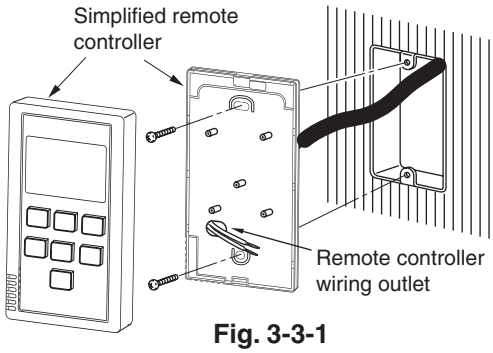
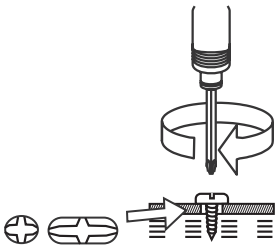


Fig. 3-3-1

When mounting the back case to the electric junction box, tighten the screws securely unitl the screw heads touch the back case. Otherwise, a loose screw head may damage the PCB on the back of the top cover when mounting the top cover. But do not over-tighten the screws. Overtightening may deform the back case and cause the unit to fall.



3. Remote Controller

- **When used as exposed type**

1. This step is the same as step 1 for the embedded type.
2. Because the simplified remote controller wiring exits the back case (thin part in upper central area), use a nipper or the like to cut out the part to fit the thickness of the simplified remote controller wiring. (See Fig. 3-3-4)
3. Referring to Fig. 3-3-5, connect the controller wiring to the main unit, and then attach the binding strap (supplied).
4. Place the controller wiring in the groove, and then adjust the wiring so that the binding strap attached in step 3 can be stored inside the simplified remote controller.
5. Secure the back case to the wall with the wood screws (supplied). (See Fig. 3-3-6)

NOTE Do not apply excessive strain to the back case when securing it.
Deformation of the back case may result in the remote controller falling off.

6. This step is the same as step 4 for the embedded type.

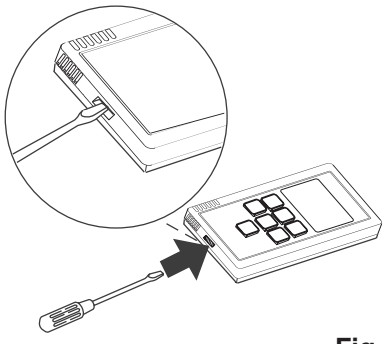


Fig. 3-3-2

- **Basic wiring diagram**

NOTE

Make sure to connect the wires correctly or the unit may be damaged. (See Fig. 3-3-7)

1. Following is a wiring diagram for controlling 1 indoor unit by 2 simplified remote controllers.
2. Performing group control of the multiple indoor units with 2 simplified remote controllers.
3. The main and the sub simplified remote controllers can be installed at any indoor unit for operations.

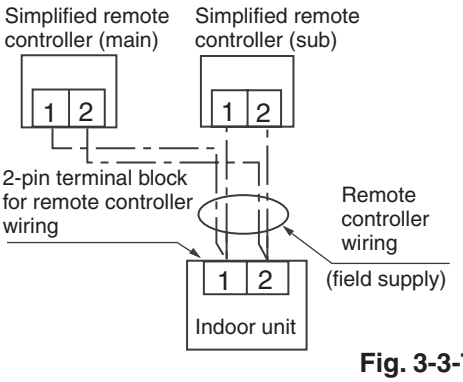
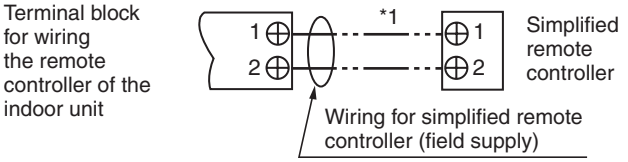


Fig. 3-3-7

● **How to wire the simplified remote controller**

- **Connection diagram**



*1: Use 0.5 mm^2 to 1.25 mm^2 stranded wires.

Fig. 3-3-3

Remote controller wiring can be extended to a maximum of 500m.

NOTE

1. Do not twist the simplified remote controller wiring with the power wiring or run it in the same metal conduit, because this may cause malfunction.
2. Install the simplified remote controller away from sources of electrical noise.
3. Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

- Use an electric junction box (field supply) (See Fig. 3-3-1) for flush mounting of the simplified remote controller

● **Guidelines for using 2 simplified remote controllers**

This multiple remote controller system controls 1 to 8 indoor units with 2 simplified remote controllers.

- **Set-up procedure**

1. One of the 2 simplified remote controllers should be set as main controller.
2. For the rest, see the “Remote controller setting mode” section and set up Sub.

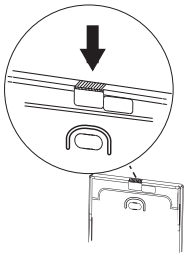


Fig. 3-3-4

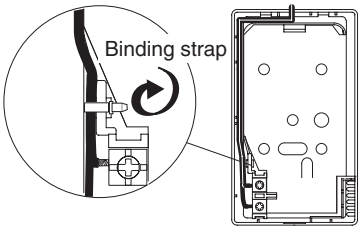


Fig. 3-3-5

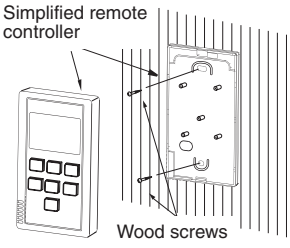


Fig. 3-3-6

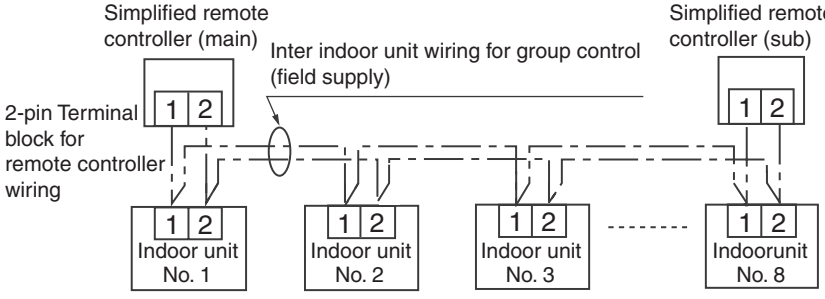


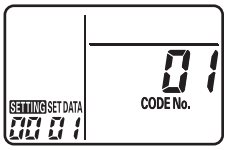
Fig. 3-3-8

3. Remote Controller

● Remote controller setting mode

Use the following method to perform simplified remote controller Main/Sub setting and RCU.CK switching.

1. Press both [▣] and [⌂] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select an item code, and then use [▣] button to confirm.
3. Change DATA with [▲] / [▼] (🌡) buttons.
4. Press [▣]. Finally, press [⌐].



CODE ITEM	ITEM	DATA	
		0000	0001
01	RCU. Main/Sub	Sub	Main
08	RCU. CK	RCU. CK	Normal

* To go back one step, press [⌂].

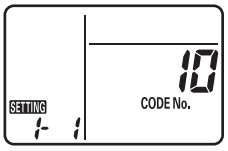
* DATA is memorized in the RCU.
(DATA setting will not be changed even when the power is turned off.)

* Make sure to set [Normal] for RCU. CK.

● Indoor unit setting mode

Use the following method to switch sensor or temperature unit (Celsius/Fahrenheit).

1. Press [▣] + [⌂] + [⌐] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select a unit, and then use [▣] button to confirm.
3. Use [▲] / [▼] (🌡) button to select an item code, and then use [▣] button to confirm.
4. Change DATA with [▲] / [▼] (🌡) buttons.
5. Press [▣]. Finally, press [⌐].



CODE	ITEM	DATA	
		0000	0001
32	Room temperature sensor	Main unit	RCU
33	Temperature unit	°C	°F

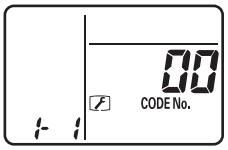
* To go back one step, press [⌂].

* DATA is memorized in the indoor unit.
(DATA setting will not be changed even when the power is turned off.)

● To display the sensor temperature:

1. Press both [⌐] and [⌂] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select a unit, and then use [▣] button to confirm.
3. Change the sensor address (CODE No.) with [▲] / [▼] (🌡) buttons.
4. Press the [⌐] button to finish service mode.

* To go back one step, press [⌂].

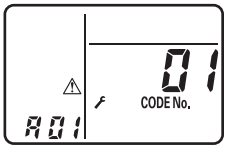


● To display the trouble history:

1. Press both [▣] and [⌐] buttons on the remote controller for more than 4 seconds together.
2. Change the alarm message: [▲] / [▼] (🌡) buttons
3. Press the [⌐] button to finish service mode.

CODE No. 01 → 04
(New) (Old)

* To clear the trouble history, press [❋].



3. Remote Controller

● **Test run setting**

1. Press both ⏻ and ☐ buttons on the remote controller for more than 4 seconds together, and then press ⏻ (ON/OFF) button.
   - "TEST" will appear on the crystal display during test run.
   - During test run, temperature cannot be adjusted. This button should be used only for test run.
2. Perform test run in any operation mode of "heat", "cool" or "fan".

NOTE

The outdoor unit does not operate for 3 minutes after stopping operation or turning on the unit.

3. After test run is finished, press both ⏻ and ☐ buttons again for more than 4 seconds together, and then make sure "TEST" goes off from the display. (The 60-minute off timer function is provided for this remote controller in order to avoid continuous test run.)

● **Caution**

Caution when installing the remote controller (See Fig. 3-3-9-1)

*1 Install the remote controller more than 70 mm apart from the wall surface. (See Fig. 3-3-9-2)

*2 To install the remote controllers side-by-side, keep the space between each for more than 75 mm. (See Fig. 3-3-9-2)

*3 To install the remote controllers one above the other, keep the space between each for more than 25 mm. (See Fig. 3-3-9-3)

Unit: mm

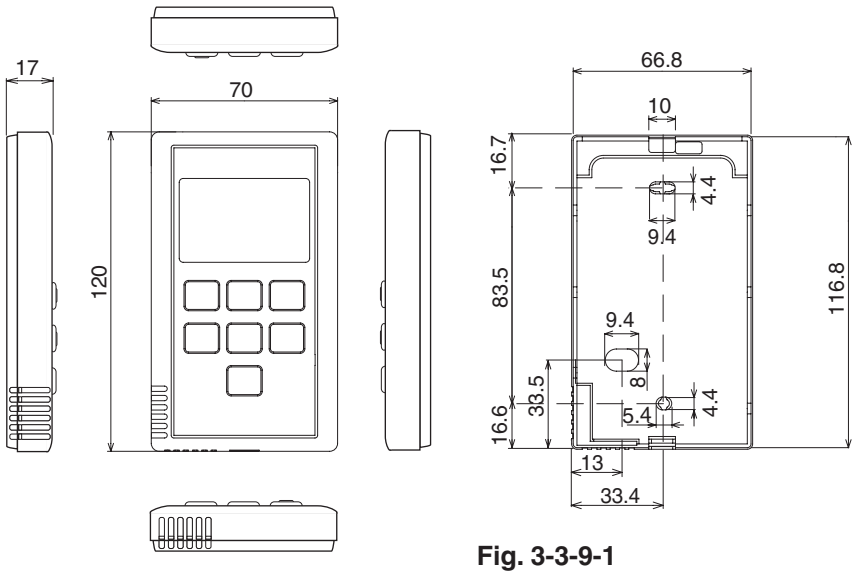


Fig. 3-3-9-1

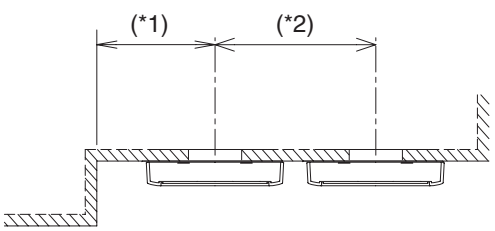


Fig. 3-3-9-2

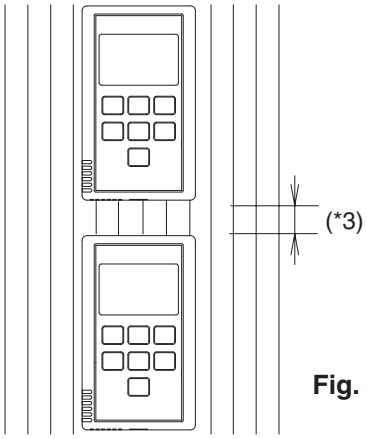
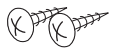
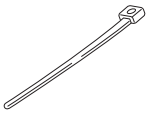


Fig. 3-3-9-3

Panasonic®

ENGLISH

Installation Instructions
Remote Sensor
Model No. CZ-CSRC3

Supplied accessories	
Wood screw M3.8 × 16 (2)	**Clamper** (1)
	

Safety Precautions

Read before installation

- Read the Installation Instructions carefully to install the unit correctly and safely.
  Be sure to read the Safety Precautions in particular before installation.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts.
  Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- Read the installation instructions supplied with indoor units as well.

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

⚠ WARNING

- Turn off the circuit breaker of the units before installation.
- Ask your dealer or professionals for installation and electric work.
- This remote sensor shall be installed in accordance with National Wiring Regulations.
- Securely connect and fix the specified cables for wiring.
- Do not allow the connection to be exposed to the external force of the cables.
- Choose an installation location that sufficiently supports the weight of the remote sensor.

NOTICE

The English text is the original instructions. Other languages are translation of the original instructions.

⚠ CAUTION

- Do not use at the following locations.
  - Location where condensation occurs
  - Location where flammable gases, etc. may leak
  - Location where corrosive gases, etc. may leak
  - Location with lots of water or oil droplets (including machine oil)
  - Location where voltage fluctuation frequently occurs
  - Location where there is a machine producing electromagnetic radiation
  - Location where droplets of organic solvents spread
  - Location where acidic or alkaline solutions or special sprays are frequently used
- Do not operate with wet hands.
- Do not wash with water.

CV6233317625

Printed in China
H0515-0
85464369822020

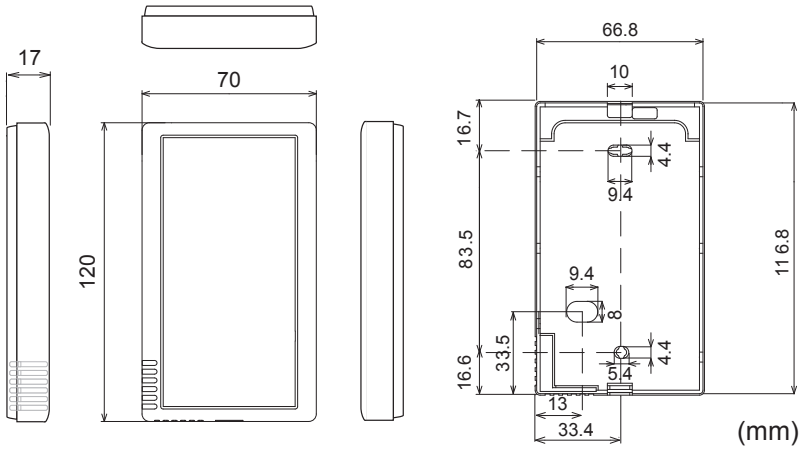
Note:

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Specifications

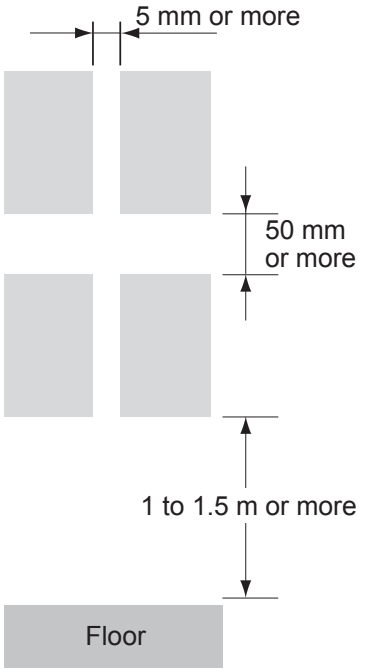
Model No.	CZ-CSRC3
Dimensions	(H) 120 mm × (W) 70 mm × (D) 17 mm
Weight	70 g
Temperature/Humidity range	0 °C to 40 °C / 20 % to 80 % (No condensation) *Indoor use only.
Power Source	DC16 V (supplied from indoor unit)
Number of connected indoor units	Up to 8 units

Dimensions



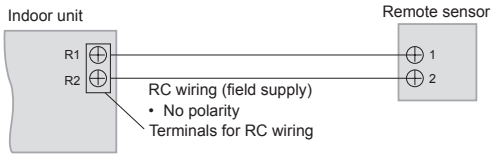
Installation Precautions

Installation location



Wiring for the remote sensor

■ **Wiring diagram**



■ **Type of wiring**
Use cables of 0.5 to 1.25 mm^2.
Use the field supplied RC wiring with at least 1 mm in thickness of insulation part including the sheath.
Regulations on wire diameters differ from locally to locally.
For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
You must ensure that installation complies with relevant rules and regulations.

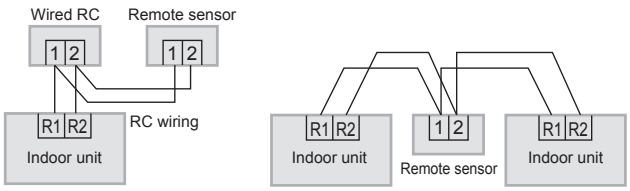
■ **Total wire length:** 500 m or less
(The wire length between indoor units should be 200 m or less.)

■ **Number of connectable units**
Remote controller and remote sensor: Max. 2 (including remote sensor),
Indoor unit: Max. 8

Attention

- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

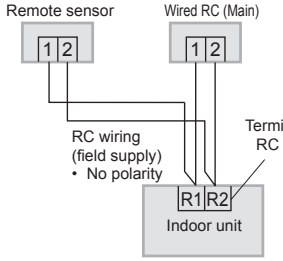
*Wiring as shown below is prohibited.



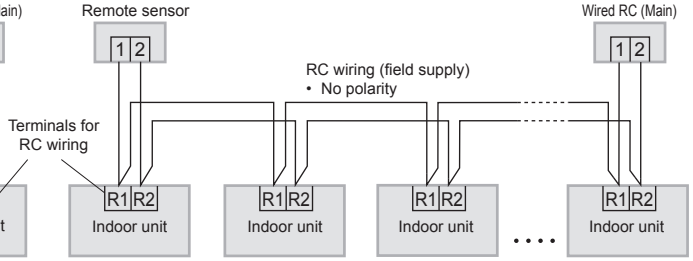
Installation when setting Main/Sub for the remote controller and the remote sensor

■ Using 1 indoor unit

Installation example



■ Using more than 1 indoor unit



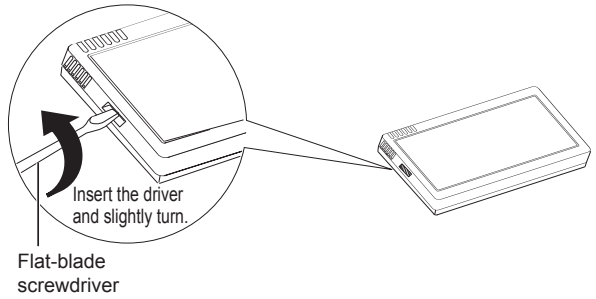
Be sure to set the wired remote controller to [Main].

Note

The remote controller and the remote sensor can be connected to any indoor unit.

Mounting

1 **Remove the bottom case.**

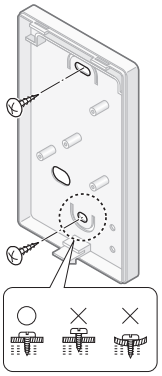


2 **Mount to the wall.**

Attention

Mounting the bottom case
- Tighten the screws securely until the screw heads touch the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)

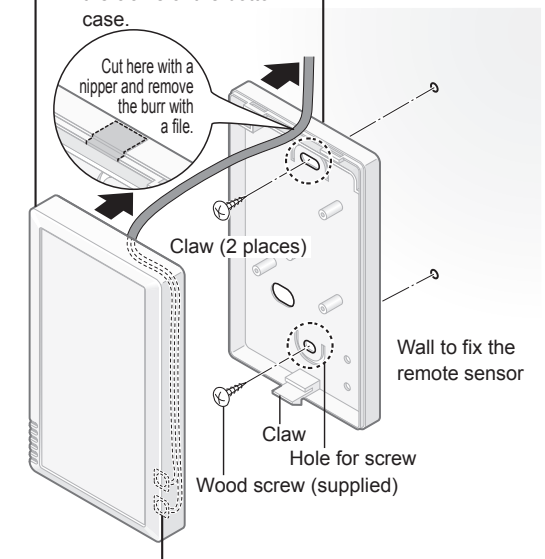
Connecting the remote control wiring
- Arrange the wires as shown in the illustration for ❷ in step **2**, avoiding unnecessary wires being stored in the case. (Caught wires may destroy the PCB.)
- Avoid wires touching parts on the PCB. (Caught wires may destroy the PCB.)



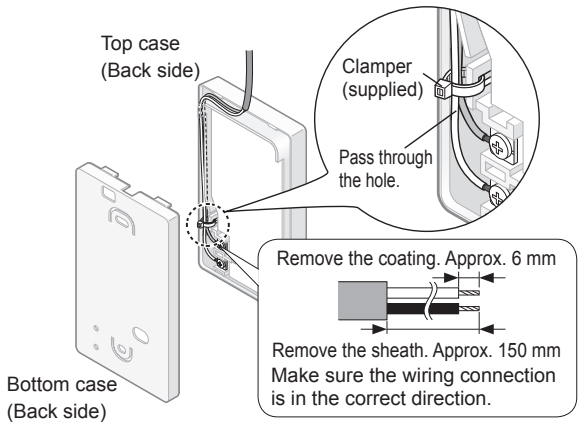
Exposed type

3 **Mount the top case.**
- Align the claws of the top case and then align the claws of the bottom case.

1 **Mount the bottom case to the wall.**



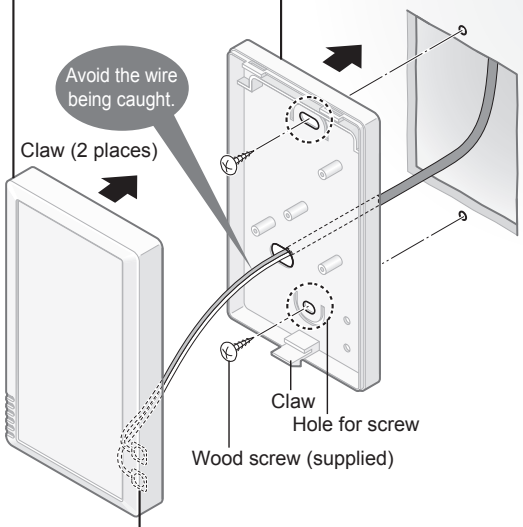
2 **Connect the remote control wiring.**
- Arrange the wires along the groove of the case.



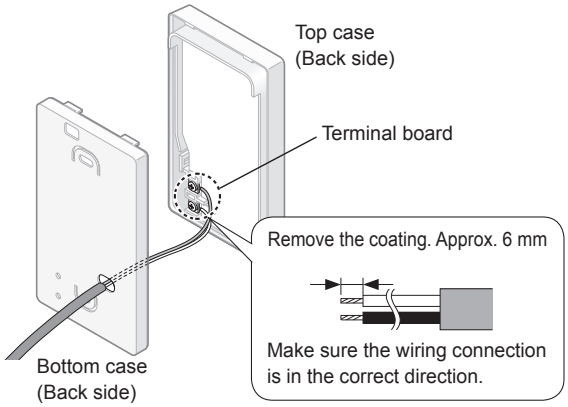
Embedded type

3 **Mount the top case.**
- Align the claws of the top case and then align the claws of the bottom case.

1 **Mount the bottom case to the wall.**
- Pass the wire through the hole in the centre of the bottom case.



2 **Connect the remote control wiring.**



Panasonic®

Installation Instructions
ECONAVI Sensor
Model No. CZ-CENSC1



F616629

ENGLISH 3 ~ 17 — EN
Read through the Installation Instructions before you proceed with the installation. In particular, you will need to read under the “Safety Precautions”on EN 4.

FRANÇAIS 18 ~ 34 — FR
Lisez les instructions d'installation avant de commencer l'installation. En particulier, vous devez lire la section « Consignes de sécurité » en page 19.

ESPAÑOL 35 ~ 51 — ES
Lea las Instrucciones de instalacion antes de proceder con la instalacion del equipo. En concreto, deberá leer detenidamente la sección “Precauciones de seguridad” situada en la página 36.

DEUTSCH 52 ~ 70 — DE
Lesen Sie die Einbauanleitung, bevor Sie mit der Installation beginnen. Insbesondere müssen die „Sicherheitsvorkehrungen“ auf Seite 53 gründlich durchgelesen werden.

ITALIANO 71 ~ 87 — IT
Leggere le Istruzioni di installazione prima di procedere con l'installazione. Prestare particolare attenzione alla sezione “Precauzioni di Sicurezza” a pagina 72.

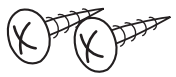
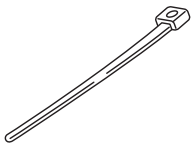
PORTUGUÊS 88 ~ 104 — PT
Leia cuidadosamente as instruções de instalação antes de prosseguir com a instalação. Em particular, é necessário ler as informações na secção “Precauções de segurança” na página 89.

ΕΛΛΗΝΙΚΆ 105 ~ 122 — GR
Διαβάστε τις Οδηγίες εγκατάστασης πριν συνεχίσετε με την εγκατάσταση. Συγκεκριμένα, θα χρειαστεί να διαβάσετε την ενότητα “Προφυλάξεις Ασφαλείας” στη σελίδα 106.

Contents

Supplied accessories & Parts Name 3
Safety Precautions 4
Installation Precautions 6
Mounting.....9
Settings (For CZ-RTC3) 12
Test operation (For CZ-RTC3).....15
Self-diagnostics (For CZ-RTC3).....17
Specifications 17

Supplied accessories

Screw	Clamper
M4 × 15.5 (2)	(1)
	

NOTICE Remote control wiring is not supplied accessory.
(field supply)

Parts Name



Sensor
Detects human motion within the area

Safety Precautions

Read before installation

- Read the Installation Instructions carefully to install the unit correctly and safely.
  Be sure to read the Safety Precautions in particular before installation.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods not using specified parts. Malfunctions that occur due to unauthorised installation methods are not covered by the product warranty.
- Read the installation instructions supplied with indoor units as well.

⚠ **WARNING**	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
⚠ **CAUTION**	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

❗ Matters to be observed	⃠ Prohibited matters

⚠ WARNING

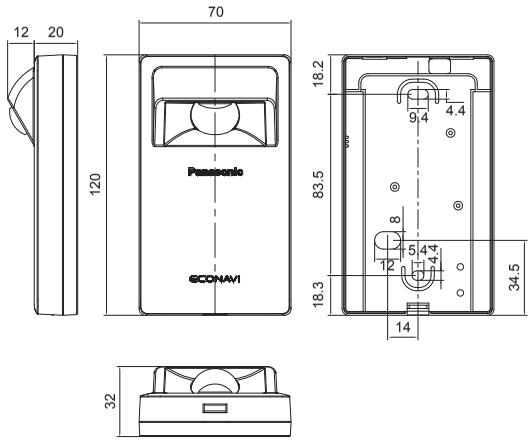
- ❗ Turn off the circuit breaker of the units before installation.
- ❗ Ask your dealer or a professional for installation and electric work.
- ❗ This sensor unit shall be installed in accordance with National Wiring Regulations.
- ❗ Securely connect and fix the specified cables for wiring.
- ❗ Do not allow the connection to be exposed to the external force of the cables.
- ❗ Choose an installation location that sufficiently supports the weight of the sensor unit.

⚠ CAUTION

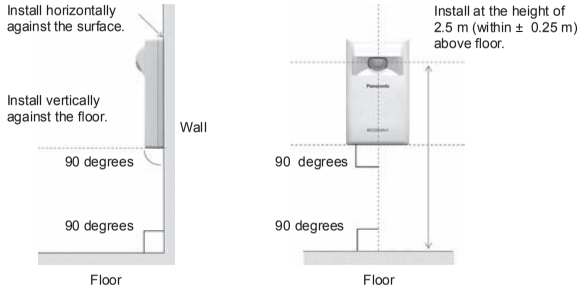
- Do not use at the following locations.
  - Locations where condensation occurs
  - Locations where flammable gases, etc. may leak
  - Locations where corrosive gases, etc. may leak
  - Locations with lots of water or oil droplets (including machine oil)
  - Locations where voltage fluctuation frequently occurs
  - Locations where there is a machine producing electromagnetic radiation
  - Locations where droplets of organic solvents spread
  - Locations where acidic or alkaline solutions or special sprays are frequently used
- Do not operate with wet hands.
- Do not wash with water.
- Do not install in places shown below.
  - In places with sharp temperature fluctuations such as near or facing air conditioner vents or appliances that generate intense heat.
  - In places exposed to direct strong light such as lightning or headlights.
  - In places near incandescent lighting fixtures.
  - In places with swaying items like curtains.
  - In places with light partitions or other light shaders.
- Please wipe the dirt on the sensor with a dry cloth.
- The motion of people on the opposite side of the glass is usually not detected.
- Approximately 90 seconds is needed until the motion sensor is activated after the power is on.

Installation Precautions

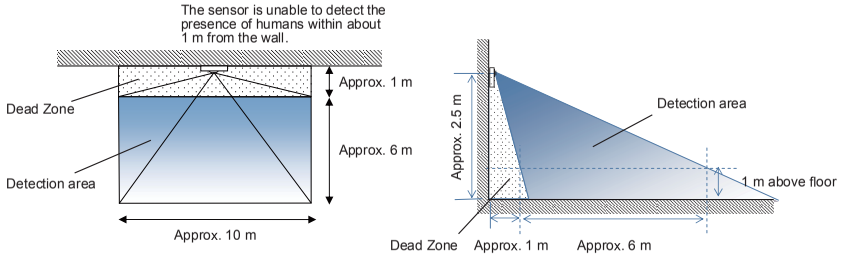
■ Dimensions



■ Installation location

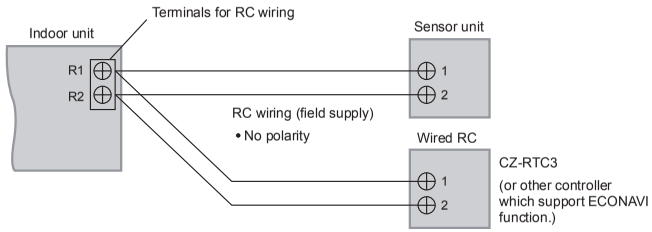


■ Guideline for detection area



■ **Wiring for the sensor unit**

- Wiring diagram



- Type of wiring

Use cables of 0.5 to 1.25 mm^2.

- Total wire length: 500 m or less

(The wire length between indoor units should be 200 m or less.)

- Number of connectable units

Remote controller, wireless receiver and sensor : Max. 2

Indoor unit: Max. 8

For the RC wiring of field supply, please use insulated wires with sheath. The insulation thickness should be at least 1 mm.

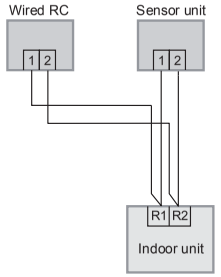
Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.

You must ensure that installation complies with all relevant rules and regulations.

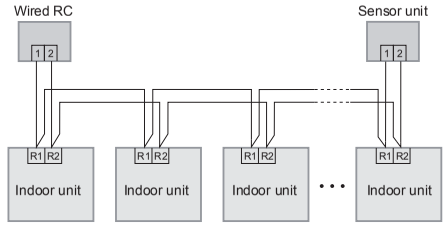
Attention

- Be careful not to connect cables to other terminals of indoor units (e.g. power source wiring terminal). Malfunction may occur.
- Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.
- If noise is induced to the unit power supply, attach a noise filter.

■ **Using 1 indoor unit**



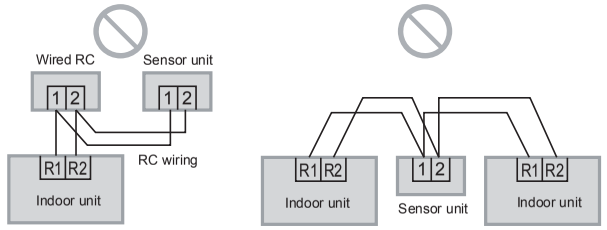
■ **Using more than 1 indoor unit or heat exchange ventilation unit**



Note

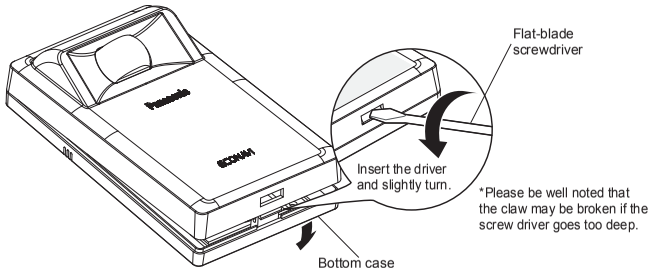
- Remote controller, wireless receiver and sensor can be connected to any indoor unit for operation.

*Wiring as shown below is prohibited.



Mounting

1. Remove the bottom case.



2. Mount to the wall.

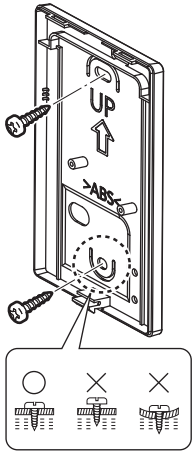
Attention

■ **Mounting the bottom case**

- Tighten the screws securely until the screw heads touch the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)

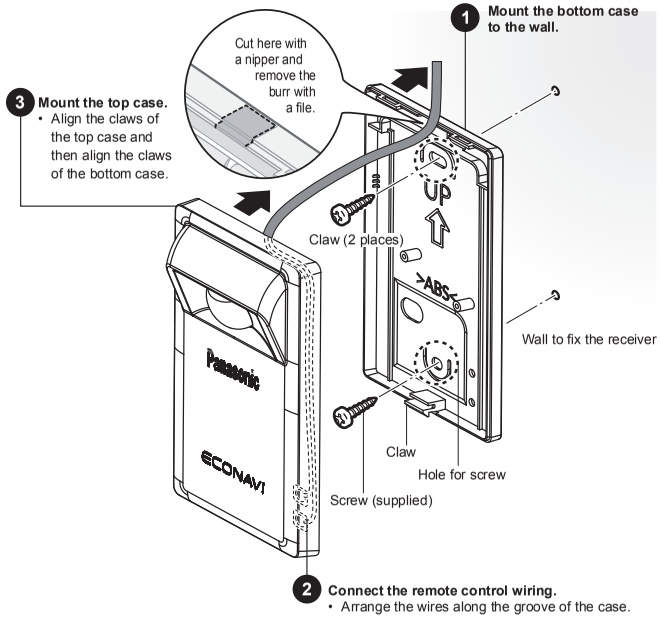
■ **Connecting the remote control wiring**

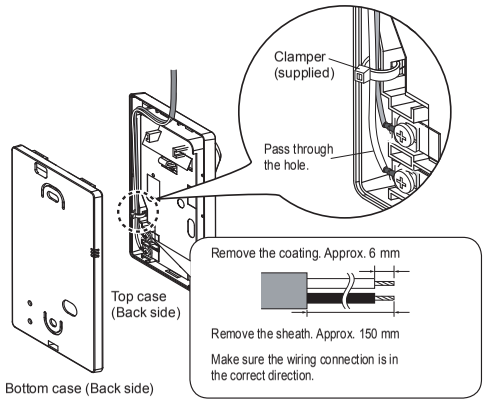
- Arrange the wires as shown in the illustration for 2.1 in step ●, avoiding unnecessary wires being stored in the case. (Caught wires may destroy the PCB.)
- Avoid wires touching parts on the PCB. (Caught wires may destroy the PCB.)



2.1 Exposed type

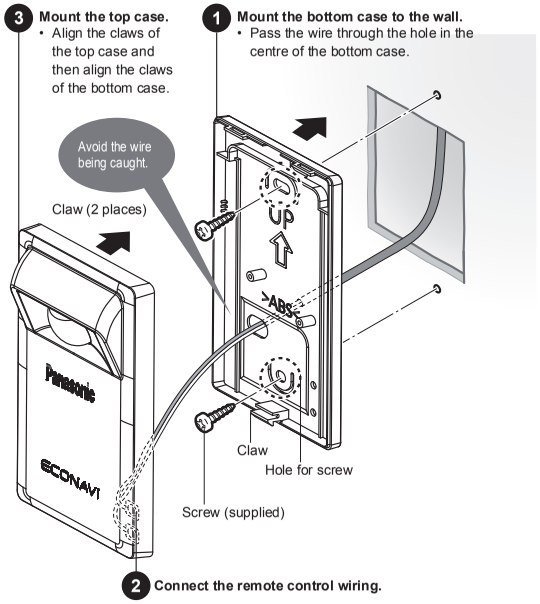
Preparation: Make 2 holes for screws using a Phillips-head screwdriver.

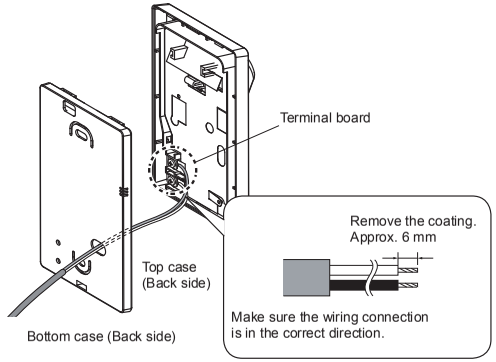




2.2 Embedded type

Preparation: Make 2 holes for screws using a Phillips-head screwdriver.





Settings (For CZ-RTC3)

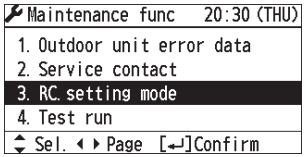
RC. setting mode (ECONAVI activation for remote controller)

1. Press and hold the 3 buttons for 4 seconds or more simultaneously.

↩, ↵, ▶

2. Select the item to set. (Select [3. RC. setting mode].)

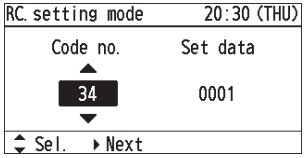
▲ ▼ → ↵



3. Set. (Select the Code no. and Set data.)

▲ ▼ → ▶ → ↵

(Repeat)



Code no.	Set Item		Set data
34	**ECONAVI activation for remote controller**	Set the Set data to 0001 to activate ECONAVI.	• 0000: Inactive (factory setting) • 0001: Activate

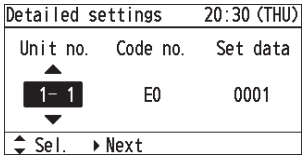
Detailed settings (ECONAVI activation for indoor unit, Absence mode setting, Start time of Absence mode)

1. Repeat steps 1 to 2 of RC. setting mode.
(Select [8.Detailed settings].)

2. Set. (Select the Unit no., Code no. and Set data.)

▲ ▼ → ▶ → ↵

(Repeat)



Code no.	Set Item		Set data
E0	**ECONAVI activation for indoor unit**	Set the Set data to 0001 to activate ECONAVI. (If Code no. E0 cannot be selected, the indoor unit does not support the ECONAVI function.)	•0000: Inactive •0001: Activate
E1	**Absence mode setting**	Select the Energy saving mode that operates in human absence.	•0000: Do nothing. •0001: Thermo off (factory setting) •0002: Unit suspended (Cannot reactivate) •0003: Unit suspended (Can reactivate)
E5	**Start time of Absence mode**	Set the timing for switching to Absence mode.	•0001 - 0024 [hour] (0003: factory setting)

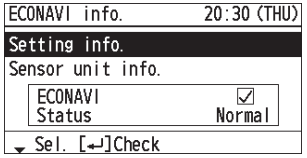
ECONAVI info. (ECONAVI function ON/OFF, Absence mode setting, Start time of Absence mode)

*This menu will not appear unless ECONAVI is enabled by setting Code no. 34 to 0001 in RC. setting mode.

1. Repeat steps 1 to 2 of RC. setting mode.
(Select [0.ECONAVI info.].)

2. Select [Setting info.].

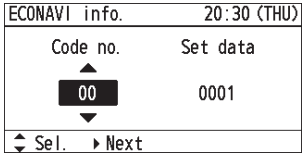
▲ ▼ → ↵



3. Set. (Select the Code no. and Set data.)

▲ ▼ → ▶ → ↵

(Repeat)



Code no.	Set Item		Set data
00	**ECONAVI function ON/OFF**	Set the **ECONAVI function ON or OFF.** (This can also be done via the normal menu.)	•0000: OFF •0001: ON
01	**Absence mode setting**	Same as Code no. E1 in the Detailed settings.	
02	**Start time of Absence mode**	Same as Code no. E5 in the Detailed settings.	

Test operation (For CZ-RTC3)

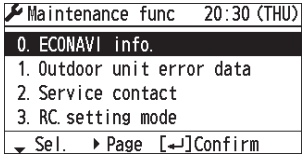
Preparation: Turn on the circuit breaker of units and then turn the power on. After the power is turned on, ECONAVI sensor unit operation is ignored for approx. 90 seconds because settings are being made. This is not malfunction.

1. Press and hold the 3 buttons for 4 seconds or more simultaneously.

↩, ↵, ▶

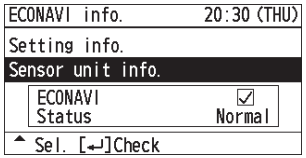
2. Select [0.ECONAVI info.].

▲ ▼ → ↵



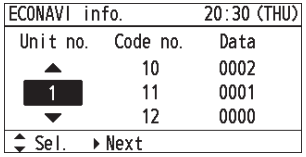
3. Select [Sensor unit info.].

▲ ▼ → ↵



4. Confirm the data set for Code no. 11 and 12 of Unit no.1.

▲ ▼ → ▶ → ▲ ▼



Code no.	
11	Data shows the state of the sensor unit. 0000: not connected 0001: normal state 0002: initial state 0003: duplication of the sensor unit 0004: error state * If 0000 is displayed, the system can not find the sensor unit. * If 0001 is displayed, the sensor can detect human motion. * If 0002 is displayed, the sensor is initializing. It takes about 90 seconds for the sensor to complete initialization after the power is on. * If 0003 is displayed, multiple sensor units are connected. The system supports only 1 sensor unit per indoor group. * If 0004 is displayed, the sensor is broken down. * Data is updated automatically every 30 seconds.
12	In 30 seconds, the number of times human motion was detected. * Data is updated automatically every 30 seconds.

<Part 1>

Check that the sensor will detect human motion.(active)

Step 1 Ensure that Code no. 11 displays 0001.

Step 2 Wave your hand in front of the sensor for 1 minute.

Step 3 Check that Code no. 12 displays 1 or more.

<Part 2>

Check that the sensor will not detect human motion.(inactive)

Step 1 Ensure that Code no. 11 displays 0001.

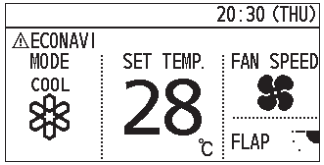
Step 2 Cover the sensor with a box firmly so that the sensor will not detect human motion.

Step 3 Wait for 1 minute.

Step 4 Check that Code no.12 displays 0.

Self-diagnostics (For CZ-RTC3)

If the remote control screen displays a flashing ⚠ **ECONAVI**, refer to the following information.



Reboot the sensor unit. (For example, disconnect the sensor unit from the wiring, and reconnect it.)	If there is no flashing ⚠ **ECONAVI**: • The sensor unit can be used normally.
	If the flashing ⚠ **ECONAVI** disappears for a while, but appears again soon: • The sensor unit is broken down.
	If the ⚠ **ECONAVI** flashes continually: • The wiring of the sensor unit may be faulty. • The sensor unit may be broken down.

Specifications

Model No.	CZ-CENSC1
Dimensions	(H) 120 mm × (W) 70 mm × (D) 32 mm
Weight	75 g
Temperature/ Humidity range	0°C to 40°C/20% to 80% (No condensation) * Indoor use only.
Power Source	DC16 V (Supplied from indoor unit)
Connections	1 sensor per indoor group

NOTICE The English text is the original instructions. Other languages are translations of the original instructions.

Printed in China

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T0902-1

Panasonic®

Operating Instructions
ECONAVI Sensor
Model No. CZ-CENSC1



Installation Instructions
Separately Attached.

Thank you for purchasing the Panasonic ECONAVI sensor.

- Read the Operating Instructions carefully for safe use. This manual describes the ECONAVI sensor. Read this manual as well as operating instructions supplied with indoor units and outdoor units.
- Be sure to read the “Safety Precautions” (P.4 - 5) before using.
- Keep this manual with operating instructions supplied with indoor units and outdoor units in a safe place.
- Be sure to keep this manual in a place easily accessible by users. In the case of user change, be sure to give this manual to a new user.

Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

Authorised representative in EU
Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

F569814

ENGLISH 3 ~ 14 — EN
Before operating the unit, read these operating instructions thoroughly and keep them for future reference.

FRANÇAIS 15 ~ 27 — FR
Avant d'utiliser l'appareil, lisez attentivement le présent mode d'emploi et conservez-le pour consultation future.

ESPAÑOL 28 ~ 40 — ES
Antes de poner en funcionamiento la unidad, lea detenidamente estas Instrucciones de funcionamiento y guárdelas para consultarlas en el futuro.

DEUTSCH 41 ~ 53 — DE
Bevor Sie dieses Gerät in Betrieb nehmen, sollten Sie diese Bedienungsanleitung aufmerksam durchlesen und sie zur weiteren Verfügung aufbewahren.

ITALIANO 54 ~ 64 — IT
Leggere queste istruzioni per l'uso attentamente prima di mettere in funzione l'unità e conservale per una consultazione futura.

PORTUGUÊS 65 ~ 76 — PT
Antes de operar a unidade, leia estas instruções de operação cuidadosamente e guarde-as para futuras consultas.

ΕΛΛΗΝΙΚΑ 77 ~ 89 — GR
Πριν χειριστείτε τη μονάδα, διαβάστε αυτές τις οδηγίες λειτουργίας διεξοδικά και φυλάξτε τες για μελλοντική αναφορά.

РУССКИЙ 90 ~ 102 — RU
Перед началом работы с оборудованием, внимательно прочитайте эту инструкцию по эксплуатации и сохраните ее для дальнейшего использования.

УКРАЇНСЬКА 103 ~ 115 — UR
Перед початком роботи з обладнанням, уважно прочитайте цю інструкцію з експлуатації та зберігайте її для подальшого використання.

ҚАЗАҚША 116 ~ 128 — KZ
Құрылғыны пайдаланудан бұрын осы пайдалану жөніндегі нұсқауларды оқыңыз және келешекте пайдалану үшін сақтаңыз.

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Safety Precautions 4
Precautions for Use 6
Overview of the ECONAVI function 7
Parts Name.....9
Guideline for detection area 10
On/off setting Procedure of ECONAVI function 11
Troubleshooting.....13
Specifications 14

NOTICE

The English text is the original instruction. Other languages are translation of the original instructions.

Safety Precautions

⚠ WARNING	⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.
❗ Matters to be observed	⃠ Prohibited matters

⚠ WARNING

⃠ Do not use this appliance in a potentially explosive atmosphere.

⃠ In case of malfunction of this appliance, do not repair by yourself. Contact the sales dealer or service dealer for repair.

❗ In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the main power.



⚠ CAUTION

❗ This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

⃠
- Do not operate with wet hands.
- Do not wash with water.

Safety Precautions

Note:

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Precautions for Use

EN

- Do not use in the following places:
  - Where humidity/oil/vibration is excessive, the unit will be exposed to direct sunlight or near a heat source, or condensation is likely to occur.
    (Otherwise, failure may be caused.)
  - Where excessive noise is present.
    (Otherwise, malfunction may be caused.)
- ECONAVI sensor is for indoor use only.
- Do not damage or scratch the surface of the sensor section.
  (Otherwise the sensor may become unable to detect properly.)
- Do not apply pressure to the sensor section.
  (The sensor section may get damaged.)
- Do not clean with benzine, paint thinner, or chemically treated wipes.
  (Discoloration or deformation may occur.)
  - If the sensor section is dirty, gently wipe it with a dry cloth.
  - If the sensor is very dirty, soak a cloth in water-diluted neutral detergent, wring it thoroughly, and use it to wipe the sensor clean. After that, gently wipe it with a dry cloth.

Overview of the ECONAVI function

The ECONAVI sensor detects human activity and conserves energy based on the activity level.

High activity 	• Cooling:Target temperature is the same as the set temperature. • Heating: Target temperature is 1 °C lower than the set temperature.
Low activity 	• Cooling: Target temperature is 1 °C higher than the set temperature. • Heating: Target temperature is the same as the set temperature.
No one in the room 	**No one in the room for 20 minutes** • Cooling: Target temperature is 2 °C higher than the set temperature. • Heating: Target temperature is 2 °C lower than the set temperature. **No one in the room for 3 hours** • Cooling: Cooling will stop and the unit will be in fan only mode. • Heating: Heating will stop and the unit will be in fan only mode.
* When the sensor detects movements in the room which have been empty, it will resume operation to match with the activity level.	

⚠ WARNING

- Do not use the ECONAVI function in areas only with infants, babies, or people with disabilities. In situations with limited or no human movement, the sensor may consider there to be no human activity and turn off the unit.

Notes

- Even when target temperature is changed through the ECONAVI function, the set temperature shown in the remote controller does not change.
- Even when Cooling/Heating is changed to Fan through the ECONAVI function, the operation mode shown in the remote controller will still be Cooling/Heating.
- It is possible to change the time needed to start changing operation mode (standard setting : 3 hours) after the room has been empty. If you need to do so, please contact the dealer.
- It is possible to choose from the following options for the operation to be performed after a lapse of 3 hours since the room has been empty.
  - Operates in the Fan mode only.
  - Stops and resumes operations after human movements are detected.
  - Stops and will not resume operations even after human movements are detected.
  - Continues to operate in the current mode.

  If you need to do so, please contact the dealer.
- Please use the indoor unit and remote controller designed for the ECONAVI function. Using a remote controller for the ECONAVI function allows the user to turn the ECONAVI function ON/OFF.

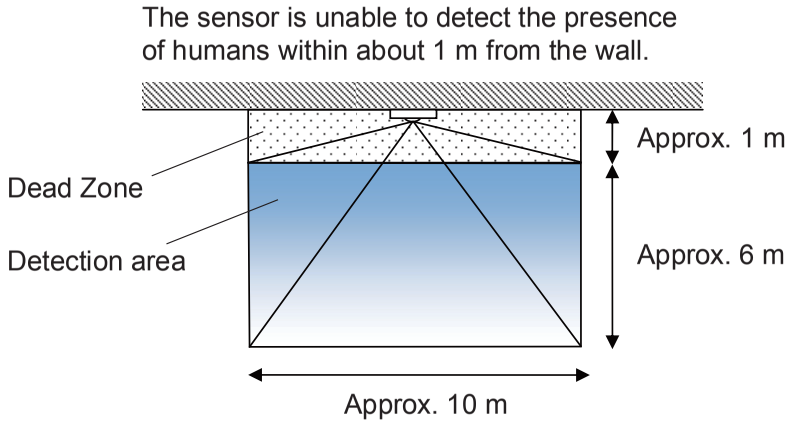
Parts Name

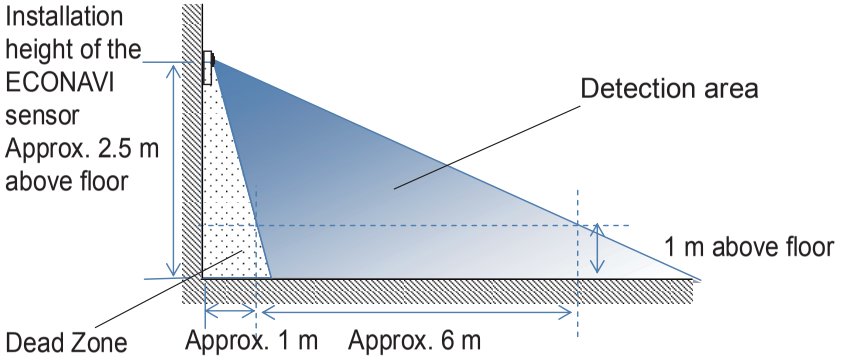


Notes

- The sensor designed to detect heat transfer detects not only human bodies but also moving objects that generates heat. (For example, moving animals, an infrared heater's oscillating operation, etc.)
- The sensor may not be able to detect people who move slightly.
- People who have a small exposed-area of the skin may cause a decrease in the sensitivity of the sensor.
- If the ambient temperature exceeds 30 °C, the sensor may not be able to detect people.
- When more than one indoor unit are operating in large room/area, the effect of energy saving may be affected by room conditions.
- If the sensor section is damaged or covered by oil, dust or soot, etc., it may not be able to detect people.

Guideline for detection area





Notes

- The further away people are from the sensor, the higher the magnitude of movement is required for the detection of people.
- The sensor is unable to detect human motion in the dead zone.

On/off setting Procedure of ECONAVI function

Using the High-spec Wired Remote Controller (CZ-RTC3), you can switch the ECONAVI function ON/OFF.

Notes

- If you are using a remote controller other than CZ-RTC3, refer to the appropriate Operating Instructions for instructions. If the Operating Instructions does not contain instructions for operating the ECONAVI function, your remote controller may not support ECONAVI.

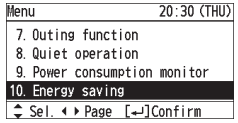
1. Display the [Menu] screen.



CZ-RTC3

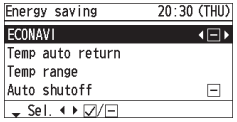
2. Select [10. Energy saving].

▲ ▼ → ↵



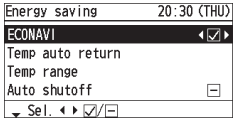
3. Select [ECONAVI].

▲ ▼



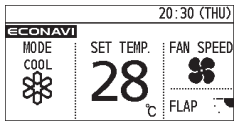
4. Switch ECONAVI to ON ☑ or ⊟ OFF.

◀ ▶



5. Finish the setup.

(Press 2 times to finish.)



*When ECONAVI is enabled
ECONAVI will appear.
When the indoor unit is stopped
ECONAVI will disappear.

⚠ WARNING

- Please do not turn the ECONAVI function ON in areas only with infants, babies, or people with disabilities. In situations with limited or no human motion, the sensor may consider there to be no human activity and turn off the unit.

Notes

- Turn the ECONAVI function OFF if:
  - You want to maintain the room temperature at a set temperature.
  - You want to keep air conditioner running while nobody is in a room.
  - The sensor fails.
  - Only infants, babies, or people only with disabilities are in the room.

Troubleshooting

Problem	Cause	Solution
Sensor is unable to detect human movements.	There are objects in front of the sensor.	Move the objects to an area which will not impede the sensor detection.
	There is too small a difference between the room temperature and the body temperature.	Cool down the room temperature.
	The sensor is unable to detect activity within 1 m from the wall.	
	There is not enough exposed skin for the sensor to detect human activity.	
	The sensor is dirty.	Gently wipe the sensor clean with a dry cloth.
The remote controller screen displays a flashing ⚠ **ECONAVI**.	Faulty sensor or incorrect installation.	Turn OFF the ECONAVI function with the remote controller and contact the retailer or point of purchase with the Model No. and problem.
The remote controller screen does not display the ECONAVI.	The indoor unit has stopped.	Turn on the indoor unit.
	The ECONAVI function is set to OFF.	Turn the ECONAVI function ON with the remote controller.
	The remote controller may not support the ECONAVI function.	If its Operating Instructions does not contain instructions on how to set up the ECONAVI function, the remote controller does not support it. Please contact the dealer.
	The indoor unit may not support the ECONAVI function.	If you turn the ECONAVI function ON with the remote control but there is no change, the indoor unit does not support the ECONAVI function. Please contact the dealer.

Specifications

Model No.	CZ-CENSC1
Dimensions	(H) 120 mm × (W) 70 mm × (D) 32 mm
Weight	75 g
Temperature/Humidity range	0 °C to 40 °C/20% to 80% (No condensation) * Indoor use only.
Power source	DC16V (Supplied from indoor unit)
Connections	1 sensor per indoor group

Информация для пользователей в РФ

Изготовитель:

Панасоник Корпорэйшн

1006 Кадома, Кадома Сити, Осака, Япония

Импортёр на территории РФ:

ООО «Панасоник Рус», РФ, 115191, г. Москва, ул. Большая Тульская, д. 11, 3 этаж.

тел. 8-800-200-21-00

Інформація для користувачів в Україні

Декларація про Відповідність
Вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні
(затвердженого Постановою №1057 Кабінету Міністрів України)

Виріб відповідає вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (ТР ОВНР).

Вміст небезпечних речовин у випадках, не обумовлених в Додатку №2 ТР ОВНР:

1. свинець(Pb) – не перевищує 0,1wt % ваги речовини або в концентрації до 1000 частин на мільйон;
2. кадмій (Cd) – не перевищує 0,01wt % ваги речовини або в концентрації до 100 частин на мільйон;
3. ртуть(Hg) – не перевищує 0,1wt % ваги речовини або в концентрації до 1000 частин на мільйон;
4. шестивалентний хром (Cr6+) – не перевищує 0,1wt % ваги речовини або в концентрації до 1000 частин на мільйон;
5. полібромбіфеноли (PBB) – не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон;
6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1wt % ваги речовини або в концентрації до 1000 частин на мільйон.

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Безкоштовні дзвінки зі стаціонарних телефонів в межах України : 0-800-309-880

Уповноважений Представник в Україні

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провулок Охтирський, будинок 7,

місто Київ, 03022, Україна

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Panasonic ақпарат орталығы

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Организация, уполномоченная на принятие претензий по качеству продукции на территории Республики Казахстан:

Представительство АО «Панасоник Маркетинг СНГ», Казахстан, 050057 г. Алматы, ул. Тимирязева 42, здание 30.

Информационный центр Panasonic в Республике Казахстан:

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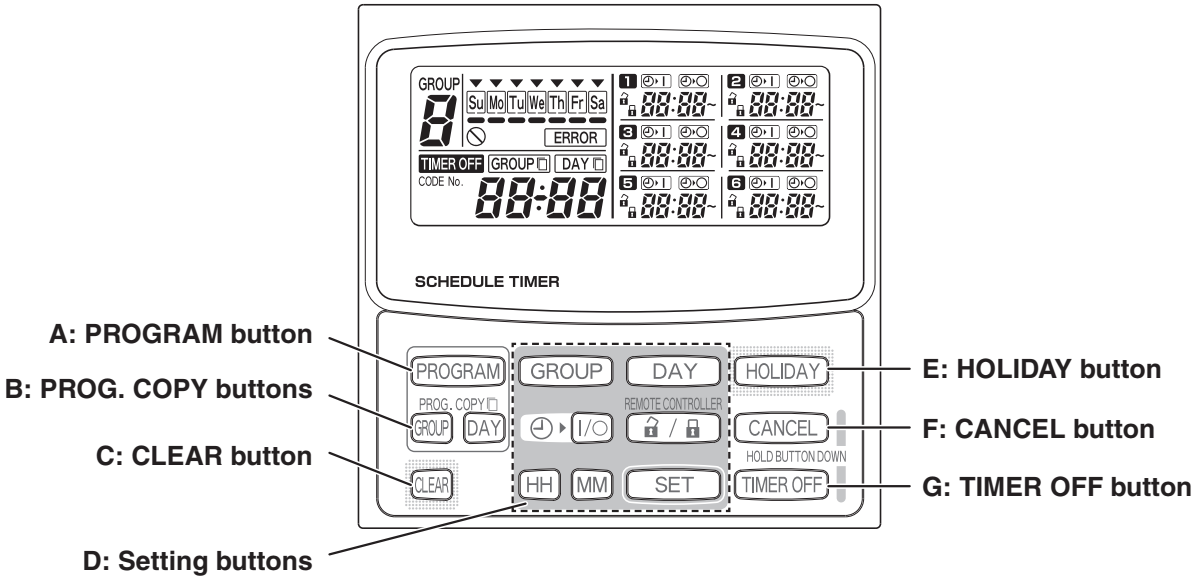
T0915-2

4. Central Controller

4-1. Schedule Timer / CZ-ESWC2

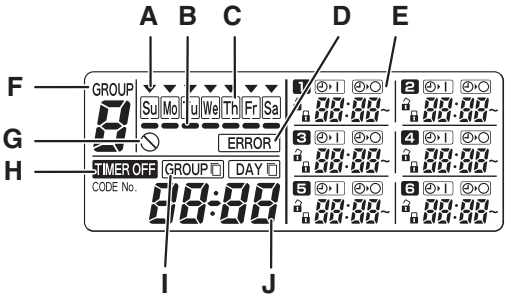
■ Operation Buttons



A: PROGRAM button	Use to start setting programs and to enter program settings.
B: PROG. COPY buttons	Use to copy programs to groups or specific days in a schedule. (Refer to page 3-4-9)
C: CLEAR button	Press to clear the settings of the currently displayed program. • The current program is not cleared unless the PROGRAM button is pressed after pressing the CLEAR button.
D: Setting buttons	Use to make program settings and to set the present time.
GROUP	Press to set groups for programmed operation.
DAY	Press to set today's day and days of programmed operation.
HH MM	Press to set the present time and times used in programmed operation.
⏲ I/○	Use to start/stop indoor units via the timer.
REMOTE CONTROLLER	Use to enable/disable remote controller operation via the timer.
SET	Use to set programmed operation trigger time. • Program settings are not entered unless the PROGRAM button is pressed at the end of setting operations.
E: HOLIDAY button	Press to set and cancel holidays during a scheduled week of operation.
F: CANCEL button	Press to cancel the current program setting operation, copying operation or holiday setting operation. When the CANCEL button is held down for 2 seconds, the current setting operation or copying operation is canceled and the normal display returns.
G: TIMER OFF button	Press to turn the timer OFF when timer operation will not be used for a long period of time. When this button is held down for 2 seconds, TIMER OFF appears on the display. Programs cannot be run until the button is again held down for 2 seconds.

- Some of the above features are disabled when the unit is installed. If the button of a disabled feature is pressed, ⃠ appears on the display. For more information, contact your dealer.

■ **Display**



A: Today's day of the week (▼)	Indicates today's day of the week.
B: Program schedule indication (▬)	Appears under days that are scheduled for program operation.
C: Holiday schedule indication (▯)	Appears around scheduled holidays. (Refer to page 3-4-13)
D: ERROR indication	Displayed when a mistake is made during timer setting.
E: Timer program	Displays set timer programs. Also, indicates the copy source/destination during group program copying.
F: Group No.	Up to 8 groups can be selected and displayed.
G: ⃠ (Disabled Feature) indication	Displayed if the selected feature was disabled during installation.
H: TIMER OFF indication	Displayed when the timer has been turned OFF.
I: Copy mode indication	Displayed when copying a program into a group or day of the schedule.
J: Present time	Displays the present time on a 24-hour clock. Also, displays settings in the various setting modes.

Using the Schedule Timer

To use the schedule timer, follow the steps below.

STEP 1 **Turn ON power to the air conditioner.**

- Turn ON power to the air conditioner connected to the schedule timer. The schedule timer performs initial communications with the indoor units, during which 5C Rn blinks on the display.

NOTE

Do not turn off the power mains in heating and cooling seasons. (This keeps the crankcase heater electricity turned on, which protects the compressor at startup.) If the air conditioner has been OFF for a long period of time, turn on power 5 hours before starting operation.

STEP 2 **Make the initial settings of the schedule timer.**

- Set the present time and today's day of the week. (Refer to page 3-4-3)

STEP 3 **Set up programs of the schedule timer.**

- Make settings for programmed operation. (Refer to page 3-4-5)

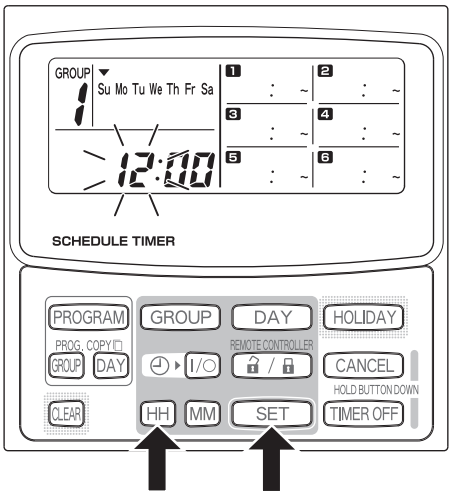
4. Central Controller

■ Setting the Present Time

Set the present time. (Example: When the present time is 12:45)

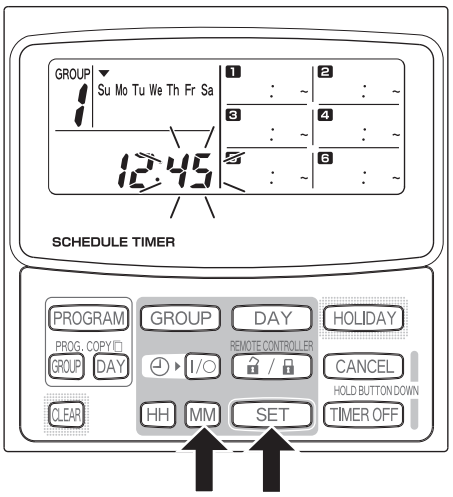
STEP 1 **Hold down the SET button and press the HH button to set the hour.**

- The hour increases one hour at a time with each single press of the HH button while the SET button is held down.
- The hour scrolls rapidly when both the SET button and HH button are held down. (Example: To set 12:00, release the HH button when “12” is displayed.)
- When the SET button is released, the hour is set and the indication changes from blinking to lighting.



STEP 2 **Hold down the SET button and press the MM button to set the minutes.**

- The minutes increase one minute at a time with each single press of the MM button while the SET button is held down.
- The minutes scroll rapidly when both the SET button and MM button are held down. (Example: To set 00:45, release the MM button when “45” is displayed.)
- When the SET button is released, the minutes are set and the indication changes from blinking to lighting.



NOTE

- **Pressing just the HH or MM button does not change the time.**

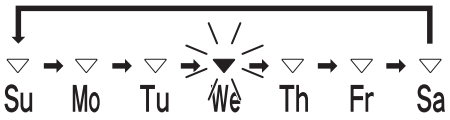
4. Central Controller

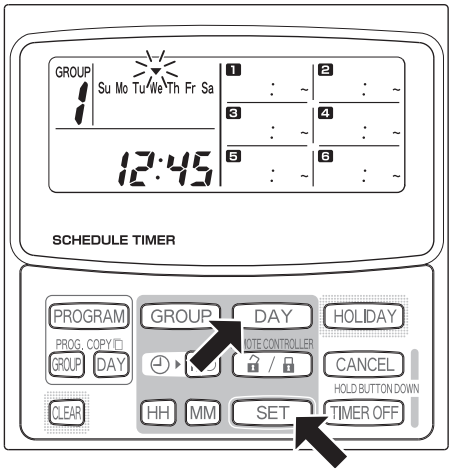
■ Setting Today's Day of the Week

Set today's day of the week. (Example: When today is Wednesday)

STEP 1 **Hold down the SET button and press the DAY button to set today's day of the week.**

- ▼ blinks and moves one day at a time across the days of the week with each single press of the DAY button while the SET button is held down.
- When the SET button is released, the day of the week is set and the ▼ changes from blinking to lighting.





NOTE

- **Pressing just the DAY button does not change the day of the week.**

3

4. Central Controller

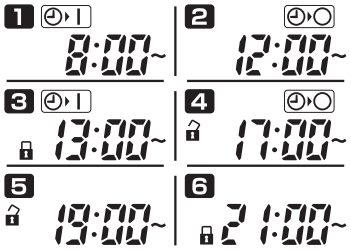
■ Setting Up Programmed Operations

Correctly set the present time and today's day of the week.
Unless both are correctly set, the programs will not run as expected.

- Up to 6 programmed operations can be set per day for each group and day of the week.
- A combination of the below operations can be set for each timer program.
  – Air conditioner starting/stopping
  – Remote controller operation enable/disable *1
- To change the settings of an existing program, use the same below procedure used to set up a new program.

*1 The remote controller operation enable/disable setting is disabled depending on installation conditions. If so, ⃠ appears on the display when the [🔓/🔒] button is pressed.
For more information, contact your dealer.

Example settings

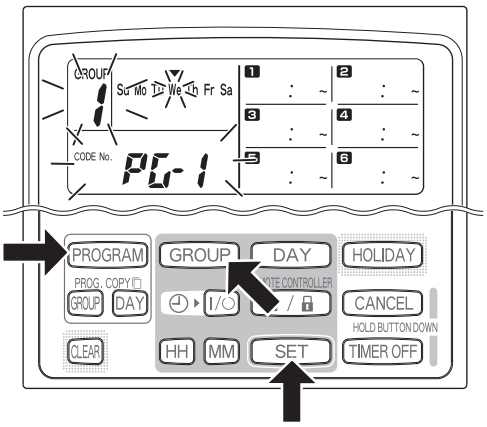


STEP 1 **Press the PROGRAM button to select a group.**

- When the PROGRAM button is pressed, the group No. and today's day of the week start blinking and the present time indication changes to a blinking "PG-1".
- Press the GROUP button to select a group for programmed operation and then press the SET button.

NOTE

- Group selection is disabled depending on installation conditions. If so, proceed to the next step.
- The number of selectable groups is set during installation.

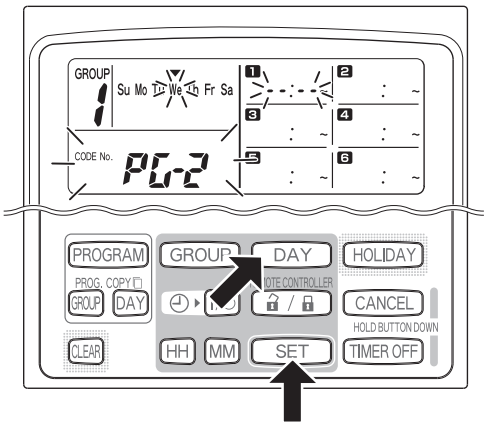


STEP 2 **Press the DAY button and select a day of the week for programmed operation.**

- When the SET button is pressed, the program schedule marker (▬) changes from blinking to lighting and, at the same time, the time set in program 1 starts blinking. Also, the present time indication changes to a blinking "PG-2".

NOTE

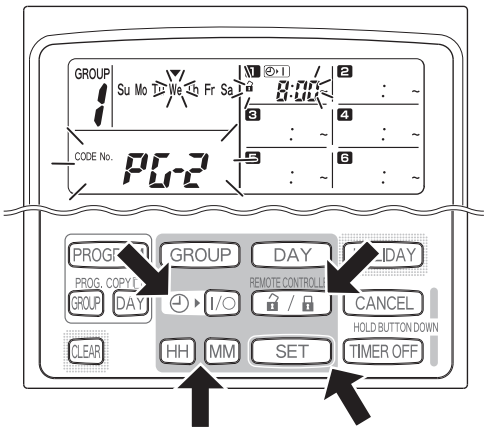
- The currently selected day of the week blinks slowly at this time.



3

STEP 3 **Set up the program and press the SET button.**

- Select timer operation with the ⏲▸I/○ (timer ON/OFF) button and 🔓/🔒 (remote controller operation enable/disable) button. Then, set the trigger time with the HH and MM buttons, and press the SET button.
- When the SET button is pressed, the time set in program **1** changes from blinking to lighting and, at the same time, the time set in program **2** starts blinking.

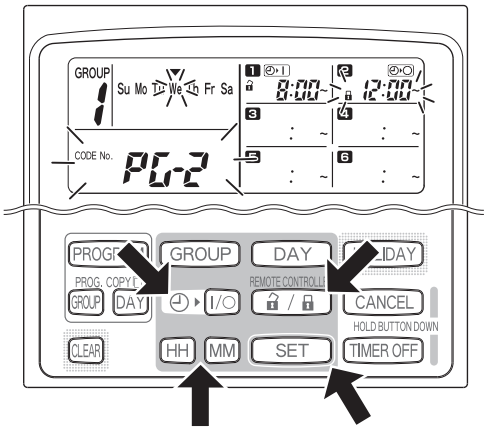


NOTE

- Every time the ⏲▸I/○ button is pressed, the timer indication changes in the order of ⏲▸I (ON) → ⏲▸○ (OFF) → no indication.
- Every time the 🔓/🔒 button is pressed, the remote controller indication changes in the order of 🔓 (enabled) → 🔒 (disabled) → no indication.
- The remote control operation enable/disable setting is disabled depending on installation conditions. In this case, only timer ON/OFF can be set.

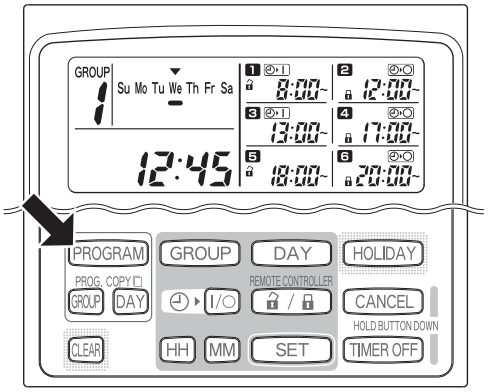
STEP 4 **Set up programs 2 ~ 6 in the same way.**

- When the SET button is pressed, settings are automatically arranged in the order of earliest time first.
- If the SET button is pressed without any new settings being made in the program, program **1** starts blinking again and settings can be changed.
- Similarly, if the SET button is pressed after setting up program **6**, program **1** starts blinking again.



STEP 5 **Press the PROGRAM button.**

- Program settings are entered and the normal display returns.



STEP 6 **Set up programmed operation for other groups and days of the week in the same way.**
Programs that have already been set up can be copied into other groups and days of the week. (Refer to page 3-4-9)

NOTE

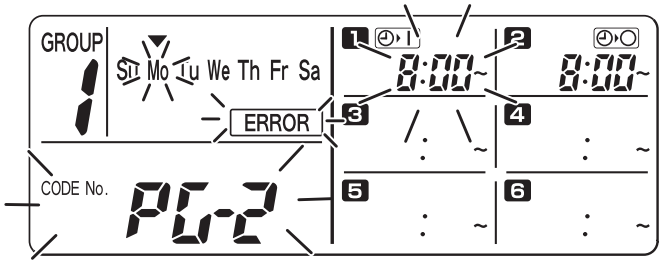
- **A "0:00" time setting is interpreted to mean 12:00 midnight.**
- **To cancel program settings during program setup (while "PG-1" or "PG-2"is blinking on the display), hold down the CANCEL button for more than 2 seconds. The normal display returns.**
- If settings are canceled without pressing the PROGRAM button, settings are not entered.

4. Central Controller

■ Setting Errors

If time is set as shown below while setting up a program, “ERROR” is displayed (the ERROR indication blinks). Therefore, correct the time setting.

If Program Times Are the Same



STEP 1 Every time the SET button is pressed, the setting mode switches between programmed operations of the same time setting (1 and 2 in the above example), therefore select the time setting to correct.

STEP 2 Change the time setting with the HH and MM buttons so that the times are no longer the same.

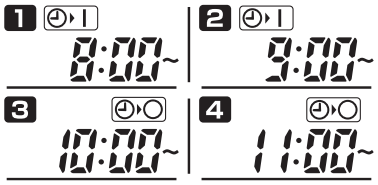
STEP 3 Press the SET button and check “ERROR” is not displayed.

STEP 4 Press the PROGRAM button to end the setting mode.

Example Time Settings That Do Not Cause Errors

The below time settings do not generate an error.

1) When ON and OFF times are staggered



2) When OFF time is earlier than ON time



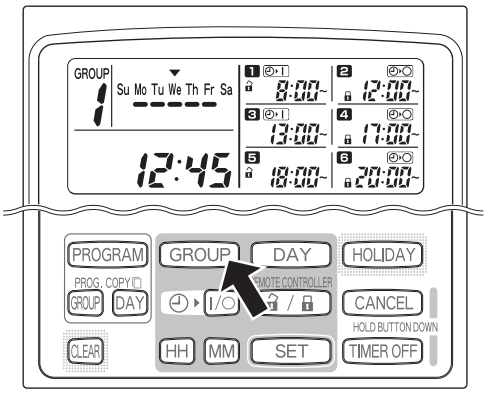
3

4. Central Controller

■ How to Check Program Times

You can check the programmed times for each group and day of the week.

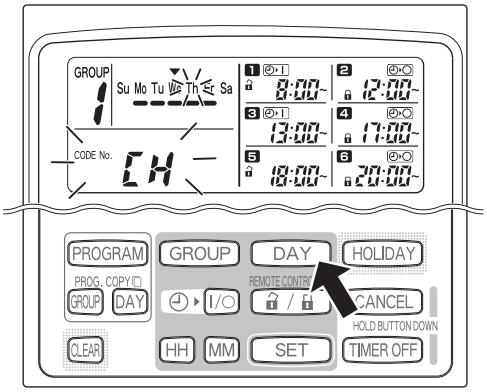
STEP 1 **Press the GROUP button and select a group whose time you want to check.**



NOTE

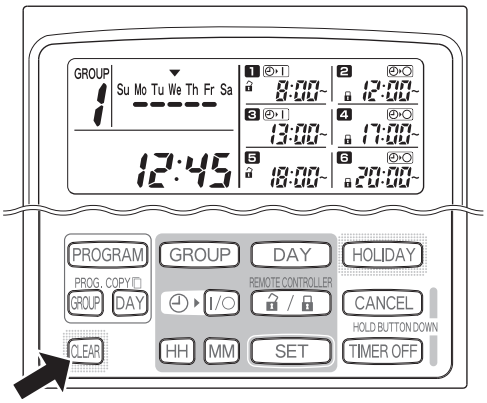
- Group selection is disabled depending on installation conditions. If so, proceed to the next step.

STEP 2 **Press the DAY button.**



- When the DAY button is pressed the first time, tomorrow's day of the week starts blinking and the program settings for tomorrow are displayed.
- Every time the DAY button is pressed, the program settings change in order of the days of the week.
- Pressing the GROUP button displays the program settings of another group on that same day.

STEP 3 **End checking.**



- Press the CLEAR button. The normal display returns.

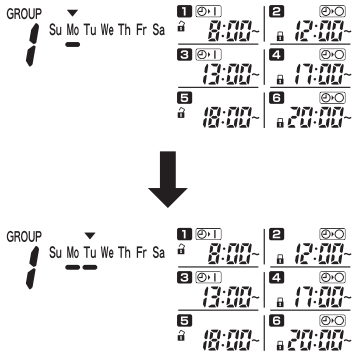
NOTE

- Holding down the CANCEL button for more than 2 seconds also returns the normal display.

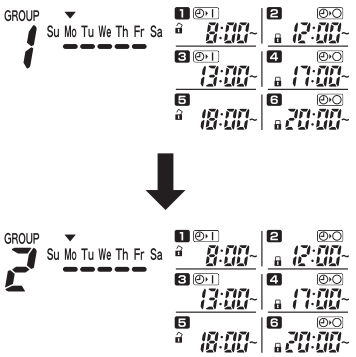
■ How to Copy Program Times

You can copy the already set program of one day into another day (Day Program Copying), as well as copy the entire week programmed for one group into another group (Group Program Copying).

Example of Day Program Copying (Copying Monday's program into Tuesday)



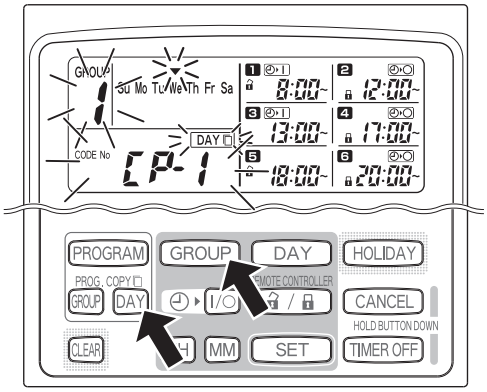
Example of Group Program Copying (Copying group No. 1's program into group No. 2)



How to Copy Day Programs

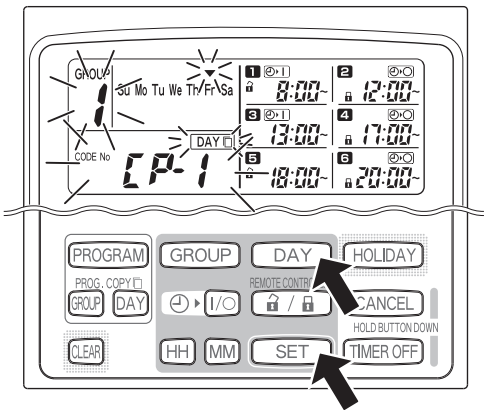
STEP 1 **Press the PROG. COPY DAY button.**

- The group No. and the ▼ over today's day start blinking and "CP-1" starts blinking in the present time display area. In this state, select a group in which to copy day programs, using the GROUP button.



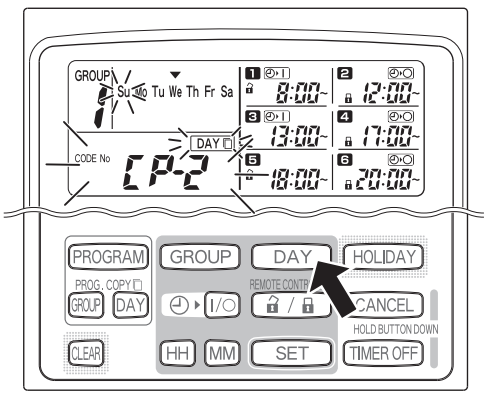
STEP 2 **Select a source day program to copy.**

- Every time the DAY button is pressed, the ▼ moves across the days of the week display, therefore select a day of the week that will serve as the copy source.
- Once having selected the copy source day, press the SET button to set it. The display changes to key you to select a copy destination day.



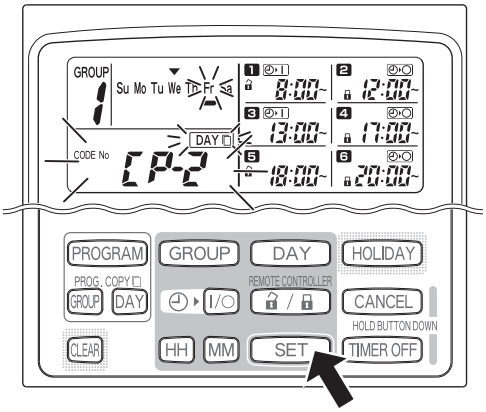
STEP 3 **Select a copy destination day.**

- When the schedule timer is ready for you to select a copy destination day, "CP-2" starts blinking in the present time display area, while the selected copy source day blinks in the days of the week. Therefore, select a day of the week as the copy destination, using the DAY button.



STEP 4 **Press the SET button to copy.**

- Press the SET button and the program schedule marker (▬) will be displayed.

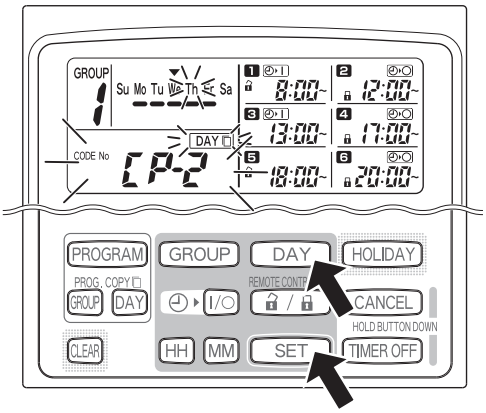


STEP 5 **Select other copy destination days if desired.**

- You can copy the selected source day program into other days by repeatedly pressing the DAY button to select a day of the week followed by the SET button to set it.

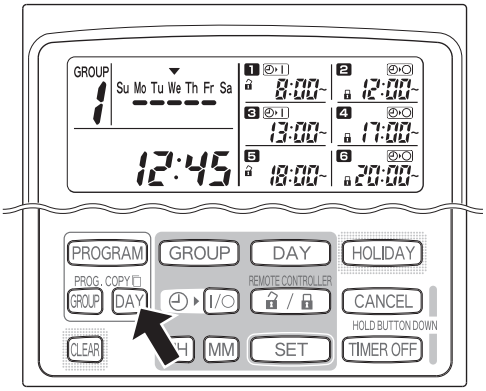
NOTE

- Pressing the CLEAR button extinguishes the program schedule marker (▬) and cancels the copy operation.



STEP 6 **Press the PROG. COPY DAY button to enter the copied program in the selected days.**

• The normal display returns.



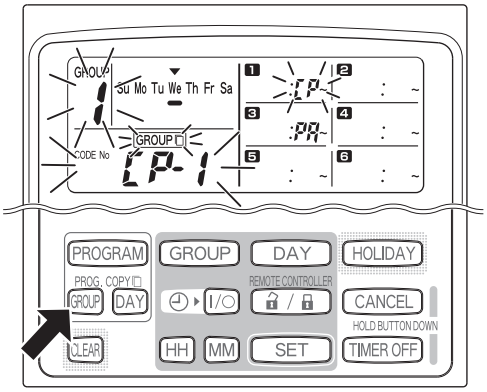
NOTE

- **If a program already exists in the copy destination day, the newly copied program overwrites the existing program.**
- **If you accidentally copy over a program in the day program copy mode, holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROG. COPY DAY button in STEP 1. (All changes and copy operations made up until that point are cleared.)**

■ How to Copy Group Programs

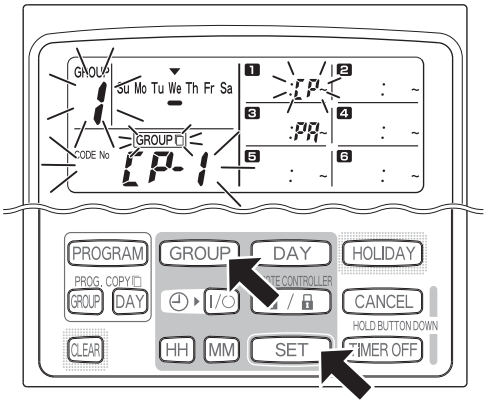
STEP 1 **Press the PROG. COPY GROUP button.**

- "CP-1" starts blinking in the present time display area and "CP" (copy) starts blinking in the program **1** area to indicate the copy source.



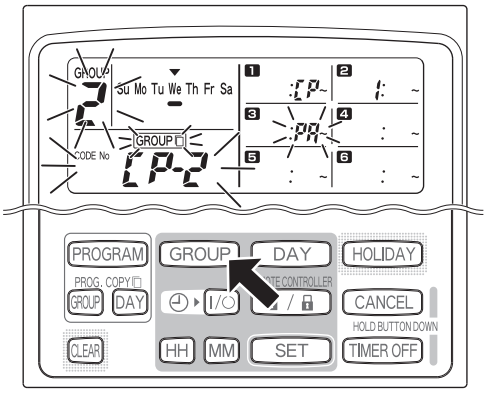
STEP 2 **Select a source group program to copy.**

- Select a copy source group using the GROUP button.
- Once having selected the copy source group, press the SET button to set it. The display changes to key you to select a copy destination group.



STEP 3 **Select a copy destination group.**

- After pressing the SET button, "CP-2" starts blinking in the present time display area, the copy source group No. set appears in the program **2** area, and "PA" (paste) starts blinking in the program **3** area to indicate the copy destination.
- Select a copy destination group using the GROUP button.

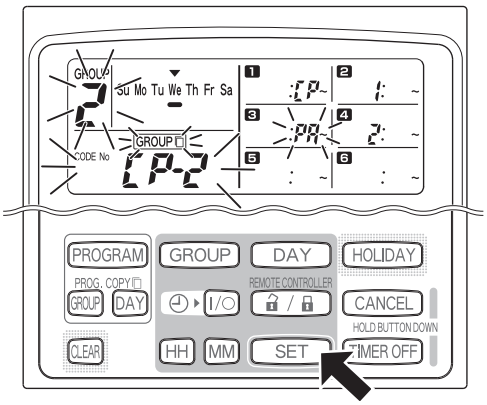


STEP 4 **Enter the selected copy destination group.**

- When the SET button is pressed, the number of the copy destination group appears in the program No. area.

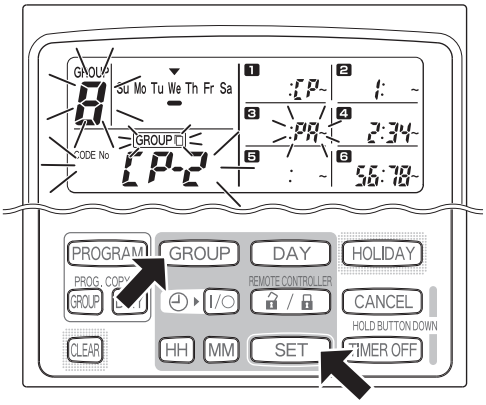
NOTE

- If a group from numbers 1 to 4 was selected as the copy destination group, that number appears in the program **4** area. If a group from numbers 5 to 8 was selected, that number appears in the program **6** area.



STEP 5 **Select other copy destination groups if desired.**

- You can copy the selected source group programs into other groups by repeatedly pressing the GROUP button to select a group followed by the SET button to set it.

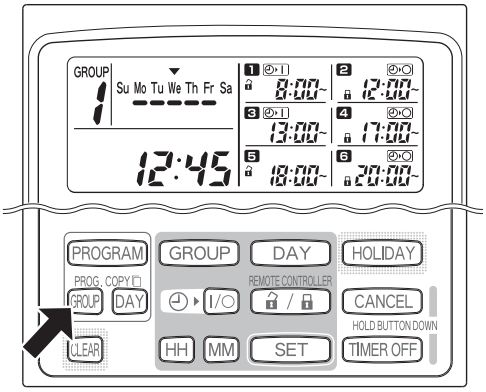


NOTE

- If a group from numbers 1 to 4 was selected as the copy destination group, that number appears in the program 4 area. If a group from numbers 5 to 8 was selected, that number appears in the program 6 area.

STEP 6 **Press the PROG. COPY GROUP button to enter the copied programs in the selected groups.**

• The normal display returns.



NOTE

- **If a program already exists in the copy destination group, the newly copied program overwrites the existing program.**
- **If you accidentally copy over a program in the group program copy mode, holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROG. COPY GROUP button in STEP 1. (All changes and copy operations made up until that point are cleared.)**

3

■ How to Set Holidays in a Scheduled Week of Operation

Operations programmed for a specific day during the week can be temporarily disabled by setting that day as a holiday.

- When the set holiday passes, the holiday setting is canceled and operation is resumed as programmed the following week.
- Holidays can be selected for the week starting from today's day. If today is selected as a holiday, the holiday setting is canceled from the next programmed operation. (Depending on the program, if the program is currently running, the program may not stop.)

Example Setting



Today is Thursday and Friday is set as a holiday.

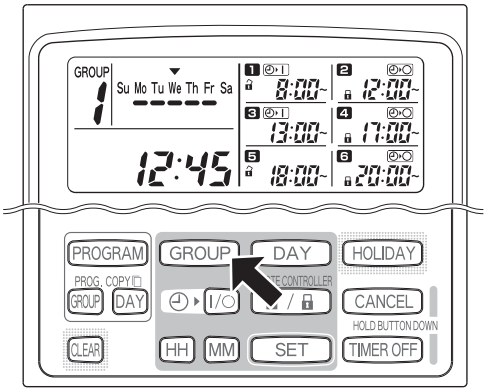
When Friday comes, the program set for that day does not run.

When Saturday comes, Friday's holiday setting is canceled.

STEP 1 **Press the GROUP button to select a group to go on holiday.**

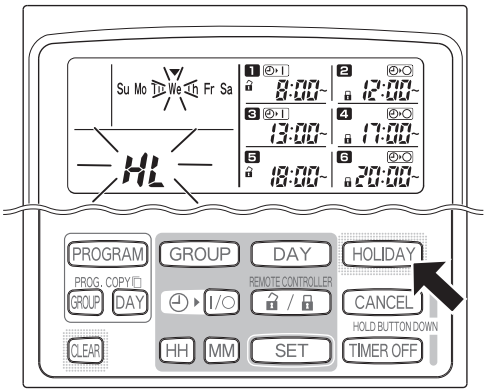
NOTE

- Depending on installation conditions, group selection is disabled or set so that all groups are automatically selected for the holiday feature. If so, proceed to the next step.



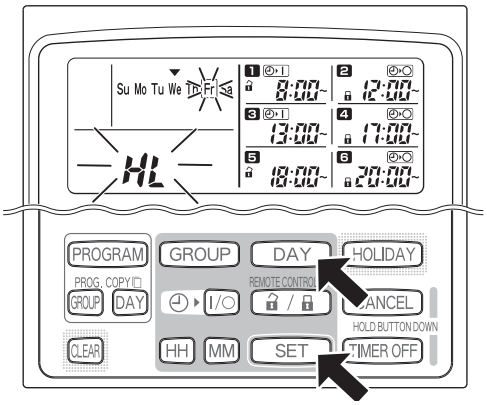
STEP 2 **Press the HOLIDAY button.**

- "HL" starts blinking in the present time display area and today's day of the week starts blinking.



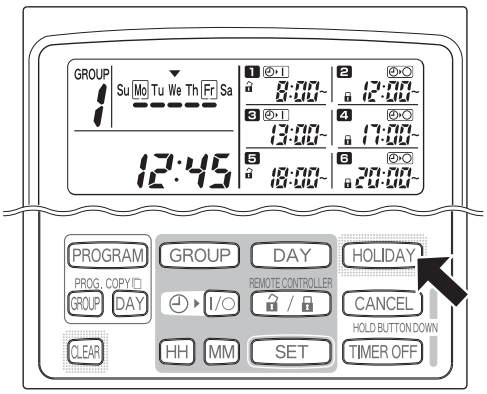
STEP 3 **Select a day as the holiday using the DAY button, and press the SET button.**

- A "_" appears over the selected holiday.
- To select other holidays, select a day using the DAY button and set it with the SET button.
- If you made a mistake or want to cancel a holiday, press the CLEAR button.



STEP 4 **Press the HOLIDAY button to enter the holiday.**

- The normal display returns.



■ How to Disable the Timer Operation

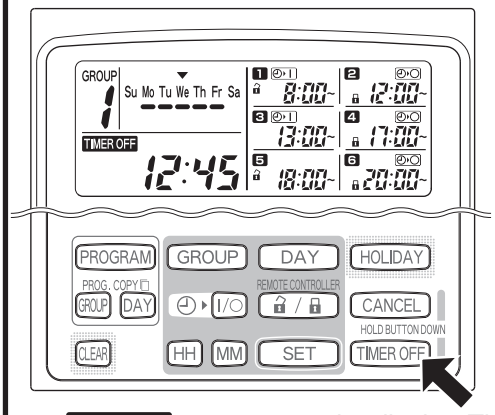
To halt programmed operation for one week or more, you can disable all timer programs.

- Once the timer has been disabled, programmed operations are not run until the below procedure is performed.

NOTE

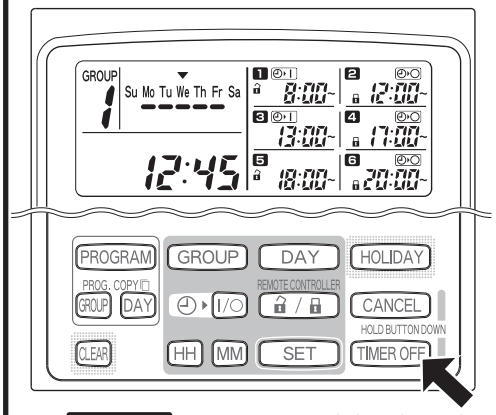
- During installation, the remote controller may be set to disable the timer for individual groups. In this state, the timer is disabled only for the selected group, therefore press the GROUP button to confirm which group is selected.

Hold down the TIMER OFF button for more than 2 seconds



- TIMER OFF appears on the display. The timer is disabled from the next scheduled program.

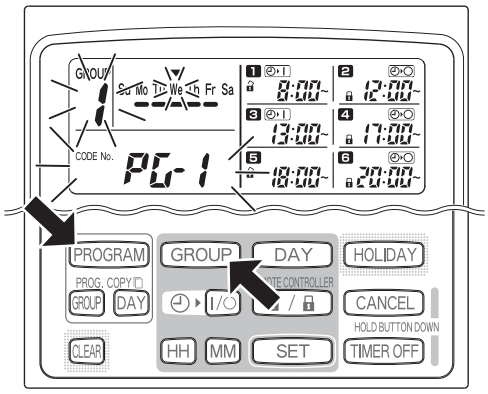
To turn the timer back ON, hold down the TIMER OFF button for more than 2 seconds



- TIMER OFF goes out and the timer is enabled from the next scheduled program.

■ How to Clear Programs

Press the PROGRAM button.

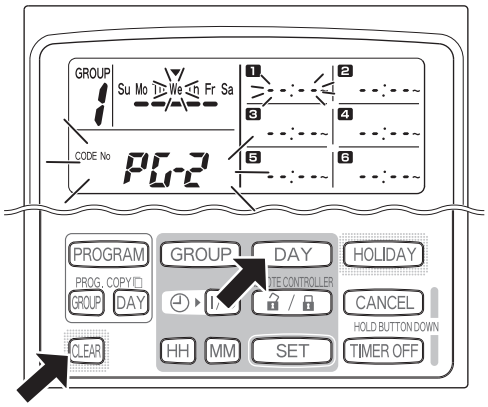


- When the PROGRAM button is pressed, the group No. and the present day of the week start blinking and the present time indication changes to a blinking “PG-1”.
- Press the GROUP button to select a group to clear.

NOTE

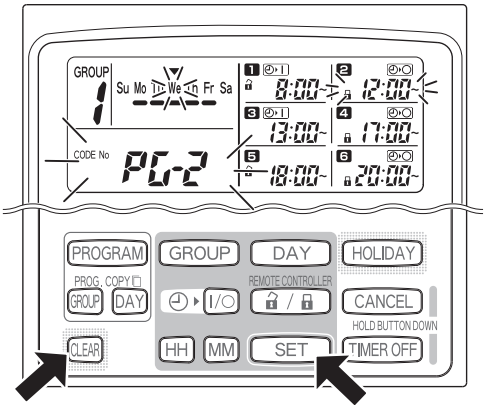
- Group selection may be disabled during installation. If so, proceed to the next step.
- Holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROGRAM button. (All operations made up until that point are cleared.)

To cancel specific days



- Select a day to cancel using the DAY button and press the CLEAR button. All settings in programmed operations 1 through 6 are cleared. The display appears as shown above.
- Press the PROGRAM button to enter the clear operation. The normal display returns without the program schedule marker (▬) underneath the days of the week.

To cancel individual programs on specific days



- Select a day and press the SET button. Programmed operations 1 through 6 start blinking in rotation, therefore press the CLEAR button when the programmed operation to clear starts blinking. (The remaining programmed operations are automatically arranged in the order of earliest time first.)
- Press the PROGRAM button to enter the clear operation. The normal display returns.

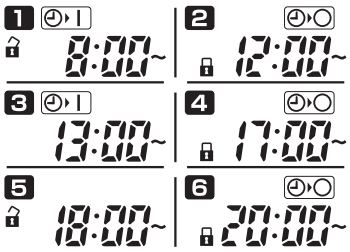
Example:
Display after clearing programmed operation 2 above



■ Schedule Timer and Air Conditioner Operation

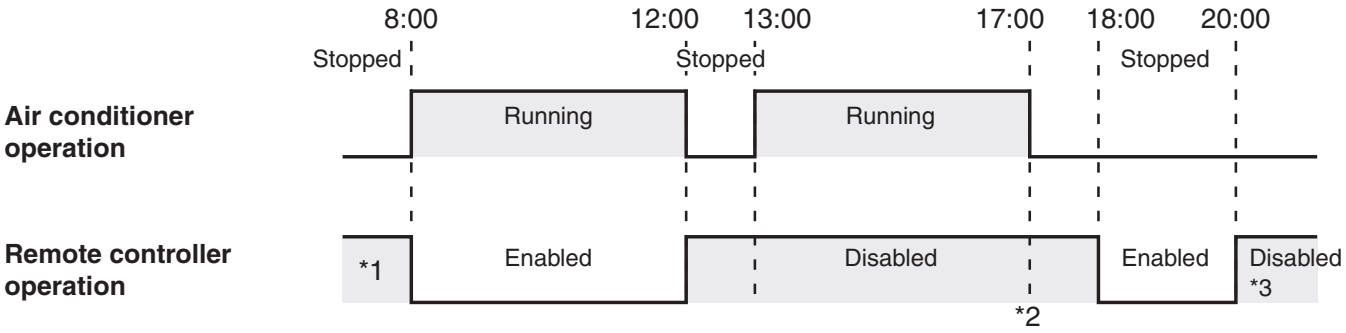
Air conditioners operate either according to operations programmed from the schedule timer (starting/stopping and remote control operation enable/disable) or according to a connected remote controller or system controller.

Schedule timer settings (Example)



Operation without system controller operation

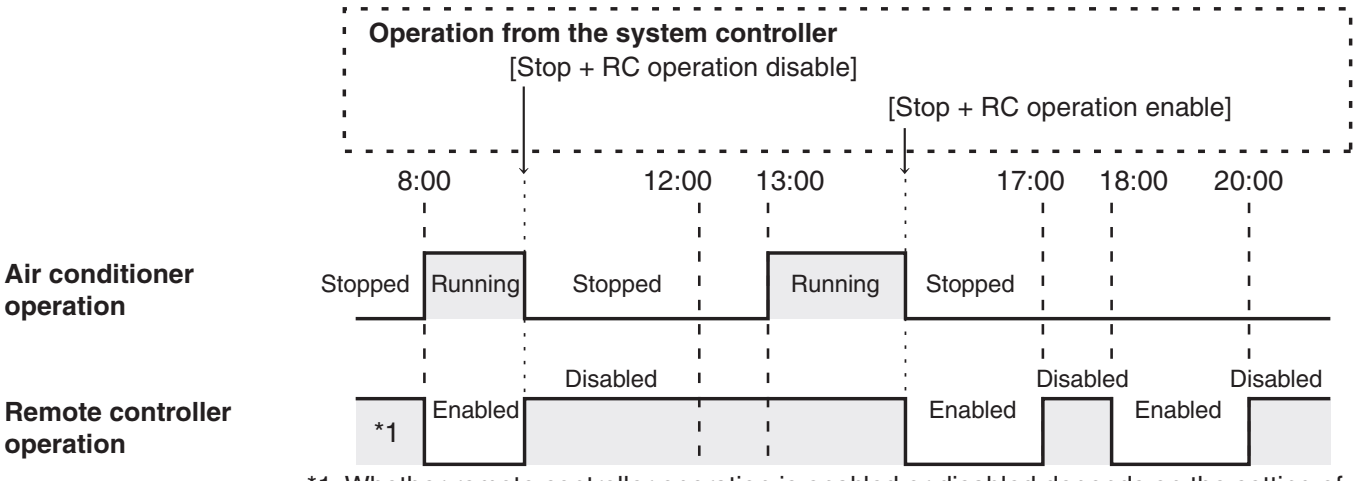
- If remote controller operation is enabled, the air conditioner can be started/stopped from the remote controller. (The air conditioner responds to the most recently pressed button.)



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.
*2 Since remote controller operation is disabled, operation remains disabled.
*3 The remote controller remains disabled the next day and thereafter until it is enabled in the remote controller operation enable/disable setting.

Operation with system controller operation

- If remote controller operation is enabled, the air conditioner can be started/stopped from the remote controller. (The air conditioner responds to the most recently pressed button.)
- The remote controller operation enable/disable set from the system controller (Centralized control 1 to 4) is canceled according to programmed operations.



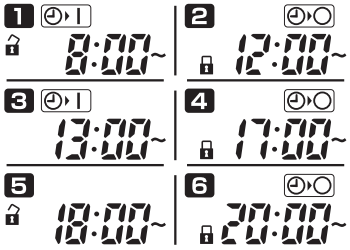
*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

■ Power Outages

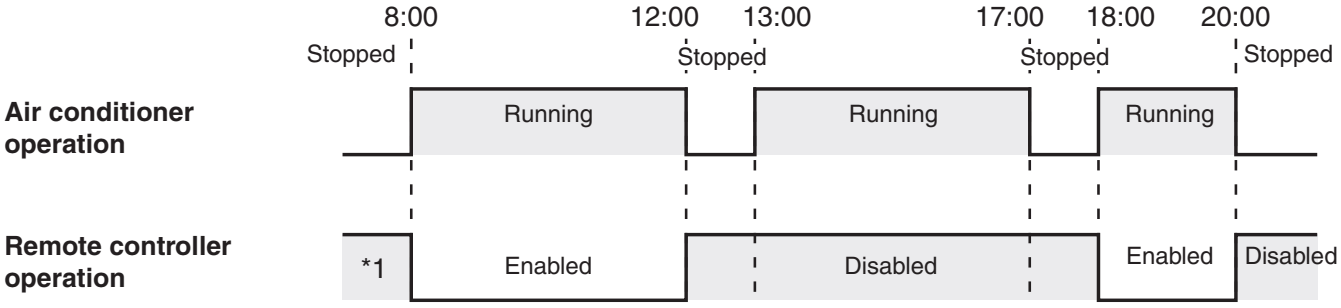
If the air conditioner is running when power is lost, the air conditioner remains OFF when power is restored. Also, if remote controller operation was disabled when power was lost, it is enabled for a few minutes when power is restored.

- Programmed operations scheduled for times that come after power is restored run as usual.
- Program settings are retained in the non-volatile memory of the schedule timer, therefore they are not cleared in the event of a power outage. Also, the present time and today's day of the week are retained for a maximum of 100 hours by the internal battery.

Schedule timer settings (Example)

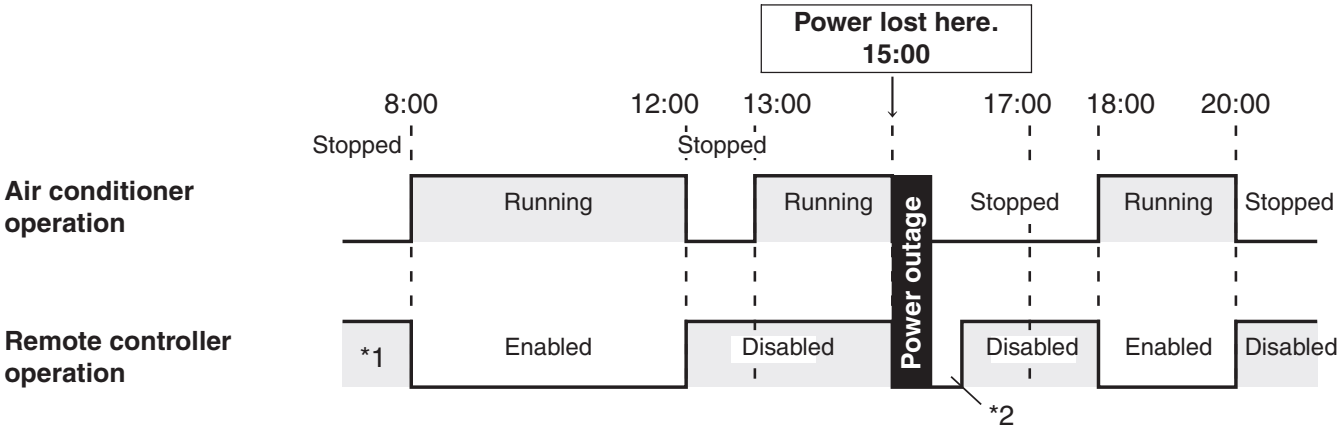


Operation when power is not lost



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

Operation when power is lost at 15:00 and subsequently restored



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

***2 Remote controller operation is enabled for a few minutes after power is restored.**

4. Central Controller

■ Troubleshooting

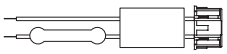
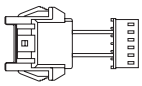
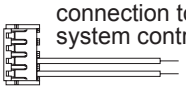
Before requesting servicing, check the following.

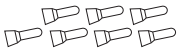
	Trouble	Cause/Remedy
Check before requesting servicing	SC An blinks on the display.	The schedule timer is performing initial communications with connected indoor units. Wait for communications to finish.
	Air conditioners do not operate as scheduled when the set time comes.	The timer has been disabled. (Refer to page 3-4-14) A holiday has been scheduled. (Refer to page 3-4-13)
	Air conditioners can be started and stopped from the remote controller even though the program disables remote controller operation.	Power to the air conditioner was lost and subsequently restored. (Refer to page 3-4-17)
	88:88 blinks in the present time display area.	Power to the air conditioner was lost for a long period of time. Set the present time and today's day of the week again. (Refer to pages 3-4-3 and 3-4-4)

If trouble persists despite taking the above action, stop the schedule timer, turn off the unit and report the serial number and problem to your dealer. Never service the unit yourself as this is dangerous.

4. Central Controller

■ Accessories for Schedule Timer

No.	Supplied parts	Q'ty
1	T10 power wire  (with current fuse) *1	1
2	T10 relay wire *2 	1
3	 Power wire for connection to system controller	1
4	Screws M4 x 25 	2

No.	Supplied parts	Q'ty
5	Spacers 	2
6	Wire joints 	7
7	Operating Instructions 	1
8	Label 	1
9	Earth screw for T10 (for indoor unit) 4 x 8 - 3 	1

*1 If the fuse blows as a result of a wiring short-circuit, mis-wiring, or overcurrent, replace it with a 125 V, 0.5 A fuse.

*2 Use it according to the form of T10 connector.

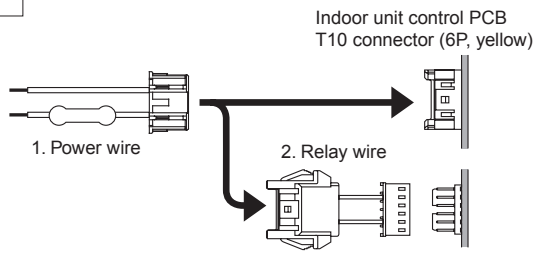


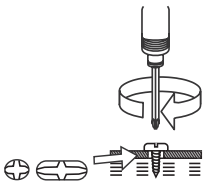
Fig. 3-4-1

■ Installing the Schedule Timer

NOTE

- Avoid twisting the inter-unit control wiring or the input/output wiring together with power or other wiring, and avoid running them in the same metal conduit. Doing so can cause malfunction.
- Install the schedule timer at a location away from any sources of electrical noise.
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

When mounting the back case to the electric junction box, tighten the screws securely unitl the screw heads touch the back case. Otherwise, a loose screw head may damage the PCB on the back of the top cover when mounting the top cover. But do not over-tighten the screws. Over-tightening may deform the back case and cause the unit to fall.



(1) Open the panel on the schedule timer unit. Insert a standard (flat-head) screwdriver or similar tool into the notches on the bottom of the schedule timer unit to open and remove the back case.

(2) Use the 2 supplied M4 machine screws and install the schedule timer back case onto the switch box. Before installing, use a screwdriver or similar tool to press on and open the screw holes that correspond to the Electric junction box that is used. When fastening the case, use spacers and do not tighten the screws too much. If the schedule timer does not fit tightly against the wall, cut the spacers as required to make adjustments.

(3) Connect the supplied power wire (2-core) and inter-unit control wire (3-core) to the schedule timer unit. (Refer to “Wiring the Schedule Timer”).

(4) Align the schedule timer unit with the tabs on the back case and press to install it.

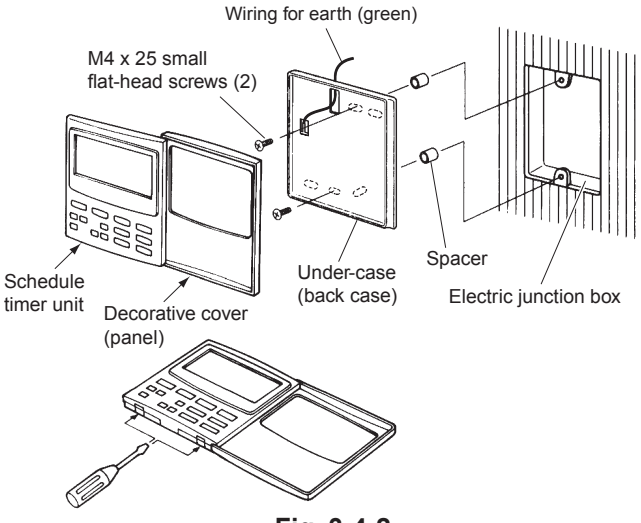


Fig. 3-4-2

4. Central Controller

■ Installation of Connected Schedule Timers

When installing schedule timers (remote controller switches, system controllers, etc.) onto the wall, use the method shown in Figs. 3-4-3 and 3-4-4.

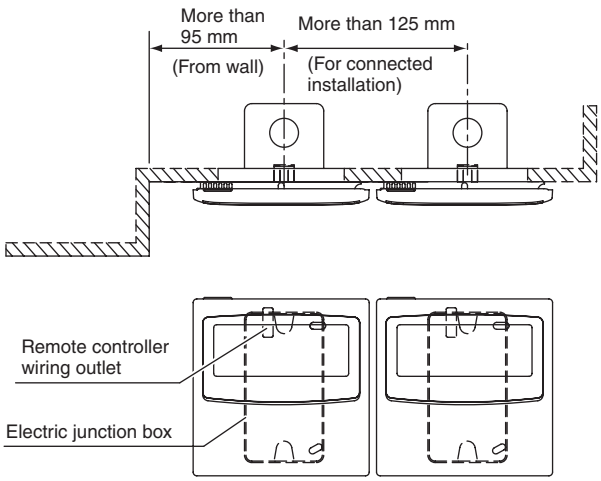
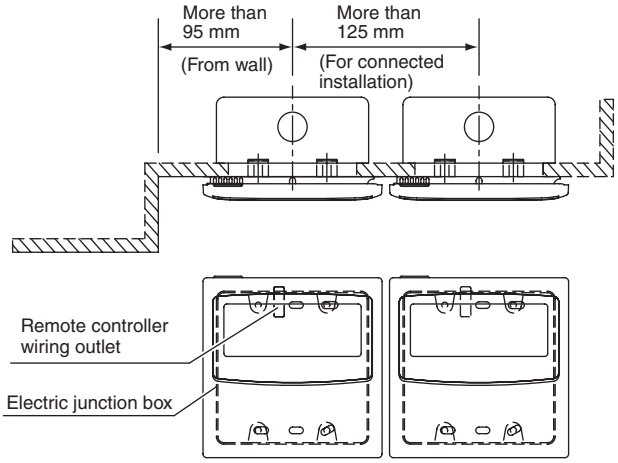


Fig. 3-4-3



* For maintenance reasons, leave a gap of 25 mm or more between the remote controller switch and schedule timer if they are arranged in parallel above/below each other.

Fig. 3-4-4

3

■ Wiring the Schedule Timer

- Before beginning wiring
- – Use 0.5 – 2 mm^2 wires for field supply wiring.
- – For inter-unit control wiring, use signal wires that allow the remote controller wiring to be differentiated from the power wiring, and take care to prevent miswiring. **(Miswiring will damage the schedule timer.)**
- – Use shielded wiring for Inter-unit control wiring and power wiring(T10). (Except North America)
- – Check that the schedule timer communications wiring and power wiring are connected correctly. (Fig. 3-4-5)

<Basic Wiring Diagram>

- Route the A/C inter-unit control wiring for central control as shown in the figure at right.
- The maximum number of indoor units that can be connected to a single system is 64. The maximum number of outdoor units is 30.
- The maximum number of schedule timer units that can be connected is 8. (A maximum of 10 schedule timer units and other central control devices can be connected.)

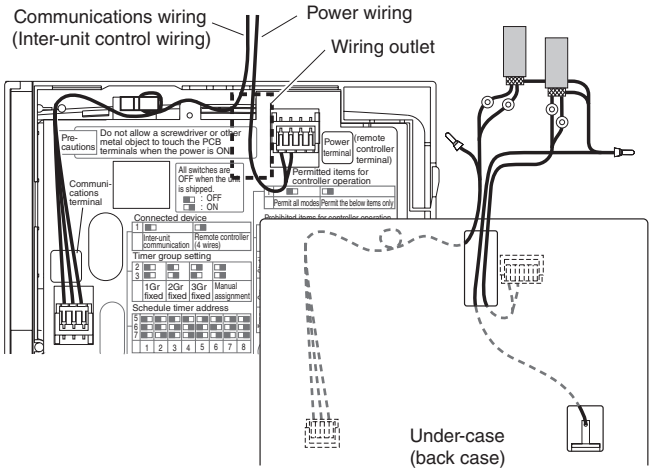


Fig. 3-4-5

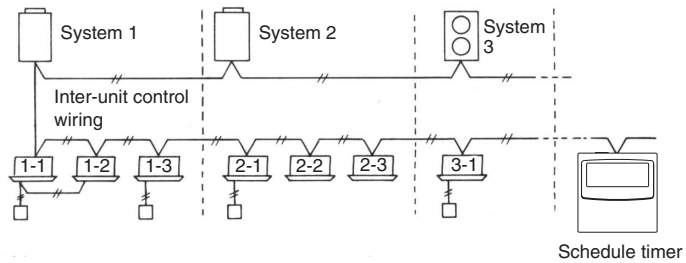


Fig. 3-4-6

NOTE Depending on the model of A/C, a local adapter may be required.

4. Central Controller

■ Wiring

The schedule timer wiring can be connected by the following two methods. Select one of these connection methods according to the actual installation location.
When wiring, extend the lengths of the wires using wire joints (provided) and extension wires (field supply).

CAUTION **When installing multiple schedule timers, avoid the use of cross-over wiring.**

Connection diagram

If on/off controller (CZ-ANC3) is also installed:

Connect the wires for the schedule timer power supply wiring (see Note below) to the T1 and T2 terminals on the on/off controller board.

- The power supply wiring has no polarity.
- **The length of the power wiring must be no more than 100 m.**

The communication wiring may be connected in either direction to U1 and U2. (Use shielded wirng)

- Connect the shielded wiring to the Wiring for earth (green) of the Schedule timer and FG of the on/off conroller Signal terminal board.
- The communication wiring has no polarity.
- **The communication wirings of schedule timer are pink + blue + blue (using wire joint crimping). Use pink + blue wires for communication wiring.**

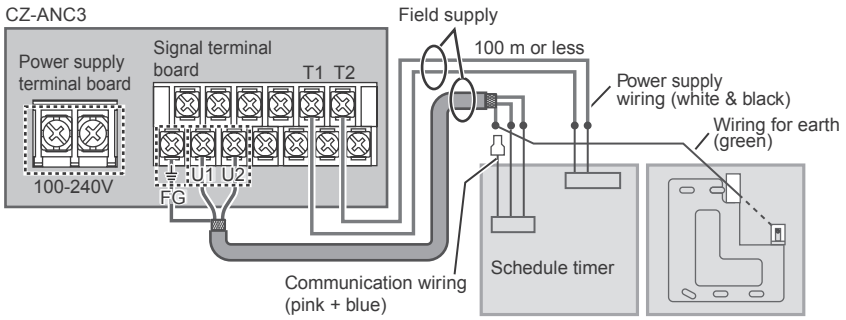


Fig. 3-4-7

If a system controller is not installed (power is supplied from the indoor unit):

If power is supplied from the indoor unit control PCB of a nearby indoor unit, connect the provided T10 terminal connection wires to the T10 terminal on the indoor unit control PCB, and to the schedule timer power wires.

- The power wiring has no polarity. The wiring may be connected in reverse. (Use shielded wiring)
- **The length of the power wiring must be no more than 100 m.**

The inter-unit control wiring has no polarity. The wiring may be connected in either direction to U1 and U2. (Use shielded wiring)

- If necessary, use a relay wire when connecting the wiring to the indoor unit control PCB.

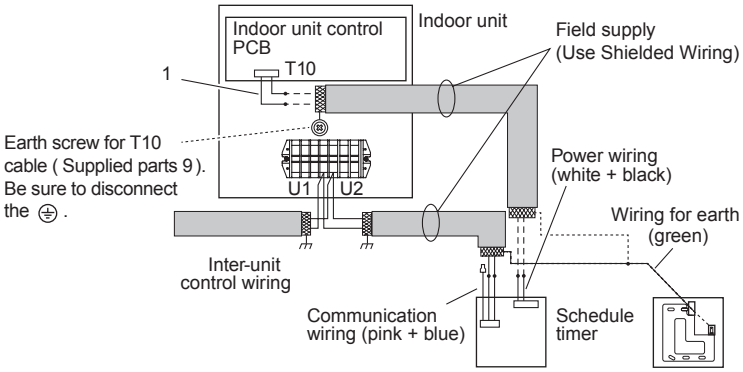


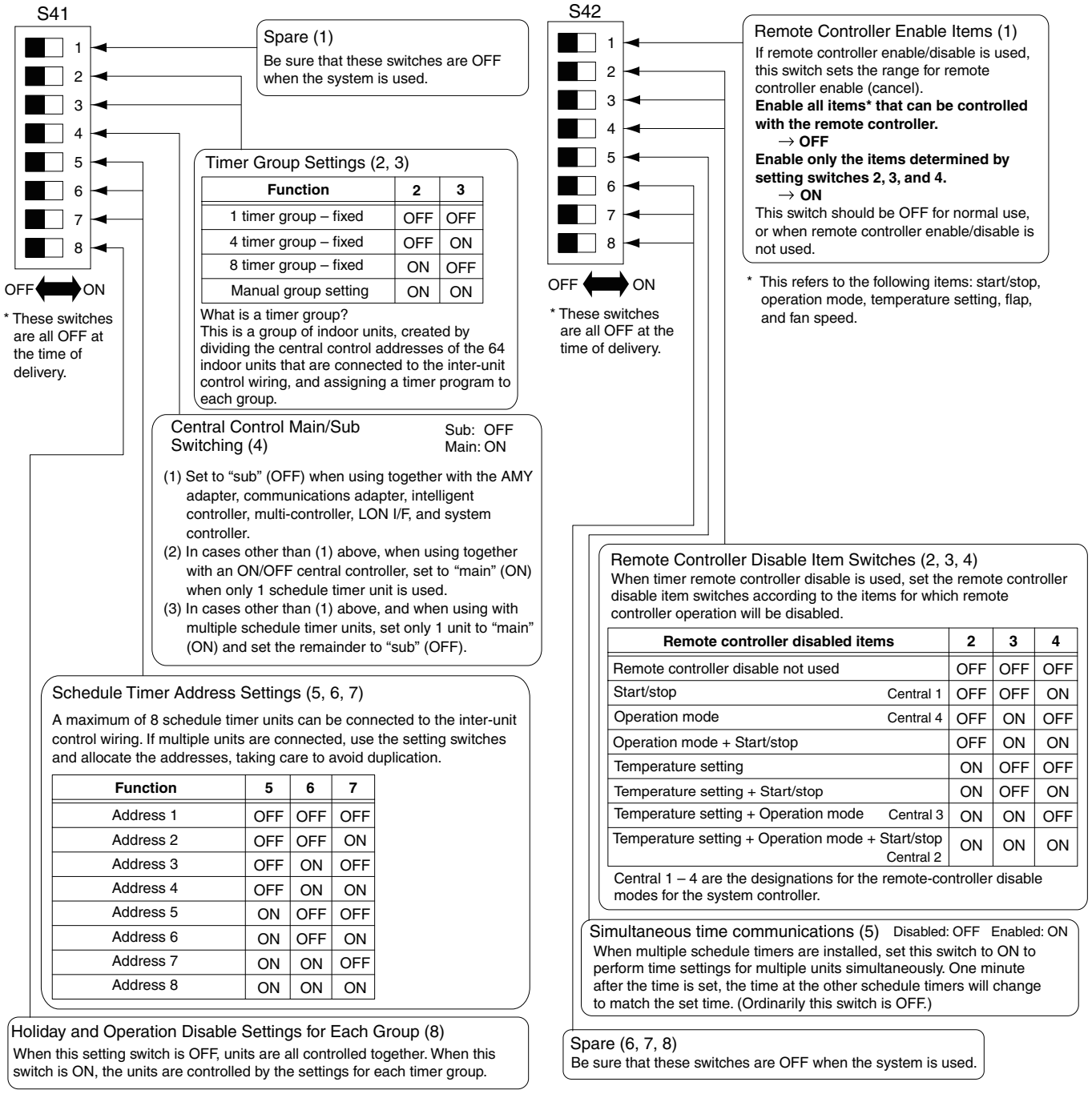
Fig. 3-4-8

NOTE The only functions of the schedule timer are indoor unit ON/OFF and remote controller enable/disable operations. It is therefore recommended that during installation, a on/off controller, remote controller, or similar device be installed next to the schedule timer so indoor unit ON/OFF and other information can be checked.
(If the on/off controller or other central control device is not present, the schedule timer cannot be used in combi nation with a system that does not utilize remote controllers.)

4. Central Controller

■ About the Setting Switches

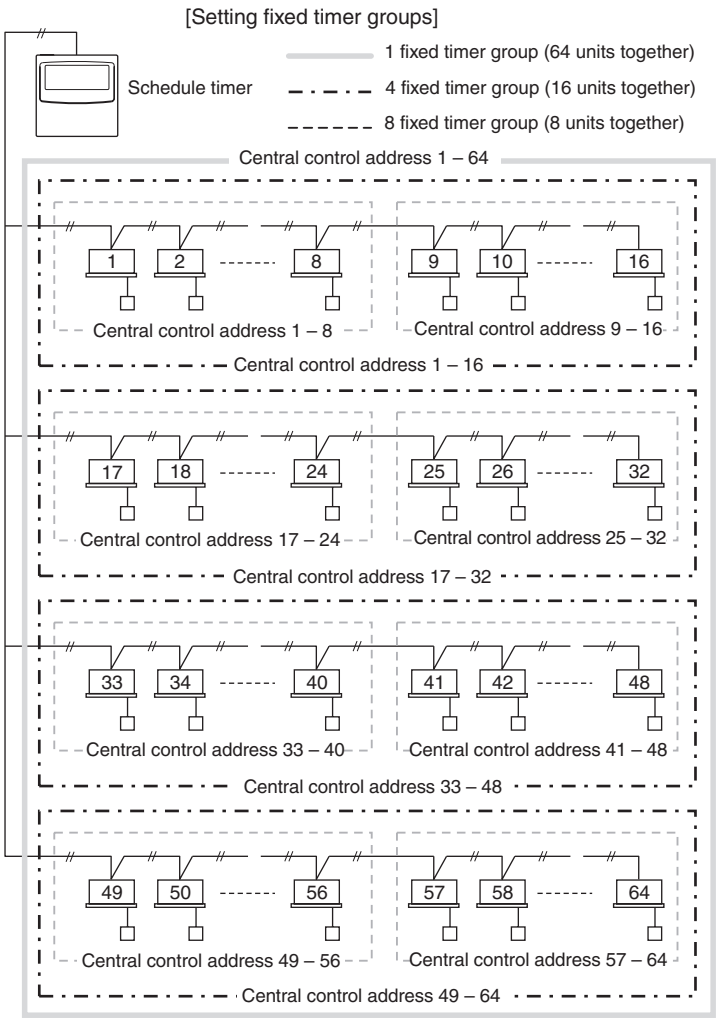
Complete the switch settings before turning ON the schedule timer power.



4. Central Controller

■ Creating Timer Groups

The schedule timer can be set for 6 time status changes. These can be used to create up to 8 groups (timer groups). For systems in which schedule timers are used, set the timer groups to match the central control addresses of the indoor units that will be subject to group timer control.
The timer-group settings for the schedule timer involve assignment of central control addresses. Therefore, use the system controller (or other central control device) or wired remote controllers to set the central control addresses of the indoor units, then make the schedule timer settings.



● **Procedure for making fixed timer group settings (fixed groups)**

(1) First, use a different central control device (system controller or other device) or the wired remote controllers to set the central control addresses, as assigned in the figure above, to the indoor units that will be subject to group timer control.

(2) Next, use S41 switches 2 and 3 to set the number of timer groups you wish to create.

(3) Finally, turn ON the schedule timer power. Initial communications are performed. (SCAN blinks in the display.) The normal display appears after several minutes, and the timer group settings are confirmed.

● **Procedure for making manual timer group settings (manual group assignments)**

Manual timer group settings allow central control addresses to be assigned freely within the timer groups.

(1) Turn ON S41 setting switches 2 and 3, then turn ON the power. Restart and initial communications are performed. (SCAN blinks in the display.) The normal display appears after several minutes.

(2) When the normal display appears, press and hold the schedule timer CLEAR button, the timer button, and the button for 4 seconds or longer. “Ad-01” appears, blinking, in the current time display. (Ad indicates “address” and 01 is the central address number.)

(3) Use the GROUP button in the area to select the timer group. Then use the DAY button in the area to select the central control address to assign and register for that timer group. Press the SET button to register the selected central control address.

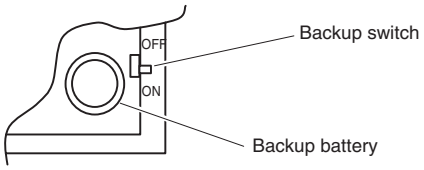
3

(4) To continue registering addresses, repeat step (3). (Central control address numbers will be added to the right side of the LCD display.) To cancel a registered central control address, use the GROUP button in the area to select the timer group, then use the DAY button in the area to select the central control address and press the CLEAR button.

(5) Repeat steps (3) - (4) for each timer group. When registration is completed, press the timer button. The schedule timer restarts automatically and performs initial communications. (SCAN blinks in the display.) The normal display appears after several minutes, and the manually assigned timer group settings are confirmed.

■ Memory Back Up Switch

After installation is completed, check that the backup switch on the reverse side of the schedule timer PCB is turned to ON. (The backup battery will retain the current time for up to 100 hours.)



■ Checking the Central Control Addresses and Operating the Units that are Controlled by the Schedule Timer

The schedule timer communicates with the indoor units to check which central control addresses can be controlled with the current timer control. The schedule timer can then be used to start and stop these units.

(1) Press and hold the schedule timer button, TIMER OFF button, and CLEAR button for 4 seconds or longer. “Ad-(central control address)” appears in sequence, blinking.

(2) Use the GROUP button in the area to display the blinking central control addresses in sequential order. In this way, it is possible to check which central control addresses in the displayed timer group can be operated by the timer.

(3) With the selected timer group displayed, press the timer button. Each time the button is pressed the indoor units in the displayed timer group start or stop. Pressing the button in this mode permits all items (operation start/stop, operation mode, temperature setting items) at the indoor units in the displayed timer group where remote controller prohibit is in effect.

(4) After checking the addresses and operating the units, press and hold the CANCEL button for 2 seconds or longer. The schedule timer display returns to the normal display and all controllable indoor units stop.

■ Explanation to Customers

- After work is completed, present the Operation Manual and Information for the Person in Charge of Installation (Electrical) Work to the customer.
- Explain to the customer the methods for use of the system, as described in the Operation Manual.

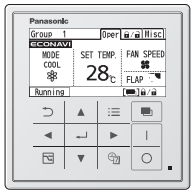
4. Central Controller

■ Installation Work Plan

- Use the wired remote controller to check the unit No. of the indoor units.
  (Start the A/C unit with the wired remote controller, then press the remote controller UNIT SELECT button once to display the unit No. of the main unit.)

Schedule timer			Central control addresses	Indoor unit Unit No. System - Indoor	Room name
Fixed timer group					
1	4	8			
1 At the time of shipment	1	1	1	- , -	
			2	- , -	
			3	- , -	
			4	- , -	
			5	- , -	
			6	- , -	
			7	- , -	
			8	- , -	
		2	9	- , -	
			10	- , -	
			11	- , -	
			12	- , -	
			13	- , -	
			14	- , -	
			15	- , -	
			16	- , -	
	2	3	17	- , -	
			18	- , -	
			19	- , -	
			20	- , -	
			21	- , -	
			22	- , -	
			23	- , -	
			24	- , -	
		4	25	- , -	
			26	- , -	
			27	- , -	
			28	- , -	
			29	- , -	
			30	- , -	
			31	- , -	
			32	- , -	
	3	5	33	- , -	
			34	- , -	
			35	- , -	
			36	- , -	
			37	- , -	
			38	- , -	
			39	- , -	
			40	- , -	
		6	41	- , -	
			42	- , -	
			43	- , -	
			44	- , -	
			45	- , -	
			46	- , -	
			47	- , -	
			48	- , -	
	4	7	49	- , -	
			50	- , -	
			51	- , -	
			52	- , -	
			53	- , -	
			54	- , -	
			55	- , -	
			56	- , -	
		8	57	- , -	
			58	- , -	
			59	- , -	
			60	- , -	
			61	- , -	
			62	- , -	
			63	- , -	
			64	- , -	

Panasonic



Installation Instructions
System Controller
Model No. **CZ-64ESMC3**

ENGLISH Read through the Installation Instructions before you proceed with the installation. In particular, you will need to read under the “Safety Precautions” on page 6.	2-27	ENGLISH
FRANÇAIS Lisez les instructions d'installation avant de commencer l'installation. En particulier, vous devez lire la section « Consignes de sécurité » en page 28.	2-5,28-49	FRANÇAIS
ESPAÑOL Lea las Instrucciones de instalacion antes de proceder con la instalacion del equipo. En concreto, deberá leer detenidamente la sección “Precauciones de seguridad” situada en la página 50.	2-5,50-71	ESPAÑOL
DEUTSCH Lesen Sie die Einbauanleitung, bevor Sie mit der Installation beginnen. Insbesondere müssen die „Sicherheitsvorkehrungen“ auf Seite 72 gründlich durchgelesen werden.	2-5,72-93	DEUTSCH
ITALIANO Leggere le Istruzioni di installazione prima di procedere con l'installazione. Prestare particolare attenzione alla sezione “Precauzioni di Sicurezza” a pagina 94.	2-5,94-115	ITALIANO
NEDERLANDS Lees de installatie-instructies voordat u verder gaat met de installatie. U moet in het bijzonder de “Veiligheidsvoorschriften” op pagina 116 lezen.	2-5, 116-137	NEDERLANDS
PORTUGUÊS Leia cuidadosamente as instruções de instalação antes de prosseguir com a instalação. Em particular, é necessário ler as informações na secção “Precauções de segurança” na página 138.	2-5, 138-159	PORTUGUÊS
TÜRKÇE Kuruluma başlamadan önce Kurulum Talimatlarını baştan sona okuyun. Özellikle 160. sayfadaki “Güvenlik Önlemleri” kısmını okumanız gerekecektir.	2-5, 160-181	TÜRKÇE
POLSKI Przed przystąpieniem do instalacji należy przeczytać instrukcje instalacyjne, a w szczególności „Środki ostrożności” na stronie 182.	2-5, 182-203	POLSKI
РУССКИЙ Прежде чем приступать к установке, прочитайте инструкцию по установке. В частности, следует прочитать раздел «Меры безопасности» на стр. 204.	2-5, 204-225	РУССКИЙ
УКРАЇНСЬКА Перед початком установки уважно прочитайте інструкції. Особливу увагу зверніть на розділ «Запобіжні заходи» на ст. 226.	2-5, 226-247	УКРАЇНСЬКА

CE Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

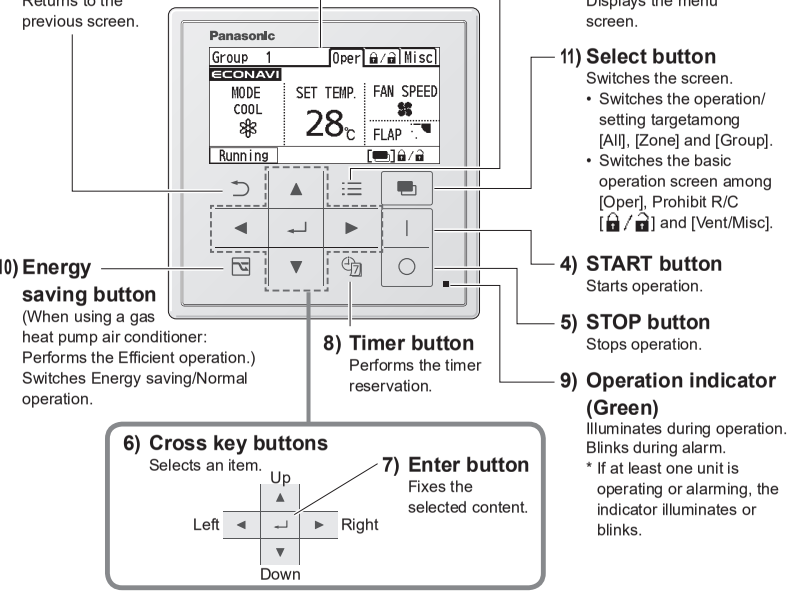
85464369887010

Panasonic Corporation
http://www.panasonic.com

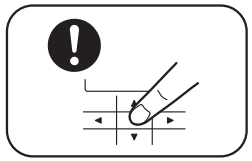
H0316-0
CV6233324470

Part Names

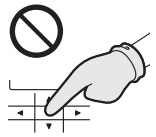
Control panel



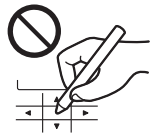
Note/Remarque/Nota/Hinweis/Nota/Opmerking/Nota/Not/Uwaga/Примечание/Примітка



Press centre
Appuyez au centre
Pulsar en el centro
Mittlere Taste drücken
Premere al centro
Druk in het midden
Premir no centro
Ortaya basın
Nacisnąć środek
Нажимайте по центру
Натисніть на центр



No glove
Pas de gant
Guantes no
Ohne Handschuh
Nessun guanto
Geen handschoen
Não usar luva
Eldiven kullanmayın
Nie używać rękawic
Не используйте перчатки
Не використовуйте рукавички



No pen
Pas de stylo
Bolígrafo no
Ohne Stift
Nessuna penna
Geen pen
Não usar pen
Kalem kullanmayın
Nie używać długopisu
Не используйте ручку
Не використовуйте ручку

Part Names (continued)

	1)	2)	3)	4)/5)	6)	7)
FRANÇAIS	Bouton Retour Retourne à l'écran précédent.	Écran LCD	Bouton Menu Affiche l'écran du menu.	Bouton MARCHE/ ARRÊT Démarre/Arrête le fonctionnement.	Boutons directionnels Sélectionne un élément.	Bouton Entrée Fixe le contenu sélectionné.
ESPAÑOL	Botón Volver Regresa a la pantalla anterior.	Pantalla LCD	Botón Menú Muestra la pantalla de menú.	Botón de INICIO/PARO Inicia/ Detiene el funcionamiento.	Botones de dirección Seleccionan un elemento.	Botón Enter Fija el contenido seleccionado.
DEUTSCH	Return-Taste Khrt zum vorherigen Anzeigebild zurücke.	LCD-Bildschirm	Menü-Taste Zeigt das Menü-Anzeigebild an.	START/ STOPP-Taste Startet/ STOPP den Betrieb.	Navigationstasten Zum Auswählen eines Elements.	Eingabe-Taste Legt den ausgewählten Inhalt fest.
ITALIANO	Tasto return Ritorna alla schermata precedente.	Schermo LCD	Tasto menù Visualizza la schermata del menù.	Tasto AVVIO/ STOP Avvia la funzione/Ferma il funzionamento.	Tasti croce Seleziona un elemento.	Tasto enter Fissa il contenuto selezionato.
NEDERLANDS	Terugkeer-toets Keert terug naar het vorige scherm.	LCD-scherm	Menu-toets Toont het menuscherm.	START/ STOP-toets Start/Stopt de werking.	Pijltjestoetsen Selecteert een item.	Enter-toets Legt de geselecteerde inhoud vast.
PORTUGUÊS	Botão de retorno Retornar à tela anterior.	Tela LCD	Botão de menu Apresenta a tela de menu.	Botão INICIAR/ PARE Inicia/Interrompe a operação.	Botões chave cruzada Selecciona um item.	Botão enter Fixa o conteúdo eleccionado.
TÜRKÇE	Geri Dön düğmesi Önceki ekrana döner.	LCD ekran	Menü düğmesi Menü ekranını görüntüler.	BAŞLAT/ DURDUR düğmesi Çalışmayı başlatır/durdurur.	Yön düğmeleri Bir öğe seçer.	Gir düğmesi Seçilen içeriği sabitler.
POLSKI	Przycisk powrotu Powraca do poprzedniego ekranu.	Ekran LCD	Przycisk menu Wyświetla ekran menu.	Przycisk START/STOP Rozpoczęcie/ Zatrzymanie działania.	Przyciski nawigacyjne Służą do wybierania pozycji.	Przycisk Enter Zatwierdza wybraną treść.
РУССКИЙ	Кнопка возврата Возврат на предыдущий экран.	ЖК-дисплей	Кнопка меню Отображение экрана меню.	Кнопка ПУСК/ СТОП Начало работы/ Остановка работы.	Кнопки перемещения Выбор пункта.	Кнопка ввода Подтверждение выбора.
УКРАЇНСЬКА	Кнопка повернення Повернення на попередній екран.	LCD-екран	Кнопка меню Відображення екрану меню.	Кнопка ПУСК/СТОП Початок роботи/ Припиняє роботу.	Кнопки курсора Вибір елементів меню.	Кнопка вводу Підтверджує вибір.

	8)	9)	10)
FRANÇAIS	Bouton minuterie Effectue la réservation de la minuterie.	Indicateur de fonctionnement (Vert) S'allume pendant le fonctionnement. Clignote en cas d'alarme. * Si au moins une unité est en fonction ou en état d'alarme, l'indicateur s'allume ou clignote.	Bouton Économie d'énergie (Lors de l'utilisation d'un climatiseur avec pompe de chauffage à gaz : Passe au fonctionnement efficace.) Commute entre les modes Normal et Économie d'énergie.
ESPAÑOL	Botón del temporizador Realiza la reserva del temporizador.	Indicador de funcionamiento (Verde) Se ilumina durante el funcionamiento. Parpadea durante la alarma. * El indicador se ilumina o parpadea si al menos una unidad está en funcionamiento o con la alarma activada.	Botón ahorro de energía (Solo cuando se utilice un aire acondicionado con bomba de calor a gas: Realiza el funcionamiento eficiente.) Alterna el funcionamiento entre la operación de Ahorro de energía/Normal.
DEUTSCH	Timer-Taste Führt die Timer-Reservierung aus.	Betriebsanzeige (grün) Leuchtet während des Betrieb. Blinkt während eines Alarms. * Wenn mindestens eines der Geräte arbeitet oder einen Alarm abgibt, leuchtet oder blinkt die Anzeige.	Energiespar-Taste Bei Verwendung einer Gaswärmepumpen-Klimaanlage: Führt den effizienten Betrieb aus.) Schaltet zwischen Energiespar-Normalbetrieb.
ITALIANO	Tasto timer Effettua la prenotazione timer.	Indicatore funzione (Verde) Si illumina durante il funzionamento. Lampeggia durante l'allarme. * Se almeno un'unità è funzionante o in stato di allarme, l'indicatore si illumina o lampeggia.	Tasto risparmio energia (Se si utilizza un condizionatore con pompa calore a gas: Effettua il funzionamento efficiente.) Passa da Risparmio energia a Funzione normale e viceversa.
NEDERLANDS	Timer-toets Voert de timer-reservering uit.	Werkingsindicator (Groen) Brandt tijdens de werking. Knippert bij een alarm. * De indicator brandt of knippert als er ten minste één unit werkt.	Energiebesparingstoets (Wanneer een airconditioner met gaswarmtepomp wordt gebruikt: Voert een effi ciënte werking uit.) Wisselt tussen energiebesparing/normale werking.
PORTUGUÊS	Botão temporizador Realiza a reserva de temporizador.	Indicador de funcionamento (Verde) Acende durante a operação. Pisca durante alarme. * Se pelo menos uma unidade está operando ou alarmando, o indicador acende ou pisca.	Botão de poupança de energia (Quando utilizar um condicionador de ar de bomba de aquecimento a gás: Realiza a operação eficiente.) Alterna a operação Poupança de energia/Normal.
TÜRKÇE	Zamanlayıcı düğmesi Zamanlayıcı ayırmayı gerçekleştirir.	Çalışma göstergesi (Yeşil) Çalışma sırasında yanar. Alarm sırasında yanıp söner. * En az bir ünite çalışıyor veya alarm veriyorsa gösterge yanar ya da yanıp söner.	Enerji tasarrufu düğmesi (Gazlı ısı pompalı klima kullanılırken: Verimli çalışma gerçekleştirir.) Enerji tasarrufu/Normal çalışma arasında geçiş yapar.
POLSKI	Przycisk programatora Umożliwia ustawienie programatora.	Wskaźnik działania (zielony) Świeci podczas pracy. Miga w czasie alarmu. * Jeśli działa lub alarmuje co najmniej jedno urządzenie lub wskaźnik świeci albo miga.	Przycisk oszczędzania energii (W klimatyzatorze z gazową pompą ciepła: Wykonuje skuteczne działanie). Przełącza opcje oszczędzania energii / eksploatacji normalnej.
РУССКИЙ	Кнопка таймера Задание времени работы.	Индикатор работы (зеленый) Светится во время работы. Мигает во время тревоги. * Если хотя бы один блок работает или подает сигнал тревоги, этот индикатор светится или мигает.	Кнопка энергосбережения (При использовании кондиционера с газовым тепловым насосом: включает режим эффективной работы.) Переключение между режимами энергосбережение/нормальная работа.
УКРАЇНСЬКА	Кнопка таймеру Налаштування таймеру.	Індикатор роботи (зелений) Світиться під час роботи. Блимає при наявності несправності. * У разі знаходження одного з блоків у стані роботи або несправності індикатор світиться або блимає.	Кнопка енергозбереження (У разі використання кондиціонера з газовим тепловим насосом: вмикається функція Економічна робота.) Перемикає режими Енергозбереження / Нормальна робота.

	11)
FRANÇAIS	Bouton de sélection Commute l'écran. • Commute la cible de l'opération / du réglage entre [Tout], [Zone] et [Groupe]. • Commute l'écran d'opérations de base entre [Opér] (Opération), [🔒/🔓] (Interdire télécommande) et [[Vent/Div.] (Ventilation/Autre).
ESPAÑOL	Botón de selección Cambia la pantalla. • Cambia el destino de la operación/configuración entre [Todo], [Zona] y [Grupo]. • Cambia la pantalla de operaciones básicas entre [Ope.] (Operación), [🔒/🔓] (Prohibir Control Remoto) [Ven./Var.] (Ventilación/Otros).
DEUTSCH	Wählen-Taste Schaltet das Anzeigebild um. • Schaltet das Bedienungs-/Einstellungsziel unter [Alle], [Zone] und [Gruppe] um. • Schaltet das grundlegende Anzeigebild unter [Betr] (Betrieb), [🔒/🔓] (FB sperren) und [Lüft/Versch] (Belüftung/Sonst) um.
ITALIANO	Selezionare tasto Cambia la schermata. • Cambia l'oggetto della funzione/impostazione tra [Tutti], [Zona] e [Gruppo]. • Cambia la schermata funzioni di base tra [Funz] (Funzione), [🔒/🔓] (Remoto non consentito) e [Vent/Misc] (Ventilazione/Altro).
NEDERLANDS	Selectie-toets Wisselt het scherm. • Wisselt het werking/instellingsdoel tussen [All] (Alle), [Zone] (Zone) en [Group] (Groep). • Wisselt het basisbedieningsscherm tussen [Oper] (Werking), [🔒/🔓] (Verbied R/C) en [Vent/Misc] (Ventilatie/Andere).
PORTUGUÊS	Botão seleccionar Alterna a tela. • Alterna a operação/configuração entre [All] (Todos), [Zone] (Zona) e [Group] (Grupo). • Alterna a Tela de operações básicas entre [Oper] (Operação), [🔒/🔓] (Proibir R/C) e [Vent/Misc] (Vent/Outros).
TÜRKÇE	Seç düğmesi Ekranı değiştirir. • Çalışma/Ayar hedefini [All] (Tümü), [Zone] (Bölge) ve [Group] (Grup) arasında değiştirir. • Temel çalışma ekranını [Oper] (Çalışma), [🔒/🔓] (Uzaktan Kumandayı Yasakla) ve [Vent/Misc] (Havalandırma/Diğer) arasında değiştirir.
POLSKI	Przycisk wyboru Przełącza ekran. • Przełącza działanie / ustawienie spośród pozycji docelowych [All] (Wszystkie), [Zone] (Strefa) i [Group] (Grupa). • Przełącza ekran działań podstawowych pomiędzy [Oper] (Działanie), [🔒/🔓] (Odłączenie R/C) and [Vent/Misc] (Wentylacja/Inne).
РУССКИЙ	Кнопка выбора Przełącza ekrany. • Переключение цели управления/настройки между [All] (Все), [Zone] (Зона) и [Group] (Группа). • Переключение экрана основных операций между [Oper] (Операция), [🔒/🔓] (Запрет ДУ) и [Vent/Misc] (Вентиляция/Другое).
УКРАЇНСЬКА	Кнопка вибору Перемикання екрану. • Перемикання керування/налаштування між елементами [All] (Усі), [Zone] (Зона) та [Group] (Група). • Перемикання екрану основних дій між [Oper] (Робота), [🔒/🔓] (Заборона дистанційного керування) та [Vent/Misc] (Вентиляція/інше).

ENGLISH

Safety Precautions

Please Read Before Starting

- This controller must be installed by the sales dealer or installer.
  These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

WARNING	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
CAUTION	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This controller shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this controller, provide the Installation Instructions to the servicing personnel

⚠ WARNING

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring.
  Improper connections and inadequate grounding can cause **accidental injury or death**.
- This controller is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD).
  Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
  Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.

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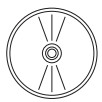
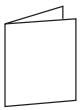
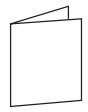
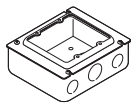
- **Outdoor Peak Cut Setting 27**

Specifications

Model No.		CZ-64ESMC3
Dimensions		(H) 120 mm x (W) 120 mm x (D) 16 + 51.9 mm
Weight		520 g
Temperature/ Humidity range		0 ˚C to 40 ˚C / 20 % to 80 % (no condensation) *Indoor use only.
Power Source		Single phase 100-240 V ~ 50/60 Hz
Power consumption		Max. 1.3 W
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 ˚C) *Adjust periodically.
	Holding time	100 hours (when fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 64 groups (64 units)

Supplied accessories				
Operating Instructions (1)	**Quick Reference** (1)	**Installation Instructions** (1)	**Switch Box** (1)	**Machine Screw** M4 × 25 (2) (For Switch Box)
				

* Wiring are not included (field supplied item).

WARNING

- Provide a power outlet to be used exclusively for this controller.
- Turn off the circuit breaker of the controllers before installation.
- Do not supply power to the controller until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clamper so that the power supply terminal board part is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the controller must be grounded.
- Select an installation location which is rigid and strong enough to support or hold the controller, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances.
  Modified or disassembled controller may cause fire, electric shock or injury.
- Do not clean inside the controller by users.
  Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.

CAUTIONS

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the controller at the following locations.
- Areas where leakage of flammable gas may be expected
- Places where large amounts of oil mist exist
- Locations where external air may enter the room directly (This may cause "condensation".)
- Locations where high-frequency emissions are generated
- Location where voltage fluctuation frequently occurs
- Do not wash with water.

NOTICE

The English text is the original instructions. Other languages are translation of the original instructions.

ENGLISH

Air-conditioning Control System

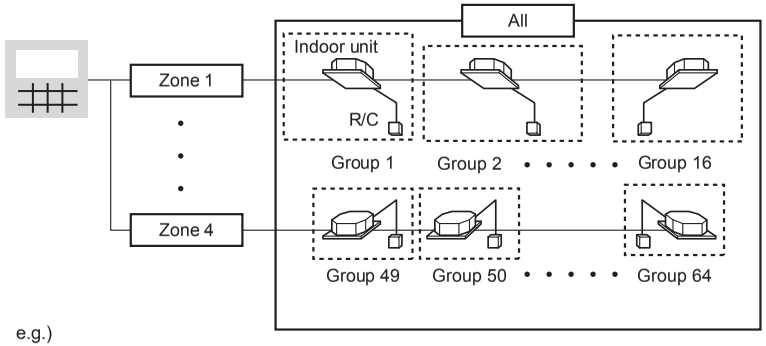
The most suitable air-conditioning control system can be selected according to the scale of the control/monitoring area.

● Controlling indoor units

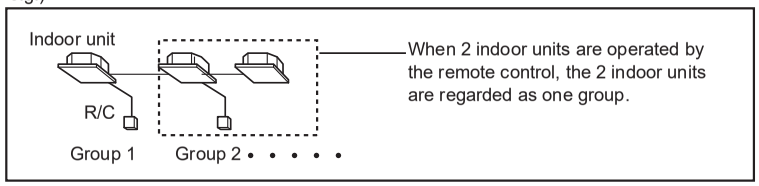
This unit alone enables multi-functional operations: Up to 64 indoor units can be controlled individually or collectively.

* 64 indoor units are divided into up to 4 zones, and can be controlled on All, Zone or Group basis.

All	• Operates and sets up to 64 indoor units.
Zone	• Registers multiple indoor units with up to 4 zones, and operates and sets each zone collectively.
Group	• Operates and sets each group. * The remote control operation is performed by the group.



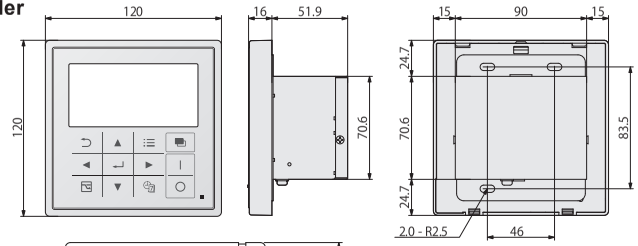
e.g.)



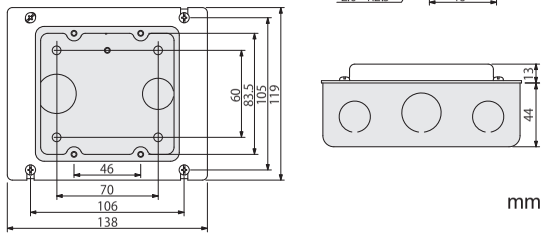
• The above example shows this unit is connected as the central controller.

Dimensions

System Controller



Switch Box



mm

Installation Precautions

Installation location

- Avoid the following locations for installation.
  - Under direct sunlight • Location near heat source • Uneven surface
  - Locations where the controller will be splashed with water or affected by dampness or humidity
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller away from any sources of electrical noise.
- Install the controller to the locations where is suitable to the temperature for using or environment.
- When installing more than 1 controller next to each other, keep distance of 5 mm or more on the right and left and 50 mm or more on top and bottom.

General precautions on wiring

- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
  You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)
- Do not bury the inter-unit control wiring in the ground.
- Do not store the power supply wiring and other wiring in the same metal tube or bundle them together. (An operational error or noise may occur.)

Wiring

Power supply wiring

- Be sure to use a dedicated line for power source.
- Be sure to earth this controller.
- Do not connect the earth wiring to those of gas pipe, water pipe, lighting rod, telephone, etc.

Type of wiring:
- Use a flexible wiring of 2 mm^2 (Recommended).
- Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).

Total Wire Length: 30 m or less

Power supply terminal screw: M4

Inter-unit control wiring

Type of wiring:
- Use a flexible shield wiring of 0.5 to 2 mm^2.

Total wire length:
- 1000 m or less

Number of connectable units and devices:
(Up to total of 100 units and devices can be connected.)

Indoor unit	Up to 64 units (*1)
Outdoor unit	Up to 30 units
Central control device	Up to 10 units

(*1) The number of indoor units includes the interface adaptor.

External I/O wiring

Type of wiring:
- Use a flexible wiring of 0.5 to 2 mm^2.

Total Wire Length:
- 100 m or less

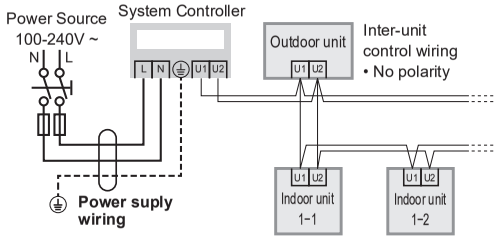
Attention

● When using the controller at a location susceptible to noise, use a shield wiring.

Basic wiring diagram

Connect the inter-unit control wiring as shown in the figure.

● When connecting interface adaptor, read the installation instructions supplied with each product.



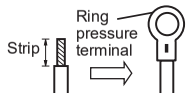
ENGLISH

Wiring (continued)

Before connecting wiring, be sure to turn the circuit breaker off. After all wiring arrangements are complete, turn the circuit breaker on.
If the power supply wiring is mistakenly connected to a terminal board other than the power supply terminal board, the devices to be connected to this controller or this controller will malfunction. After connecting wiring, confirm that the power supply wiring is properly connected.

How to attach the ring pressure terminal

For power supply wiring
- Process the end of each wiring and attach the ring pressure terminal (field supplied item).

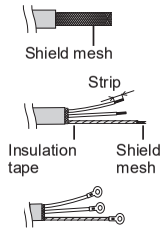


For shield wiring
- Process the end of the each wiring and attach the ring pressure terminal (field supplied item).

① Remove wiring coat.

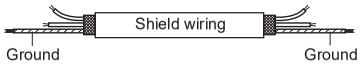
② Cover with the tape.

③ Attach ring pressure terminal.



Attention

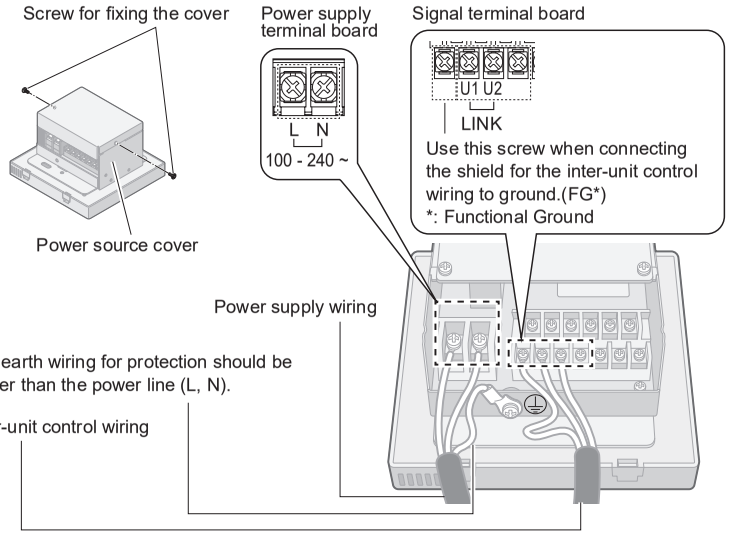
● Ground the shield on both sides of shield wiring, ohterwise an operation error from noise may occur.



Wiring (continued)

Connecting wiring

① Remove the 2 screws for fixing the cover, and remove the power source cover.
② Connect the power supply wiring to the power supply terminal board. Be sure to connect the earth wiring to the earth terminal.
③ Connect the inter-unit control wiring to the U1 and U2 terminals.
④ When connecting to external equipment, refer to “Connecting to external equipment” (P.14)
⑤ Attach the power source cover, and tighten the 2 screws for fixing the cover.



Note

- There is no polarity for the inter-unit control wiring.

Attention

- Do not run the Inter-unit control wiring through the same conduit as the power supply, or run close to the power supply line.
- Use different inter-unit control wiring and power supply wiring so they can be differentiated visually.

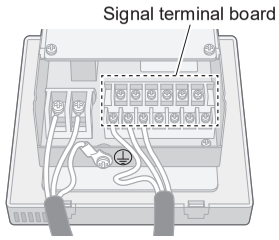
Symbols on the controller

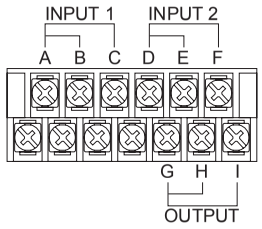
⏚ This symbol refers to “Protective earth”.

Connecting to external equipment

- Keep the signal input line lengths to 100 meters or less. For distances greater than this, use a relay.

Name	Input/Output item	System controller side		External equipment side
		Condition	Terminal name	Circuit example
Contact input/output terminal	Status output	Non-voltage contact "a" Static (Relay output) Contact allowable voltage: Max. DC30 V Contact allowable current: Max. 0.5 A Minimum application load: DC5 V 1 mA	Output Alarm output (DO 1) Operation output (DO 2) Common1 (COM 1)	Digital input
	Control input	All stop: Voltage contact "a" Pulse (When batch stop input is ON, the stop signal is sent periodically.) Pulse width: 300 msec or more All operation: Voltage contact "a" Pulse Pulse width: 300 msec or more Demand 1 input, Demand 2 input Voltage contact "a" Static Contact allowable voltage: DC24 V±10 % Contact allowable current: Max. 10 mA	Input 1 All stop input (Di 1) All operation input (Di 2) Common 2 (COM 2) Input 2 Demand 1 input (Di 3) Demand 2 input (Di 4) Common 3 (COM 3)	DC24 V COM DC24 V COM





A. Common 2 (COM 2)
B. All stop input (Di 1)
C. All operation input (Di 2)
D. Common 3 (COM 3)
E. Demand 1 input (Di 3)
F. Demand 2 input (Di 4)
G. Common 1 (COM 1)
H. Alarm output (DO 1)
I. Operation output (DO 2)

Mounting

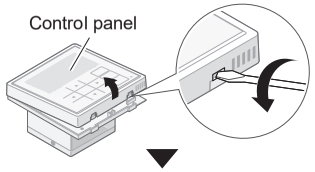
When mounting the bottom case (step **2**)

- Tighten the screws securely until they reach the bottom case.
  (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws.
  (The bottom case may be deformed, resulting in fall of the unit.)

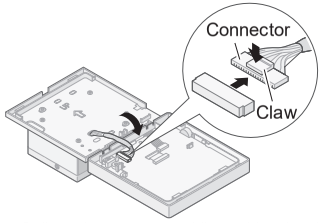
Embed the included switch box into the wall beforehand.

1 Preparation to attach the controller

① Remove the control panel.



② Remove the connector.



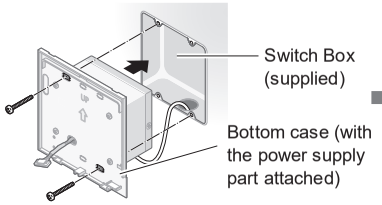
Pull out the connector while pushing the claw.

2 Mount to the switch box.

① Insert the controller to the switch box (supplied) that has been embedded in the wall.

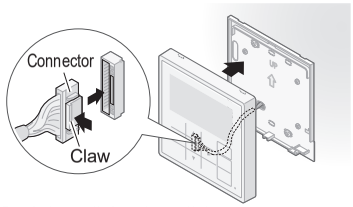
② Mount the bottom case. (with the power supply part attached) of the controller to the switch box (with small screws (supplied))

- Do not allow the connection to be exposed to the external force of wiring.



3 Connect the connector, and attach the control panel.

① Connect the connector.



Push in until the claw clicks.

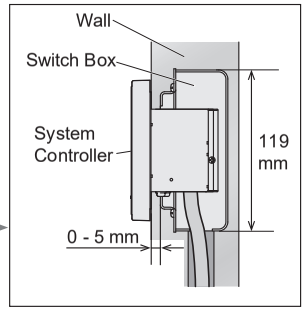
② Attach it from above.



Do not allow the wires to come in contact with parts on the PCB. (Caught wires may destroy the PCB.)

③ Push in until a clicking sound is heard.

Cross-section view (Embedded state)

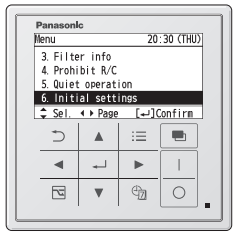


ENGLISH

Setting

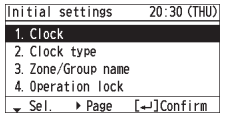
Language / Clock / Zone/Group name

1 **Press to select [Initial settings].**



2 **Select the item to set.**

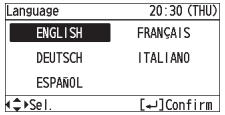
▲ ▼ → ↵



Language

3 **Set.**

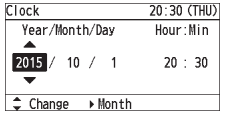
▲ ▼ ◄ ► → ↵



Clock

3 **Set the date and time.**

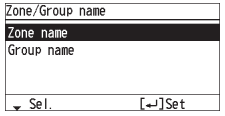
▲ ▼ → ► → ↵



Zone/Group name

3 **Select the item to set.**

▲ ▼ → ↵

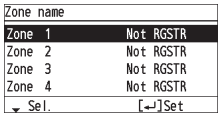


■ Zone name

4 **Select the item to give a name to.**

▲ ▼ → ↵

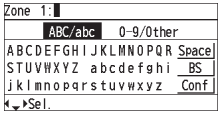
*Select the zone from zone 1 to 4.



5 **Enter the name.**

▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all character)

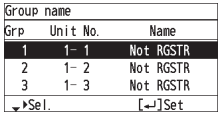


■ Group name

4 **Select the item to give a name to.**

▲ ▼ → ↵

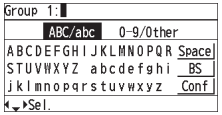
*Select the group from group 1 to 64.



5 **Enter the name.**

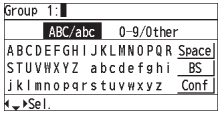
▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all character)

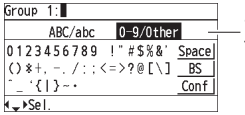


■ How to input a name

- Zone: Up to 14 characters
- Group: Up to 16 characters
  Space is included in the number of characters.

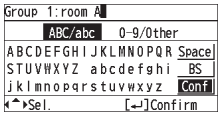


- **To change the character type**
  Select the character type with ◄ ► and press ↵.



Character type

- **To enter space**
  Select [Space] with ▲ ▼ ◄ ► and press ↵.
- **To delete 1 character**
  Select [BS] with ▲ ▼ ◄ ► and press ↵.
- **Select [Conf].**
  ▲ ▼ ► → ↵



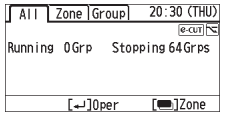
Setting (continued)

Service contact / Controller setup

Service contact

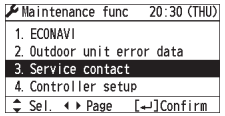
1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↵, ↵, ►



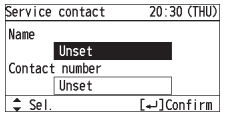
2 **Select [Service contact].**

▲ ▼ → ↵



3 **Select the item to set.**

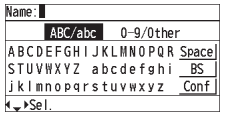
▲ ▼ → ↵



4 **Enter the name.**

▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all characters.)

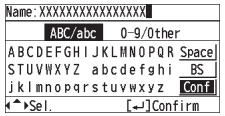


- Up to 16 characters (Space is included in the number of characters.)

- **To change the character type**
  Select the character type with ◄ ► and press ↵.
- **To enter space**
  Select [Space] with ▲ ▼ ◄ ► and press ↵.
- **To delete 1 character**
  Select [BS] with ▲ ▼ ◄ ► and press ↵.

5 **Select [Conf].**

▲ ▼ ► → ↵

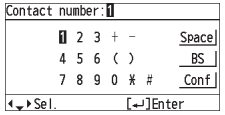


- Up to 16 characters (Space is included in the number of characters.)

6 **Select on the screen for step 3.**

(Contact number)

▲ ▼ → ↵



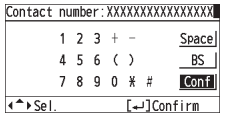
7 **Enter the name.**

▲ ▼ ◄ ► → ↵

(Repeat the same procedure for all characters.)

8 **Select [Conf].**

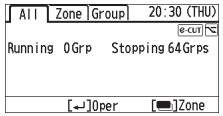
▲ ▼ ◄ ► → ↵



Controller setup

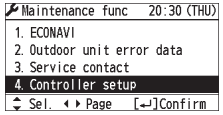
1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ▶



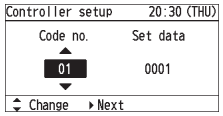
2 **Select the item to set.**

▲ ▼ → ↵



3 **Set.**

▲ ▼ → ↵ → ↩



*Factory default

Item code	Set contents	Set data
01	**Main/Sub setting** ① Set "Main" when using a single unit of the system controller. ② Set "Sub" when using in combination of a central control device such as intelligent controller. ③ When using multiple system controllers in a case other than ②, set "Main" only for one unit. In zone mode, set "Main" for one unit in each zone. It is recommended to set "Main" for the system controller whose item code 03 "All/Zone mode" is set to "All mode".	0000: Sub 0001: Main*
02	**System Controller address setting** Up to 10 system controller (CZ-64ESMC3) can be connected on the inter-unit control wiring. When installing more than one unit, assign self addresses to avoid duplication.	• 0000: Address 1* • 0001 to 0009: Address 2 to 10
03	**All/Zone mode** ●All mode Sets all the indoor units. ●Zone 1, Zone 2, Zone 3 and Zone 4 mode Sets only the indoor units in any of the Zone 1, Zone 2, Zone 3 and Zone 4. Can control for each zone and each group. See "Number-of-controlled-units mode" as well.	• 0000: All mode* • 0001: Zone 1 mode • 0002: Zone 2 mode • 0003: Zone 3 mode • 0004: Zone 4 mode
04	**R/C prohibited setting** Sets Enable/Disable of the R/C prohibited setting function. When the item code 05 "Central control/Remote control mode" is set to "Remote control mode", this is disabled.	• 0000: Disabling the setting function set* • 0001: Disabling the setting function not set
05	**Central control/Remote control mode** ●Central control mode • Disabling the setting function can be used. ●Remote control mode • Disabling the setting function cannot be used. • The Prohibit R/C setting is disabled. See "Number-of-controlled-units mode" as well.	• 0000: Central control mode* • 0001: Remote control mode

ENGLISH

Setting (continued)

*Factory default

Item code	Set contents	Set data
06	**Flap setting** Disables switching operation of airflow direction and disables the airflow display.	• 0000: Display and operation enabled* • 0001:Display and operation disabled
07	**Alarm output delay function** Delays the relay output ON when an alarm occurs.	• 0000: No delay* • 0001 to 0015 • 0001: 1 min, 0015: 15 min (1-minute interval)
09	**Password auto lock** Locks the password during no operation when the password is temporarily unlocked.	• 0000: Auto lock not set • 0001: 5 min • 0006: 30 min (5-minute interval)*
0A	**Screen auto off** Clears the LCD display during no operation.	• 0000: Not set* • 0001: 30 min
0C	**Peak cut function** Schedule peak cut/Schedule energy saving/External input peak cut Switches among the 3 functions.	• 0000: Schedule peak cut* • 0001: Schedule energy saving • 0002: External input peak cut
0E	**Temp display setting** Set the type of temperature display.	• 0000: °C* • 0001: °F
2F	**Password change** Enables changing the password for the password setting function.	• 0000 to 9999: • 0000: *
36	**Display of operation lock cancelling method** Set whether to display the operation lock cancelling method on the lock screen while operation is locked. (For the lock screen, see the "Part Names" section in the Quick Reference.)	• 0000: Displayed* • 0001: Not displayed

Number-of-controlled-units mode

In combination of the item code 03 "All/Zone mode" and the item code 05 "Central control/Remote control mode", the following ① to ⑩ modes can be set.

		Central control/Remote control mode		Control target	
		Central control mode	Remote control mode		
		Disabling the setting function can be used.	Disabling the setting function cannot be used. • The Prohibit R/C setting is disabled.	Group	Zone
Number-of-controlled-units mode	All mode	①All central control	⑥All remote control	1 to 64	1 to 4
	Zone 1 mode	② Zone 1 central control	⑦ Zone 1 remote control	1 to 16	1
	Zone 2 mode	③ Zone 2 central control	⑧ Zone 2 remote control	17 to 32	2
	Zone 3 mode	④ Zone 3 central control	⑨ Zone 3 remote control	33 to 48	3
	Zone 4 mode	⑤ Zone 4 central control	⑩ Zone 4 remote control	49 to 64	4

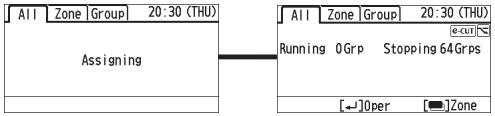
Test Operation

Test operation for the system controller

(Preparation) Referring to the operating instructions for indoor units and outdoor units, perform the test operation beforehand.

①Turn on the system controller
(Assigning blinks, and the indoor unit connection group is automatically checked.)

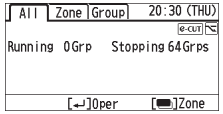
②Confirm that the number of connected indoor units (Only main units when controlling in group) is the same as the number of groups displayed on the system controller
*If not the same, see central address setting (P.25), and make the setting.
*When connecting the interface adaptor, set the central address.



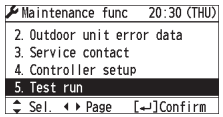
Indoor unit test operation

Test operation ON/OFF procedure

1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**
↩, ↵, ►

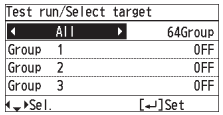


2 **Select the item to set.**
▲ ▼ → ↵

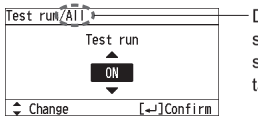


■ All/Zone

3 **Select the operation target.**
◄ ► → ↵



4 ▲ ▼ → ↵
(Press ☰ → ↩ to finish.)

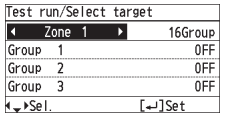


Displays the selected setting target

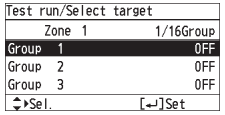
Test Operation (continued)

■ Group

3 **Select the operation target.**
Press ◄ ► to select the zone. → ↵



4 ▲ ▼ → ↵

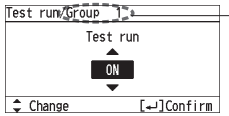


5 **Finish the test operation.**
Perform step 1 and 2, and then select [OFF] in step 4. ([TEST] display disappears.)

Attention

- Do not use this mode for purposes other than the test operation. (To prevent overload of the units)
- Read the installation instructions supplied with the units.
- Any of the Heat, Cool and Fan operations can only be performed.
- Temperature cannot be changed.
- Outdoor units do not operate for approx. 3 minutes after the power is turned on or operation is stopped.

▲ ▼ → ↵
(Press ☰ → ↩ to finish.)



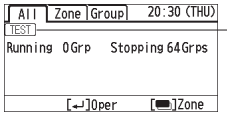
Displays the selected setting target.

Test Operation (continued)

Indoor unit test operation

Performing/Finishing test operation

1 **Select All, Zone or Group.**



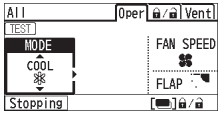
Indicator lights up.

Press ▬. Press ▬.
Press [All] ⟶ [Zone] ⟶ [Group] - - - - ▶ ▬, and go to ALL.

■ All

2 **Operate with All.**

Press ↵.



3 **Perform test operation.**

Press |.

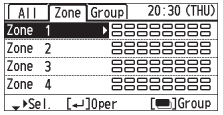
4 **Finish the test operation.**

According to the test operation ON/ OFF procedure, set OFF.

■ Zone

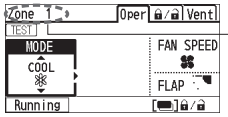
2 **Select the zone from zone 1 to 4 to operate.**

▲ ▼ → ↵



3 **Perform test operation.**

Press |.



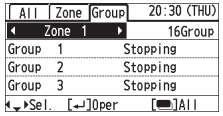
Displays the selected zone.

4 **Finish the test operation.**

According to the test operation ON/ OFF procedure, set OFF.

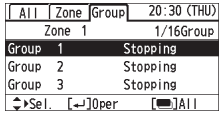
■ Group

2 Press ◄ ► to select the zone.



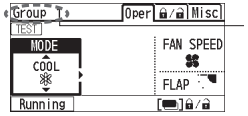
3 Select the group from group 1 to 64 to operate.

▲ ▼→ ↵



4 **Perform test operation.**

Press |.



Displays the selected group.

5 **Finish the test operation.**

According to the test operation ON/ OFF procedure, set OFF.

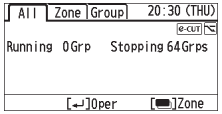
ENGLISH

Central Address Setting

After the test operation for the air conditioner has finished, set the central address according to the following procedure.

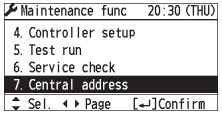
1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ►



2 **Select the item to set.**

▲ ▼ → ↵



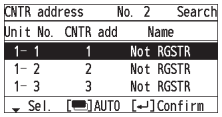
* If there is any duplication of central address, this message appears when the individual setting is complete or the Central address setting has finished.



■ Individual setting

3 **Select the Unit No. to set.**

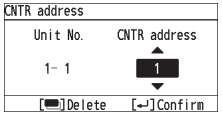
▲ ▼ → ↵



4 **Select the CNTR address to set.**

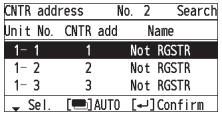
▲ ▼ → ↵

* To delete the setting, press ■.

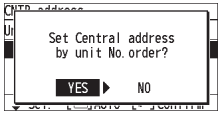


■ Automatic setting

3 **Press ■.**

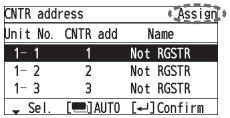


4 ◄ ► → [YES] → ↵



5 **Search → Assign**

* The setting operation is complete when Assign goes off.



ENGLISH

Central Address Setting (continued)

When setting the central address from the wired remote control

After the setting is complete, turn on the system controller again.

Setting from wired remote controllers (CZ-RTC4)

Make the setting while stopped.

1 **Press and hold the 2 buttons for several simultaneously.**

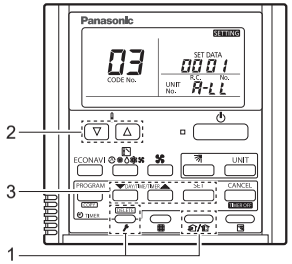
2 **Select the Code no.**

▽ △

3 **Select the Set data.**

▼DAY/TIME/TIMER▲ → SET

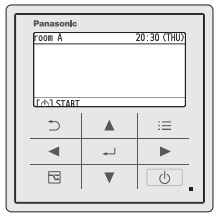
The indicator illuminates after blinking.
Press ↩.



Setting from wired remote controllers (CZ-RTC3, CZ-RTC5)

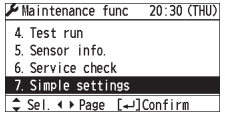
1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

↩, ↵, ►



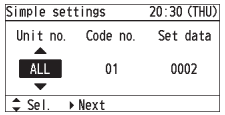
2 **Select [Simple settings]**

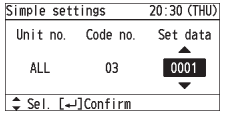
▲ ▼ → ↵



3 **Set**

Do not change the Unit No. from the initial setting.
Select the item code 03.
Change the setting data, and set the central address.
Press ↩ at the Unit No. selection position to finish the setting.



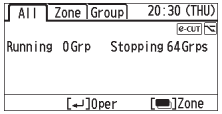


Outdoor Peak Cut Setting

Demand 1 and Demand 2 for outdoor units can be changed.
Depending on the type of outdoor unit, it cannot be changed.

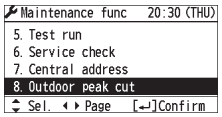
1 **Press and hold the 3 buttons for 4 seconds or more simultaneously.**

[↩], [↵], ►



2 **Select the item to set.**

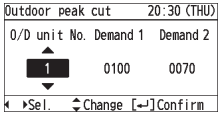
▲ ▼ → [↵]



* After the setting is complete, this unit and outdoor units restart. Be sure to make this setting while stopped.
* The displayed demand value is not the cut value, but the maximum power. (Same as the EEPROM setting for the outdoor maintenance remote control)

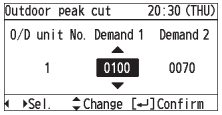
3 **Select O/D unit No. to set.**

▲ ▼ → [↵]



4 **Press ◄ ► to select the setting target (Demand 1 or 2).**

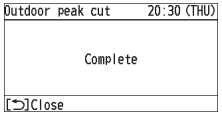
Press ▲ ▼ to change the demand value.
Press [↵]. The demand setting is complete.



5 To finish the Outdoor peak cut
Press [↵] → ◄ ► → and select [YES].



6 **The restart operation of outdoor units is complete.**

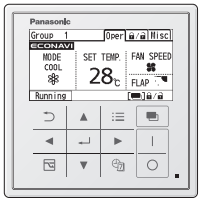


ENGLISH

Panasonic

Operating Instructions
System Controller
Model No. **CZ-64ESMC3**





Installation Instructions
Separately Attached.

ENGLISH
Before operating the unit, read these operating instructions thoroughly and keep them for future reference.

Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

Panasonic Corporation
http://www.panasonic.com

CV6233324487

Safety Precautions

⚠ WARNING	⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.
❗ Matters to be observed	⃠ Prohibited matters

⚠ WARNING

- ⃠ Do not use this appliance in a potentially explosive atmosphere.
- ⃠ In case of malfunction of this appliance, do not repair by yourself. Contact the sales or service dealer for repair.
- ❗ In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the mains power.

⚠ CAUTION

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Do not operate with wet hands.
- Do not wash with water.

Thank you for purchasing the Panasonic System Controller.

- Read the Operating Instructions carefully for safe use. This manual describes the Operating Instructions of the system controller. Read this manual as well as operating instructions supplied with indoor units and outdoor units.
- **Be sure to read the "Safety Precautions" (P.2, 3) before using.**
- Keep this manual with operating instructions supplied with indoor units and outdoor units in a safe place.
- Be sure to keep this manual in a place easily accessible by users. In the case of user change, be sure to give this manual to the new user.

NOTICE

The English text is the original instructions. Other languages are translation of the original instructions.

Excellent Features

Easy operation

- **Easy-to-follow display on the large screen**
- **Easy operation on the menu display**

Highly and multi-functional

- **Central control**
  This unit alone controls all the air conditioners in office.
- **Energy Saving function**
  Saves energy for existing air conditioners by reducing energy waste.
- **Schedule timer function**
  Sets operation schedule on a daily basis.

Connection to external equipment

- **This unit enables connection to demand controllers.**

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Energy Saving Function

Saves energy for existing air conditioners by reducing energy waste.

Temperature Auto Return *1

- **Restores the changed temperature to the originally set temperature automatically after a specified time has elapsed.**
  Cooling only when there is a visitor

Temperature Range Restriction *1

- **Restricts the temperature range that can be set.**
  Temperatures outside the range cannot be set.

Auto Shut-off Setting *1

- **When the operation is stopped at a specified time and resumed afterwards, the unit detects the operation status at regular time intervals and stops operation automatically.**

Repeat OFF Timer *1

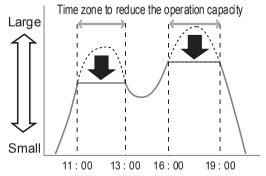
- **Every time operation is performed, the unit stops operation after a certain period of time.**
  Recommended for less frequent use and for short-period use at one time.

Peak cut Setting *1 (Gas heat pump saving *2)

- **Reduces the maximum power that can be output using the condition selected at the time of installation.**
  The 3 modes below are selectable.

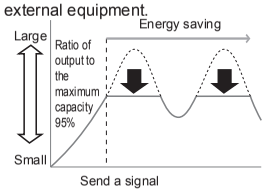
Schedule peak cut

Reduces the power by specifying time zones. (Specify the maximum power for each time zone.)



External input peak cut

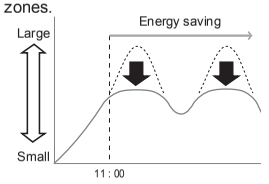
Reduces the power that can be output using external equipment.



*1: ε-CUT is displayed on the setting screen. (Energy saving function indication)
*2: When using a gas heat pump air conditioner

Schedule energy saving (Efficient operation *2)

Reduces the power by specifying time zones.



Password Setting

● **Only an authorized person can change the settings.**
Select the setting change range from the following 3 items.
- Energy-saving setting only
- Menu operation + Weekly timer setting
- All key operations

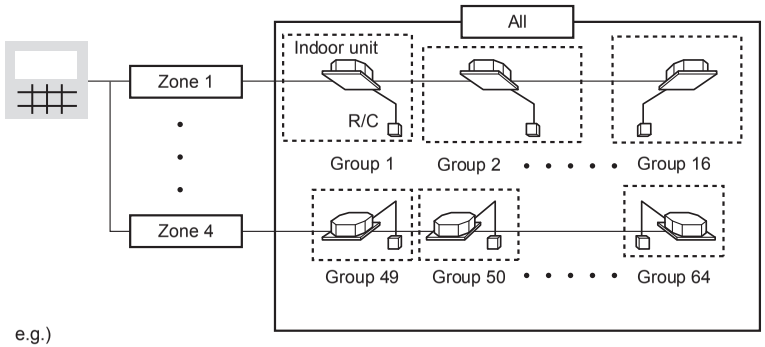
* The Energy Saving function forcibly performs the energy-saving operation.

Air-conditioning Control System

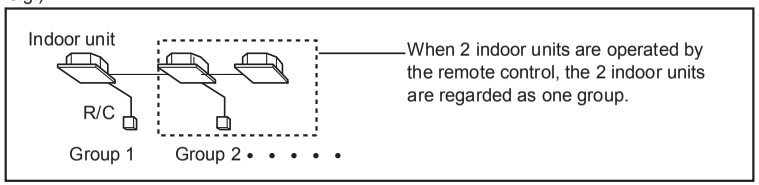
The most suitable air-conditioning control system can be selected according to the scale of the control/monitoring area.

● **Controlling indoor units**
This unit alone enables multi-functional operations: Up to 64 indoor units can be controlled individually or collectively.
* 64 indoor units are divided into up to 4 zones, and can be controlled on All, Zone or Group basis.

All	• Operates and sets up to 64 indoor units.
Zone	• Registers multiple indoor units with up to 4 zones, and operates and sets each zone collectively.
Group	• Operates and sets each group. * The remote control operation is performed by the group.



e.g.)



• The above example shows this unit is connected as the central controller.

Air-conditioning Control System (continued)

● **Number of connectable indoor units**
- Indoor unit: Max. 64 units
- Number of settings: 4 zones, 64 groups
- 1 zone: 16 groups, 64 units

● **Control mode**
This unit is equipped with 2 “Operation modes” and 5 “Number-of-controlled-units modes”
* Each mode is set at the time of installation. For details, refer to the Installation instructions.

● **Operation mode**
- **“Central control mode”:**
  Uses this unit as the “Central controller”

Note

When the Central control mode is set, the “Prohibit R/C mode” can be used.

- **“Remote control mode”:**
  Uses this unit as the “Remote control”.

Note

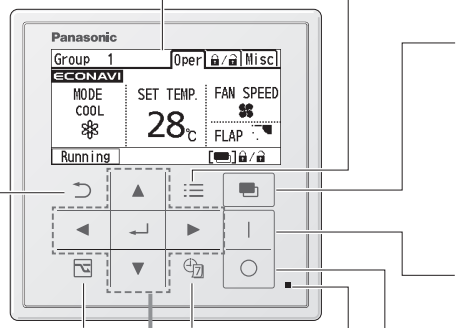
When the Remote control mode is set, the “Prohibit R/C mode” cannot be used. Also, if other central controllers sets “Prohibit R/C”, this unit cannot operate indoor units.

● **Number-of-controlled-units mode**
- **All mode**
  Controls on All, Zone or Group basis.
- **“Zone 1, Zone 2, Zone 3 and Zone 4 modes”**
  Operates and sets only the indoor units in any of the Zone 1, Zone 2, Zone 3 and Zone 4.

		Operation mode	
		Central control mode	Remote control mode
Number-of-controlled-units mode	All mode	All central control	All remote control
	Zone 1 mode	Zone 1 central control	Zone 1 remote control
	Zone 2 mode	Zone 2 central control	Zone 2 remote control
	Zone 3 mode	Zone 3 central control	Zone 3 remote control
	Zone 4 mode	Zone 4 central control	Zone 4 remote control

Part Names

Control panel



Return button
Returns to the previous screen.

LCD screen

Menu button
Displays the menu screen (P.10).

Select button
Switches the screen.
- Switches the operation/ setting target among [All], [Zone] and [Group].
- Switches the basic operation screen among [Oper] (Operation), [🔒/🔓] (Prohibit R/C) and [Vent/Misc] (Ventilation/Other).

START button
Starts operation.

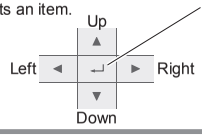
STOP button
Stops operation.

Operation indicator (Green)
Illuminates during operation. Blinks during alarm.
* If at least one unit is operating or alarming, the indicator illuminates or blinks.

Energy saving button
(When using a gas heat pump air conditioner: Performs the Efficient operation.)
Switches Energy saving/ Normal operation.

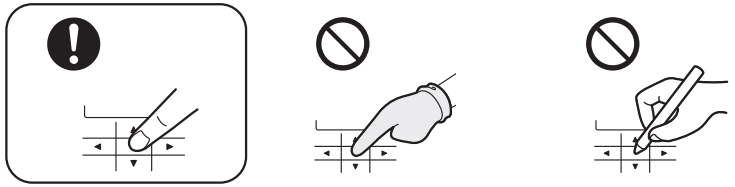
Timer button
Performs the timer reservation.

Cross key buttons
Selects an item.



Enter button
Fixes the selected content.

Note



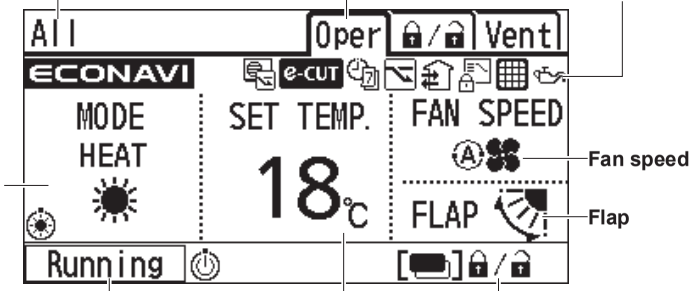
- If a password has been set, the password entry screen is displayed after any of the following operations.
  - After operating [1. Energy saving] in the menu
  - After operating the Menu button and Timer button
  - After operating all buttons

  For password, see Password Setting. (P.44)

Part Names (continued)

Screen display

● **Basic operation screen**



Operation/Setting target

Screen switching
Switching [Oper] (Operation), [🔒/🔓] (Prohibit R/C) and [Vent/Misc] (Ventilation/Other)

Setting information icon
(Next page)

Fan speed

Flap

Operation mode

Operation is in process

Set temperature

Operation guide

Setting information icon example (Displayed on the basic operation screen and standby screen)
According to the setting status, the number of icons and the display positions vary.

● Icon

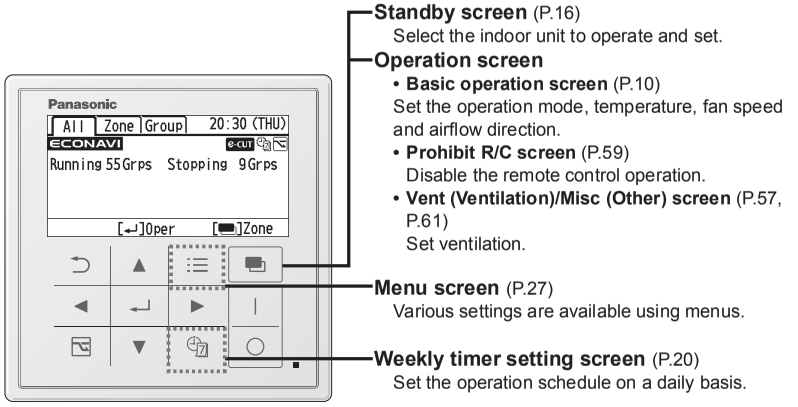
Icon	Description	Page
	The indoor unit filter needs to be cleaned.	P.46
	The engine oil needs to be replaced. (Only when using a gas heat pump air conditioner.)	-
	Switching operation modes is prohibited. (Switching to Auto mode is also prohibited.)	-
*1	Remote control operation is restricted by a central control device. (Only in the remote control mode)	-
*1	The key operation is locked.	P.49
	The weekly timer or Holiday is set.	P.25
	The weekly timer is set. (The Holiday is not set.)	P.20
	Energy saving operation is in process.	P.15
	Fresh air is used for ventilation. (Only when connecting a commercially sold fan.)	P.57
e-CUT	The energy saving setting function is set.	-
e-CUT	The energy saving setting function is operating.	-
	The operation capacity of the outdoor unit is restricted.	-

When checking the meanings of all icons (P.56)

*1: May not be displayed if there are too many icon indications that overflow from the display area. (P.56)

Switching Displays

This section describes how to switch the main screens.



Standby screen (P.16)
Select the indoor unit to operate and set.

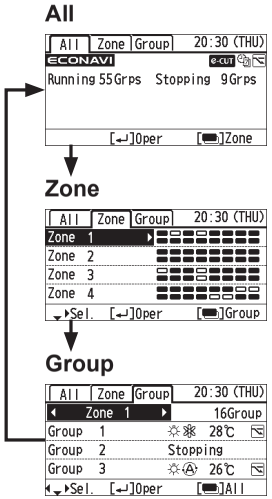
Operation screen
- **Basic operation screen** (P.10)
  Set the operation mode, temperature, fan speed and airflow direction.
- **Prohibit R/C screen** (P.59)
  Disable the remote control operation.
- **Vent (Ventilation)/Misc (Other) screen** (P.57, P.61)
  Set ventilation.

Menu screen (P.27)
Various settings are available using menus.

Weekly timer setting screen (P.20)
Set the operation schedule on a daily basis.

Standby screen

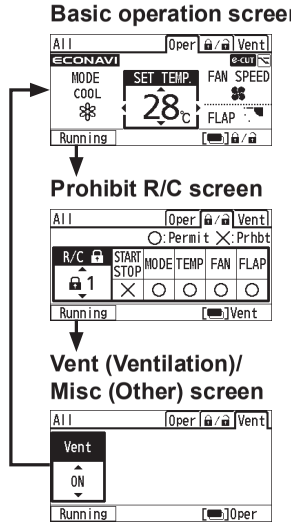
Press [▭].



Press [↵].

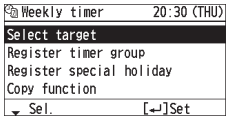
Operation screen

Press [▭].



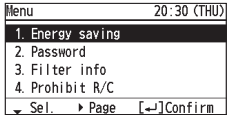
Weekly timer setting screen

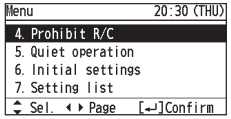
Press .



Menu screen

Press .



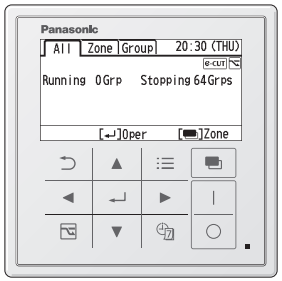


Basic Operations

This section describes the basic operations to use this unit.

1 **Select All, Zone or Group** (P.16)

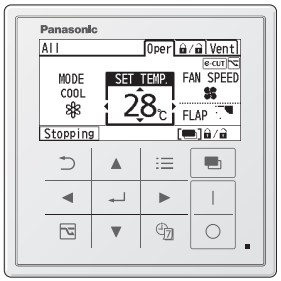
Press .



Press .

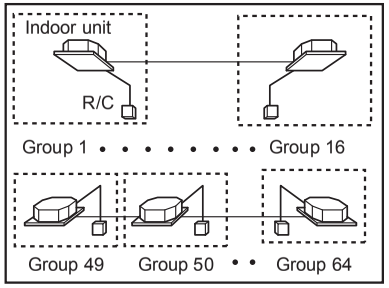
2 **Set the operation mode, temperature, fan speed and airflow direction** (P.18)

Press ◄ ► → ▲ ▼.



Press .

All	Select all indoor units.
Zone	Select Zone*.
Group	Select Group.



* In Zone mode, only the specified zones can be operated. (P.7)

MODE	Switch among COOL, HEAT, DRY, FAN and AUTO.
SET TEMP.	Set the temperature.
FAN SPEED	Set the fan speed.
FLAP	Set the airflow direction.

- Switching the screen using the button can make the settings below.
  - **(Prohibit R/C) screen** (P.59) Disabling the remote control operation and settings.
  - **Ventilation/Other screen** (P.57, P.61) Set the ventilation to ON/OFF.

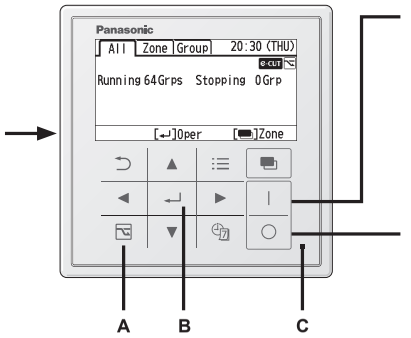
Furthermore...

Advanced settings can be made on the menu screen. (P.28)

The weekly time can be set. (P.20)

3 Perform operation.

Press [|].



A: Energy saving button
(When using a gas heat pump air conditioner: Performs the Efficient operation.)
Switches Energy saving/Normal operation.
(Only for indoor units equipped with the energy-saving function)

B: Enter button
Returning to the screen for step 2 can change the settings during operation.

C: Operation indicator (Green)

4 Finish operation.

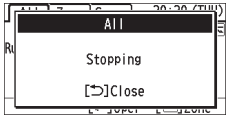
Press [◯].

Start operation.



- The pop-up screen appears. (4 sec.)
- The operation indicator illuminates.

Stop operation.



- The pop-up screen appears. (4 sec.)

* To clear the pop-up screen, press [⮌].

Note

- Pressing [|] after recovery from blackout will resume operation with the contents before blackout has occurred.
- If no operation is performed for a certain period of time, the back light turns off to save electricity. (Press any button for illumination.)

About energy saving

- The energy-saving operation restricts the maximum current value, maximum engine rotation speed, etc., resulting in decreased cooling/heating performance.
  (If the outdoor unit operates with the restricted value or less, there is no restriction.)
- If all of the indoor units are not equipped with the energy-saving function, pressing the Energy saving [ ] button will display the screen shown on the right.



Selecting All, Zone or Group

Select the indoor units to set from the standby screen.

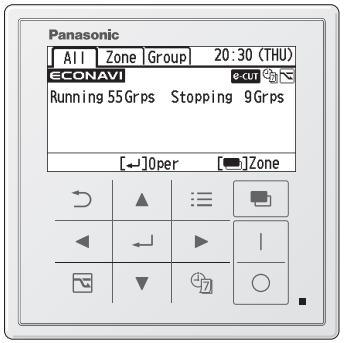
1 Switch the screen.

Press [▬].

All → Zone → Group

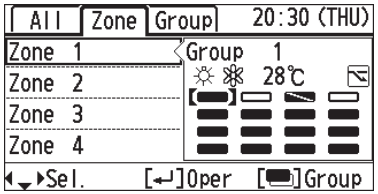
2 Select the item.

Press ▲▼ → [↵].
Pressing [↵] switches to the setting screen.



Note

● Groups can be selected on the zone screen.
Pressing [▸] after step 2 on the zone selection screen displays the screen below.

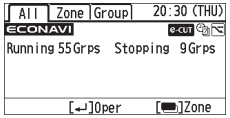


- ▬ Operating
- ▭ Stopped
- ▰ Alarming
- 【 】: Group currently selected

Press ▲ ▼ ◄ ► to select the group, and press [↵].

All (Select all indoor units.)

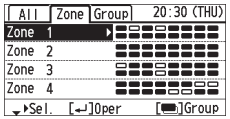
1 Press ▣.



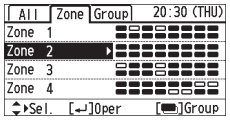
* For All, press ↵.

Zone (Select the zone.)

1 Press ▣.



2 Press ▲▼ → ↵.
- Select the zone from zone 1 to 4.

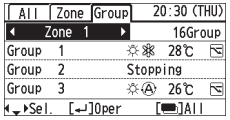


- Groups can be selected on this screen. (See P.16 “Note”.)

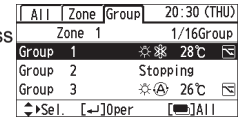
Group (Select the group.)

1 Press ▣.

2 Press ◄ ► → ▲ ▼ → ↵.
- Select the zone, and select the group.



Press ◄ ► to select the zone, press ▲▼ to select the group, and press ↵.



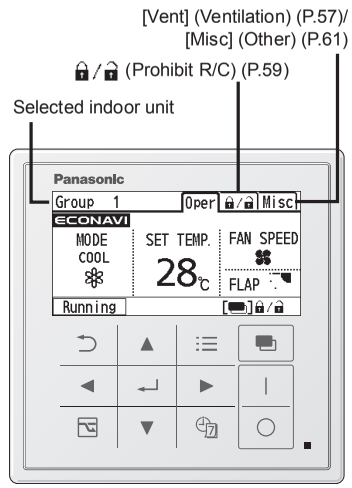
Setting Operation Mode, Temperature, Fan Speed and Airflow Direction

Make each setting for the selected indoor unit.

1 **Display the operation screen.**
Press ↵.

2 **Select the item to set.**
Press ◄ ►.
- When the cursor is not visible, press ↵.

3 **Set the selected item.**
Press ▲▼ → ↵.
(The cursor disappears.)
The unit returns to the standby screen.



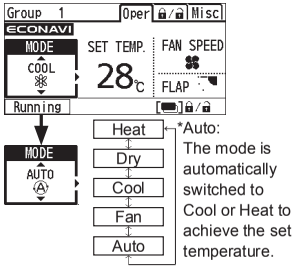
Note

- Operation modes that cannot be set are not displayed.
- The airflow direction display differs from the actual flap angle.
- If no operation is performed for a certain period of time, the back light turns off to save electricity. (Press any button for illumination.)
- The temperature range that can be set varies depending on the model.
- The temperature range can be changed using this unit. (P.32)
- Some models do not display the airflow direction.
- For [All] or [Zone], one typical indoor unit setting is displayed as an example. Not all of the indoor units have the same setting as displayed.

Perform the following operations in step 2 on page 18.

Operation mode (e.g. Cool, Heat, etc.)

Press ◄.



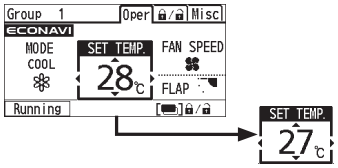
*Auto:
The mode is automatically switched to Cool or Heat to achieve the set temperature.

Temperature

Press ▲ ▼.

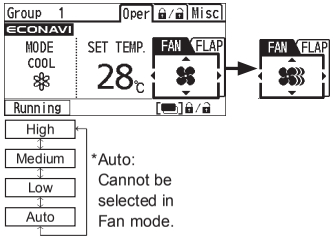
- **Cool/Dry**: 18 °C to 30 °C
- **Heat** : 16 °C to 30 °C
- **Auto** : 17 °C to 27 °C

* The upper limit temperature of gas heat pump air conditioner is 26 °C.



Fan speed

Press ►.

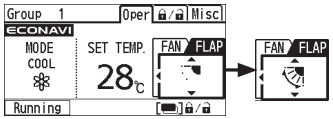


*Auto:
Cannot be selected in Fan mode.

Flap

Press ► 2 times.

- : Swing
- Pressing ▲▼ during swing can stop the flap at your preferred position.
- 5-level adjustment is possible during HEAT, FAN and AUTO (HEAT) modes. 3-level adjustment is possible during COOL and DRY modes.

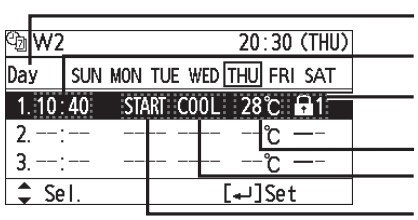


Weekly Timer Overview

You can set a weekly operation schedule.

- The operation ON/OFF schedule or temperature setting schedule can be set by setting the day and time (e.g. Setting the operation start time to 8:00 a.m. from every Monday to Friday.).

How to set (Overview)

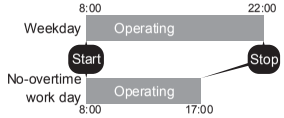


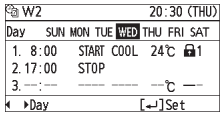
- Select **"Day"**
- Select **"Time"**
- Select **"Prohibit R/C [🔓/🔒]"** for the remote control
- Select **"Temperature"**
- Select **"Operation mode"**
- * Select **"Operation"**

(See P.21 for setting procedure)

Combination examples

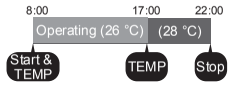
1. Stop operation earlier on "No-overtime work day"

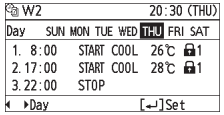




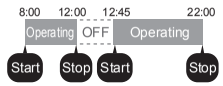
- The setting registered for 1 day can be copied to other days. (P.24)

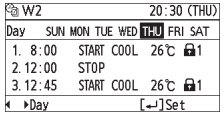
2. Set the temperature higher after the fixed time.





3. Stop operation during lunch break.

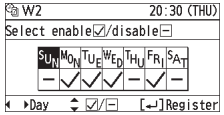




4. This Thursday is a holiday.

The timer can be disabled only for the specified days with the registered schedules kept. (P.25)

- Disable (−) the timer of the specific Thursday which falls on a holiday.
- Enable (☑) the timer after the holiday is over.



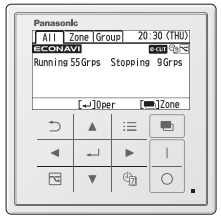
Timer Reservation

New registration

The screens show examples when the following content is registered using the timer group W2.
- The cooling operation starts with 28 °C at 10:40 a.m. every Thursday while [🔒 1] is assigned to the remote control. (P.23)

1 **Display the weekly timer setting screen.**

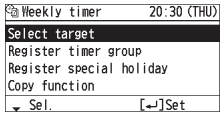
Press [menu].



- **To return to the previous screen**
  Press [↩].
- **To exit the timer setting screen.**
  Press [menu].

2 **Select [Select target].**

▲ ▼ → [↵]



3 **Select the target.**

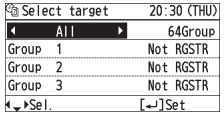
■ All/Zone

Press ◄ ► (or [menu]) → [↵].

- Press ◄ ► or [menu] to select [All] or [Zone].

All ↔ Zone 1 ↔ ····· ↔ Zone 4

* Zone and Group names can be changed. (P.50)



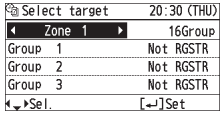
■ Group

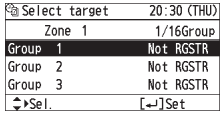
▼ → [↵]

- Press ▲ ▼ ◄ ► to select the group.

Group 1
↕
Group 2
↕
·····
↕
Group 16

* All : Max. 64 groups
Zone : Max. 16 groups

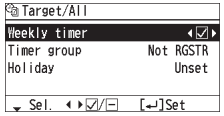




4 **Set [Weekly timer] to [☑] (Enable).**

▲ ▼ → ◄ ► (or [menu])

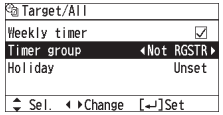
- Press ▲ ▼ to select the item, and press ◄ ► to select [☑] (Enable)/[−] (Disable).



Timer Reservation (continued)

5 **Select [Timer group].**

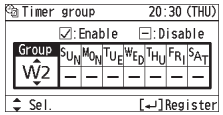
▲ ▼ → [↵]



6 **Select the weekly timer group.**

▲ ▼ → [↵]

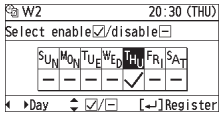
- Press ▲▼ to select the group from W1 to W8 to register.



7 **Enable [☑] all days on which the timer is used.**

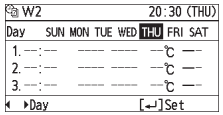
◄ ► → ▲ ▼ (or [menu]) (repeat) → [↵]

- Press ◄ ► to select the days, and press ▲ ▼ or [menu] to select [☑] (Enable)/[−] (Disable).



8 **Select the day for the timer setting.**

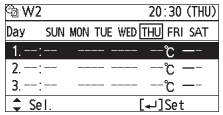
◄ ►



9 **Select the field to register the timer setting.**

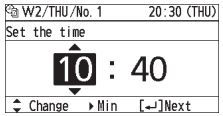
▲ ▼ → [↵]

- Up to 8 settings are available for each day.
- After registration, the items are arranged in time series automatically.



10 **Set the start time for the timer operation.**

hour minute
▲ ▼ → ► → ▲ ▼ → [↵]



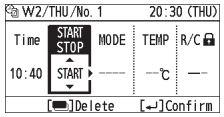
- 0:00 to 23:59

11 **Set.**

▲ ▼ → ◀ ▶ → ↵

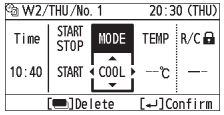
(repeat)

■ Timer operation



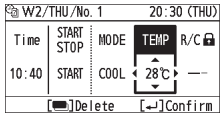
● **Types of timer operation**
- START: Starts operation.
- STOP: Stops operation.

■ Operation mode

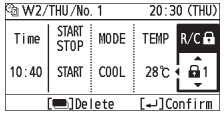


● **Types of operation mode**
- COOL
- FAN
- AUTO
- HEAT
- DRY

■ Temperature



■ Disabling the remote control

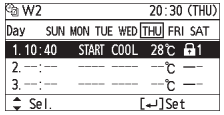


* This can be set when the operation mode is in “Central control mode”. (P.7)

12 **Confirm the setting content.**

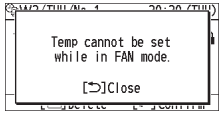
Confirm and press [▭].

(Press 2 times to finish.)



Note

● When [FAN] is set, the temperature cannot be set.



● **To perform additional registration**
Repeat from step 9 without pressing [▭].

● **To copy the setting content to other days** (P.24)

Timer Reservation (continued)

Copying settings

Timer group copy

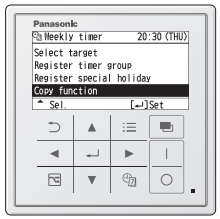
This copies the registered timer group to another timer group.
Use this setting to apply the same schedule to multiple groups.

Day copy

This copies the registered schedule to other days.
Use this setting to apply the same schedule to multiple days.

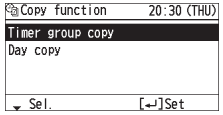
1 **Select [Copy function] on the weekly timer setting screen** (P.21).

▲ ▼ → ↵



2 **Select the item.**

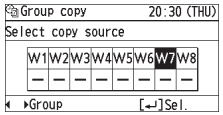
▲ ▼ → ↵



Timer group copy

3 **Select the copy source.**

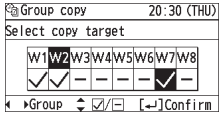
◀ ▶ → ↵



4 **Select [☑] for all copy destinations.**

▲ ▼ → ◀ ▶ → ↵

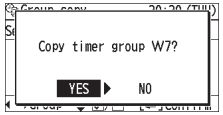
(Repeat)



5 **Select [YES].**

◀ ▶ → ↵ → [▭]

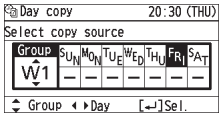
(Select [▭] twice to finish.)



Day copy

3 **Select the copy source.**

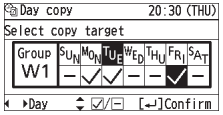
◄ ► → ↵



4 **Select [☑] for all copy destinations.**

▲ ▼ → ◄ ► → ↵

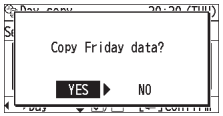
(Repeat)



5 **Select [YES].**

◄ ► → ↵ → ⏻

(Select [⏻] twice to finish.)

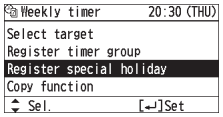


Setting holiday

You can set the timer to OFF for specific days, such as national holidays.

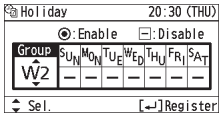
1 **Select [Register special holiday] on the weekly timer setting screen** (P.21).

▲ ▼ → ↵



2 **Select the weekly timer group.**

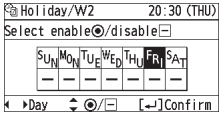
▲ ▼ → ↵



• W1 to W8

3 **Select the day for Holiday.**

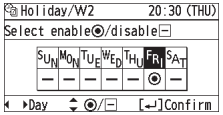
◄ ►



4 **Switch the Holiday setting.**

▲ ▼ → ↵ → ⏻

(Press 2 times to finish.)



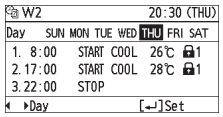
◉: Set

☐: Not set

Changing or Deleting Timer Reservation

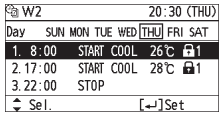
1 **After steps 8 on page 22, select the day to change or delete.**

◄ ►



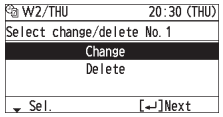
2 **Select the schedule to change or delete.**

▲ ▼ → ↵



3 **Select [Change] or [Delete].**

▲ ▼ → ↵

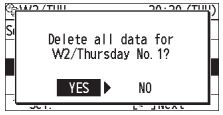


4 **Perform [Change] or [Delete] as follows.**

- **To change the setting,** following steps 10 to 12 on page 22, 23, set operation mode, temperature and disabling the remote control and confirm the content.
- **To delete the setting,** select [YES].

◄ ► → ↵ → ⏻

(Press 2 times to finish.)



● To change or delete settings repeatedly: Repeat from step 1 without pressing ⏻.

Note

● To delete all schedules of selected days

1 Select the day in step 1 above and press ↵.

2 Select [Delete all: THU] with ▲ ▼ and press ↵.

3 Select [YES].

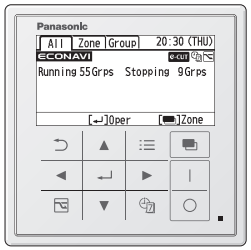
◄ ► → ↵ → ⏻

(Press 2 times to finish.)



Menu List

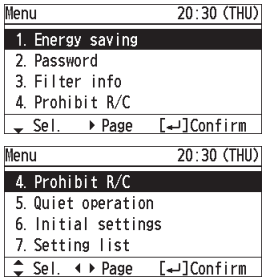
1 **Display the menu screen.**



To return to the previous screen
Press ⮌.
When no operation is performed in each setting screen for several minutes
The unit returns to the standby screen.
When moving to the next or previous page
Press ◄ ►.

2 **Select the menu item.**
▲ ▼ → ↵

● **Selectable menus**



Note

- If a password has been set, the password entry screen is displayed after any of the following operations.
  - After operating [1. Energy saving] in the menu
  - After operating the ☰ button and ⏻ button
  - After operating all buttons

For password, see Password Setting. (P.44)

Menu List (continued)

● **Menu items**

Energy saving	The energy saving functions shown on the below can be set individually aside from the ⏻ (Energy saving) button.	P.29
Password change*	Sets the administrator password.	P.44
Filter info☆	Confirms and resets the time to filter cleaning.	P.46
Prohibit R/C	Sets whether to enable or disable the use of the remote control.	P.59
Quiet operation☆	Performs quiet operation for outdoor units.	P.48
Initial settings	—	P.49
Setting list	Confirms the meanings of setting information icons.	P.56

[Energy saving] details

ECONAVI☆	Makes the ECONAVI setting to ON/OFF.	P.29
Energy Saving function (P.6)		
Temp auto return☆	Restores the temperature after the set time has elapsed even if the temperature is changed.	P.30
Temp range☆	Restricts the temperature range that can be set.	P.32
Auto shutoff	Sets the auto shutoff timer.	P.34
Peak cut☆	Determines the time zone or operates from outside for the energy saving operation.	P.36
Repeat off timer	Stops operation after a certain period of time each time operation is performed.	P.42

[Password change*] details

Energy Saving function (P.6)		
ID number	Enter the password.	P.44
Target range	Sets the password-covered range.	

[Filter info*] details

Filter sign	Resets the time to cleaning.	P.46
Next filter cleaning time	Confirms the time to the next cleaning.	

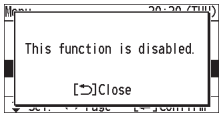
[Initial settings] details

Clock	Sets the present date and time.	P.49
Clock type	Sets the type of clock display.	
Operation lock	Locks the button operations.	
Zone/Group name	Sets names for zones and groups.	P.50
Touch sound	Turns the operation sound ON/OFF.	P.52
Contrast	Sets the screen contrast.	
Backlight	Sets the backlight brightness of the screen.	
Language	Sets the display language for the top screen.	
Contact address	Confirms the contact address and telephone number for servicing.	

[Setting list] details

Group information	Displays the group setting information.	P.54
Setup info	Displays the setting information of all of the connected groups.	

☆ Depending on the model, some menus cannot be used. The following display appears.



* The administrator password is required for setting.

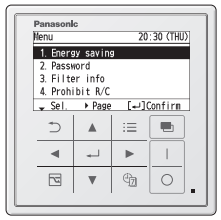
ECONAVI Setting

Sets the ECONAVI operation to ON/OFF.

1 **Select [Energy saving] on the menu screen.** (P.27)

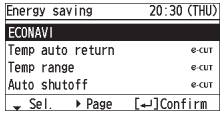
▲ ▼ → ↵

- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.



2 **Select [ECONAVI].**

▲ ▼ → ↵



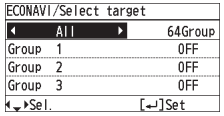
3 **Select the target.**

■ All/Zone

◄ ► (or ▣) → ↵

• Press ◄ ► or ▣ to select [All] or [Zone].

All ↔ Zone 1 ↔ ····· ↔ Zone 4

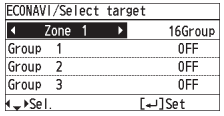


■ Group

◄ ► (or ▣)

• Press ◄ ► or ▣ to select [All] or [Zone].

All ↔ Zone 1 ↔ ····· ↔ Zone 4

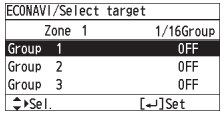


▲ ▼ → ☰

• Press ▲ ▼ to select [Group].

Group 1 ↔ Group 2 ↔ ····· ↔ Group 16

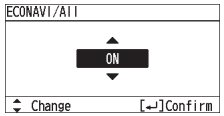
* All :Max. 64 groups
Zone :Max. 16 groups



4 **Set the ECONAVI to [ON].**

▲ ▼ → ↵ → ☰
(Press 2 times to finish.)

• Press ▲ ▼ to select [ON] or [OFF].



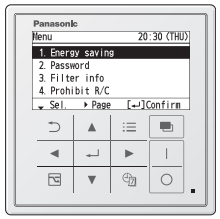
Temperature Auto Return

Restores the temperature after the set time has elapsed even if the temperature is changed.

1 **Select [Energy saving] on the menu screen.** (P.27)

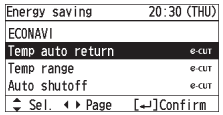
▲ ▼ → ↵

- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.



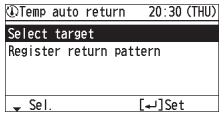
2 **Press [Temp auto return].**

▲ ▼ → ↵



3 **Select [Select target].**

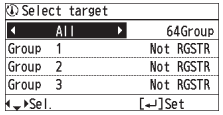
▲ ▼ → ↵



4 **Select the target.** (See P.29 step 3.)

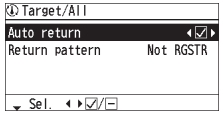
◄ ► (or ▣) → ▲ ▼ → ↵

• Press ◄ ► or ▣ to select [All] or [Zone], and press ▲▼ to select [Group].



5 **Set [Auto return] to [☑].**

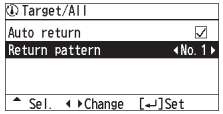
◄ ►



6 **Select the return pattern.**

▲ ▼ → ◄ ► (or ▣) → ↵

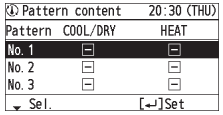
• Press ▲▼ to select [Return pattern], and press ◄ ► or ▣ to select the pattern No.



7 **Check the [Return pattern] contents, and make the setting if necessary.**

▲ ▼ → ↵

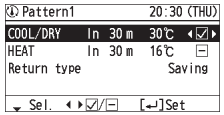
• Press ▲ ▼ to select the pattern No. to set.
• Up to 8 patterns can be registered.



8 **Select the item to set, and set to [☑].**

▲ ▼ → ◄ ► (or ▣) → ↵

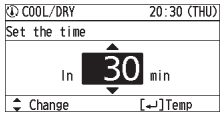
- COOL Temperature rising direction
- HEAT Temperature falling direction



9 **Set the time to return to the set temperature.**

▲ ▼ → ↵

- 10 to 240 min (by the 10 min)



10 **Set the temperature.**

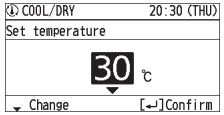
▲ ▼ → ↵ → ☰

(Press 2 times to finish.)

Setting range

- COOL/DRY : 18 °C to 30 °C
- HEAT : 16 °C to 30 °C*

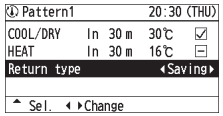
* The upper limit temperature of gas heat pump air conditioner is 26 °C.



■ **To set in series** Repeat from step 7 without pressing ☰.

Note

- To operate only when energy can be saved, select [Return type] in step 8.



When [Return type] is set to [Saving], this functions only when the temperature set in step 10 saves more energy than the changed temperature.

e.g. When Cool 26 °C is set and the temperature is changed to 28 °C
- [Saving]: Keeps 28 °C
- [Normal]: Returns to 26 °C

- The temperature range that can be set varies depending on the model.

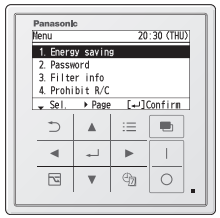
Temperature Range Restriction

Restricts the temperature range that can be set.

1 **Select [Energy saving] on the menu screen.** (P.27)

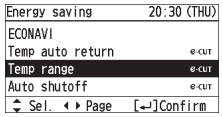
▲ ▼ → ↵

- **To return to the previous screen** Press ⮌.
- **To return to the standby screen** Press ☰ 2 times.



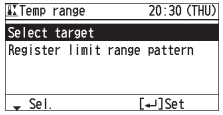
2 **Select [Temp range].**

▲ ▼ → ↵



3 **Select [Select target].**

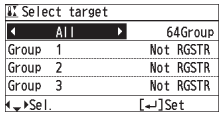
▲ ▼ → ↵



4 **Select the target.** (See P.29 step 3.)

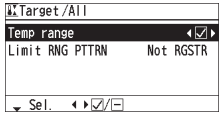
◄ ► (or ▣) → ▲ ▼ → ↵

- Press ◄ ► or ▣ to select [All] or [Zone], and press ▲ ▼ to select [Group].



5 **Set [Temp range] to [☑].**

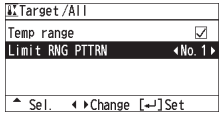
◄ ► (or ▣)



6 **Select [Limit RNG PTTRN].**

▲ ▼ → ◄ ► (or ▣) → ↵

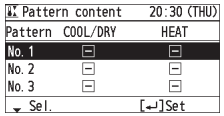
- Press ▲ ▼ to select [Limit RNG PTTRN], and press ◄ ► or ▣ to select the pattern No.



7 **Check the [Limit RNG PTTRN] contents, and make the setting if necessary.**

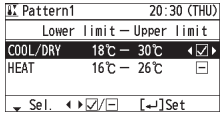
▲ ▼ → ↵

- Press ▲ ▼ to select the pattern No. to set.
- Up to 8 patterns can be registered.



8 **Select the item to set, and set to [☑].**

▲ ▼ → ◄ ► (or ▣) → ↵



9 **Set the temperature range.**

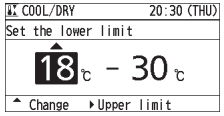
▲ ▼ → ► → ▲ ▼ → ↵ → ☰

(Press 2 times to finish.)

Setting range

- COOL/DRY : 18 °C to 30 °C
- HEAT : 16 °C to 30 °C*

* The upper limit temperature of gas heat pump air conditioner is 26 °C.



● **To set in series** Repeat from step 7 without pressing ☰.

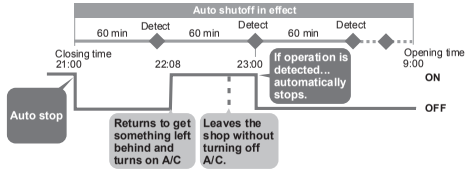
Note

● The temperature range that can be set varies depending on the model.

Auto Shutoff Setting

Stop time / End time / Timer

When the operation is stopped at a specified time (e.g. closing time) and resumed afterwards, this function detects the operation status at regular time intervals and stops operation automatically.
Detect the operation status at regular time intervals and stop the operation automatically. (e.g. 60 min)

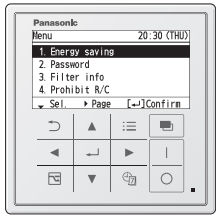


1 **Select [Energy saving] on the menu screen.** (P.27)

▲ ▼ → ↵

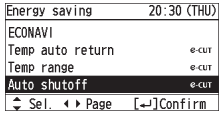
● **To return to the previous screen**
Press ⮌.

● **To return to the standby screen**
Press ☰ 2 times.



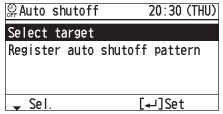
2 **Select [Auto shutoff].**

▲ ▼ → ↵



3 **Select [Select target].**

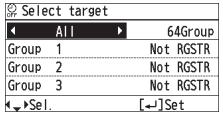
▲ ▼ → ↵



4 **Select the target.** (See P.29 step 3.)

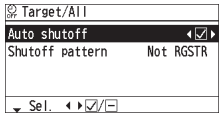
◄ ► (or ▣) → ▲ ▼ → ↵

- Press ◄ ► or ▣ to select [All] or [Zone], and press ▲ ▼ to select [Group].



5 **Set [Auto shutoff] to [☑].**

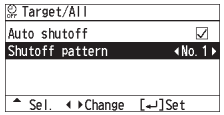
◄ ► (or ▣)



6 **Select [Shutoff pattern].**

▲ ▼ → ◄ ► (or ▣) → ↵

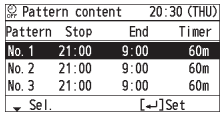
- Press ▲ ▼ to select [Shutoff pattern], and press ◄ ► or ▣ to select the pattern No.



7 **Check the [Shutoff pattern] contents, and make the setting if necessary.**

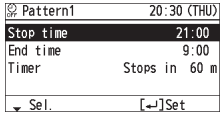
▲ ▼ → ↵

- Press ▲ ▼ to select the pattern No. to set.
- Up to 8 patterns can be registered.



8 **Select the item to set.**

▲ ▼ → ↵



Stop time

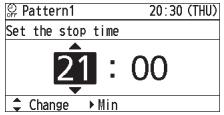
Time to stop operation (Time when Auto shutoff is activated)

9 **Set.**

hour minute

▲ ▼ → ► → ▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



End time

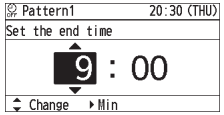
Time when Auto shutoff stops

9 **Set.**

hour minute

▲ ▼ → ► → ▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



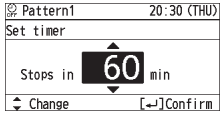
Timer

Time interval to detect operation status after [Stop time]

9 **Set.**

▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



- 10 min to 180 min (by the 10 min)

Peak Cut Setting

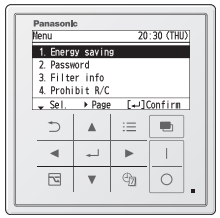
Schedule peak cut

Reduces the maximum power by specifying the maximum power for each time zone. (P.6)

1 **Select [Energy saving] on the menu screen.** (P.27)

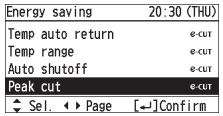
▲ ▼ → ↵

- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.



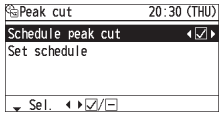
2 **Select [Peak cut].**

▲ ▼ → ↵



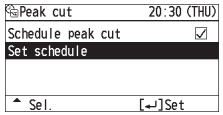
3 **Set [Schedule peak cut] to [☑].**

◄ ► (or ▣)



4 **Select [Set schedule].**

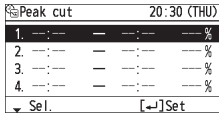
▲ ▼ → ↵



5 **Change the setting.**

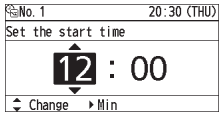
Select the field to register.

▲ ▼ → ↵



6 **Set the start time and end time.**

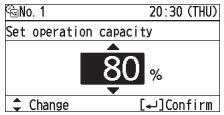
▲ ▼ → ► → ▲ ▼ → ↵



7 **Select the operation capacity.**

▲ ▼ → ↵ → ☰

(Press 2 times to finish.)

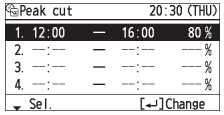


● **To set in series**

Repeat from step 4 without pressing ☰.

● **To change**

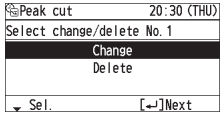
• Select the field to change in step 5 on the previous page.



• Select [Change].

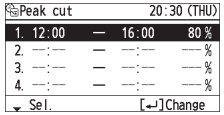
▲ ▼ → ↵

• Following the above steps 6 to 7, select the start time, end time and operation capacity.



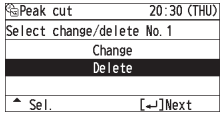
● **To delete**

• Select the field to delete in step 5 on the previous page.



• Select [Delete].

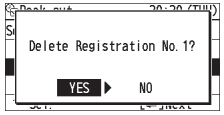
▲ ▼ → ↵



• Select [YES].

◄ ► → ↵ → ☰

(Press 2 times to finish.)



Note

This unit is equipped with the following 3 settings. Any of them is set at the time of installation.

• Schedule peak cut (P.36) • External input peak cut (P.38) • Schedule energy saving (P.40)

For detailed settings, see each page.

The peak cut setting operation is the same as that for schedule peak cut.

Peak Cut Setting (continued)

External input peak cut

Reduces the maximum power using external equipment. (P.6)

1 **Select [Energy saving] on the menu screen.** (P.27)

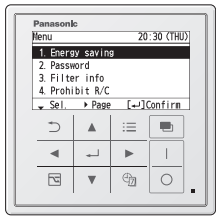
▲ ▼ → ↵

● **To return to the previous screen**

Press ⮌.

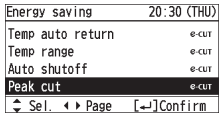
● **To return to the standby screen**

Press ☰ 2 times.



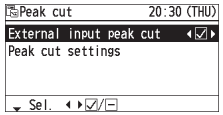
2 **Select [Peak cut].**

▲ ▼ → ↵



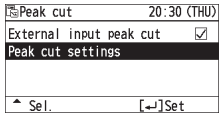
3 **Set [External input peak cut] to [☑].**

◄ ► (or ▣)



4 **Select [Peak cut settings].**

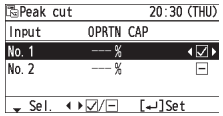
▲ ▼ → ↵



5 **Change the setting.**

Select the field to register.

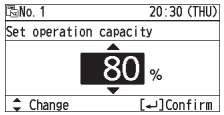
▲ ▼ → ↵



6 **Select the operation capacity.**

▲ ▼ → ↵ → ☰

(Press 2 times to finish.)

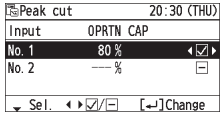


● **To set in series**

Repeat from step 4 without pressing ☰.

● **To change**

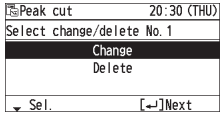
• Select the field to change in step 5 on the previous page.



• **Select [Change].**

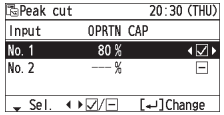
▲ ▼ → ↵

• Following the above step 6, select the operation capacity.



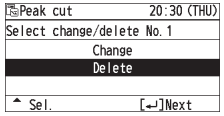
● **To delete**

• Select the field to delete in step 5 on the previous page.



• Select [Delete].

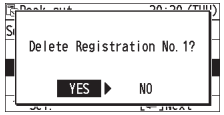
▲ ▼ → ↵



• Select [YES].

◄ ► → ↵ → ☰

(Press 2 times to finish.)



Note

This unit is equipped with the following 3 settings. Any of them is set at the time of installation.

• Schedule peak cut (P.36) • External input peak cut (P.38) • Schedule energy saving (P.40)

For detailed settings, see each page.

Peak Cut Setting (continued)

Schedule energy saving / Efficient operation (When using a gas heat pump air conditioner)

Reduces the maximum power only for the specified time zone. (P.6)

1 **Select [Energy saving] on the menu screen.** (P.27)

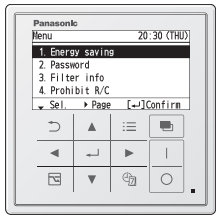
▲ ▼ → ↵

● **To return to the previous screen**

Press ⮌.

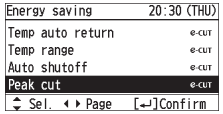
● **To return to the standby screen**

Press ☰ 2 times.



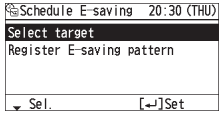
2 **Select [Peak cut].**

▲ ▼ → ↵



3 **Select [Select target].**

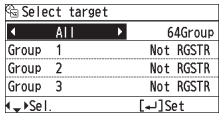
▲ ▼ → ↵



4 **Select the target.** (See P.29 step 3.)

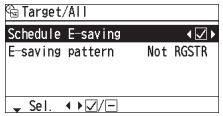
◄ ► (or ⧉) → ▲ ▼ → ↵

• Press ◄ ► or ⧉ to select [All] or [Zone], and press ▲ ▼ to select [Group].



5 **Set [Schedule E-saving] to [☑].**

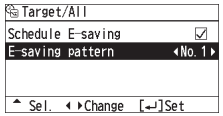
◄ ► (or ⧉)



6 **Select [E-saving pattern].**

▲ ▼ → ◄ ► (or ⧉) → ↵

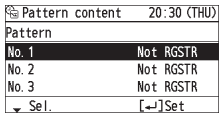
• Press ▲ ▼ to select [E-saving pattern], and press ◄ ► or ⧉ to select the pattern No.



7 **Check the [E-saving pattern] contents, and make the setting if necessary.**

▲ ▼ → ↵

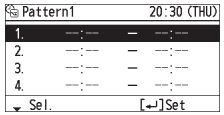
• Up to 8 patterns can be registered.



8 **Select the field to register.**

▲ ▼ → ↵

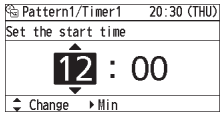
• Up to 4 patterns can be registered.



9 **Set the start time and end time.**

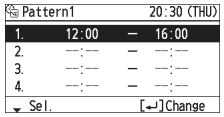
▲ ▼ → ► → ▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



● To change

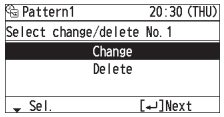
• Select the field to change in step 8.



• Select [Change].

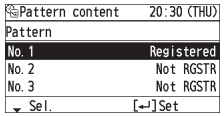
▲ ▼ → ↵

• Following the above step 9, select the start time, end time.



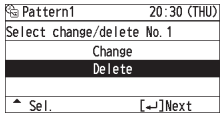
● To delete

• **Select the field to delete in step 8.**



• Select [Delete].

▲ ▼ → ↵



• Select [YES].

◄ ► → ↵ → ☰

(Press 2 times to finish.)



Note

This unit is equipped with the following 3 settings. Any of them is set at the time of installation.

• Schedule peak cut (P.36) • External input peak cut (P.38) • Schedule energy saving (P.40)

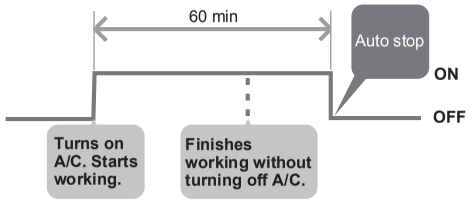
For detailed settings, see each page.

The Efficient operation setting is the same as that for [Schedule energy saving].

Repeat Off Timer

This stops operation after a certain period of time each time operation is performed.

(e.g. Setting to stop operation after 60 minutes)



1 **Select [Energy saving] on the menu screen.** (P.27)

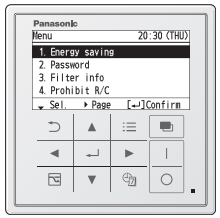
▲ ▼ → ↵

● To return to the previous screen

Press ⮌.

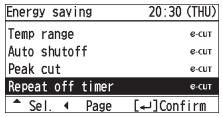
● To return to the standby screen

Press ☰ 2 times.



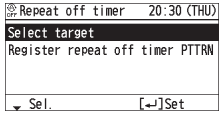
2 **Select [Repeat off timer].**

▲ ▼ → ↵



3 **Select [Select target].**

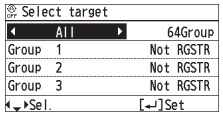
▲ ▼ → ↵



4 **Select the target.** (See P.29 step 3.)

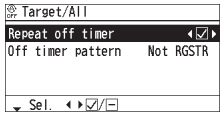
◄ ► (or ▣) → ▲ ▼ → ↵

• Press ◄ ► or ▣ to select [All] or [Zone], and press ▲ ▼ to select [Group].



5 **Set [Repeat off timer] to [☑].**

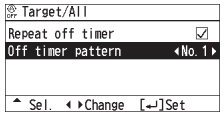
◄ ► (or ▣)



6 **Select [Off timer pattern].**

▲ ▼ → ◄ ► (or ▣) → ↵

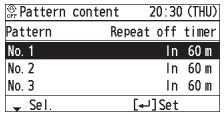
- Press ▲ ▼ to select [Off timer pattern], and press ◄ ► or ▣ to select the pattern No.



7 **Check the [Off timer pattern] contents, and make the setting if necessary.**

▲ ▼ → ↵

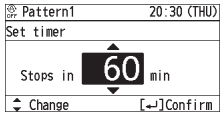
- Press ▲ ▼ to select the pattern No. to set.
- Up to 8 patterns can be registered.



8 **Set the time.**

▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



- 10 to 180 min (by the 10 min)

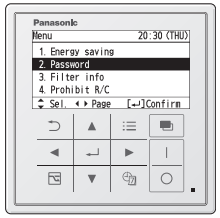
Password Setting

ID number / Target range

Sets the password and password-covered range. The password-covered range can be selected from the following 3 settings.
• Energy saving/ Menu and Weekly timer/ All keys operation
(When each operation is selected, a pop-up screen for password entry is displayed.)

1 **Select [Password] on the menu screen.** (P.27)

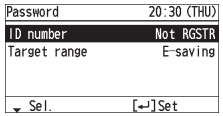
▲ ▼ → ↵



- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.

2 **Select the item to set.**

▲ ▼ → ↵



3 **Enter the password.**

▲ ▼ → ► → ↵

(Repeat)

- Select the number with ▲▼ and move to the next field with ►.

ID number

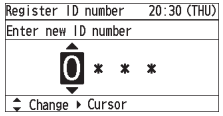
4 **Select the item.**

▲ ▼ → ↵

5 **Enter a new password.**

▲ ▼ → ► → ↵

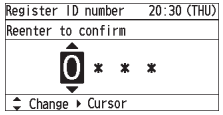
(Repeat)



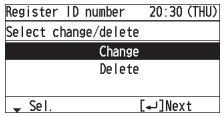
6 **Enter the password again to confirm.**

▲ ▼ → ► → ↵ → ☰

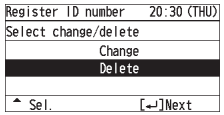
(Press 2 times.)



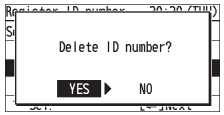
● **To change**
- Select the item to change in step 4 on the previous page.
- Select [Change].



● **To delete**
- Select the item to delete in step 4 on the previous page.
- Select [Delete].



- Select [YES].
  ◄ ► → ↵ → ☰
  (Press 2 times.)

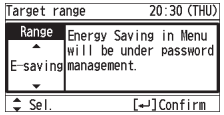


Target range

4 Select the password-covered range.

▲ ▼ → ↵ → ☰
(Press 2 times.)

- **E-saving** (factory default)
  Energy saving in the menu
- **Menu**
  Menu operation and weekly timer function operation
- **All keys**
  All keys operation



Note

● If the password has been set, enter the password to unlock. Then, operation becomes possible. If no operation is performed for 30 minutes, the operation is locked again.

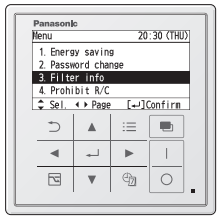
Filter Sign and Filter Cleaning Timing

Filter sign / Next filter cleaning time

1 Select [Filter info] on the menu screen. (P.27)

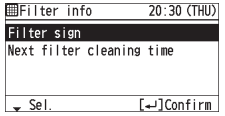
▲ ▼ → ↵

● **To return to the previous screen**
Press ⮌.
● **To return to the standby screen**
Press ☰ 2 times.



2 Select the item to set.

▲ ▼ → ↵



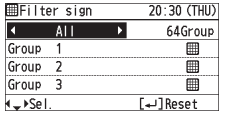
Filter sign

After the filter is cleaned

3 Select the target. (See P.29 step 3.)

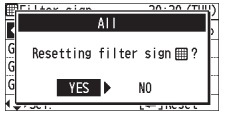
◄ ► (or ▣) → ▲ ▼ → ↵

- Press ◄ ► to select [All] or [Zone], and press ▲ ▼ to select [Group].



4 Select [YES].

◄ ► → ↵ → ☰
(Press 2 times to finish.)
(The filter cleaning time count is reset.)



*To display each item, see steps 1 to 2 on the previous page.

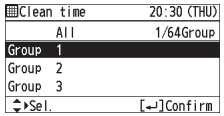
Next filter cleaning time

To check the cleaning timing

3 **Select the target.** (See P.29 step 3.)

◄ ► (or ▣) → ▲ ▼ → ↵

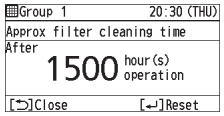
• Press ◄ ► to select [All] or [Zone], and press ▲ ▼ to select [Group].



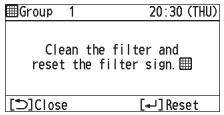
4 **Confirm the operation time to the next cleaning.**

☰

(Press 2 times to finish.)



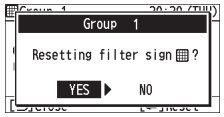
● **When cleaning is immediately necessary**
The screen shown on the right is displayed.



• Press ◄ ► to select [YES], and press ↵.

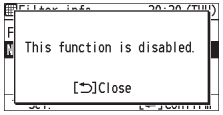
☰

(Press 2 times to finish.)

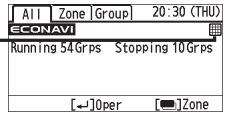


Note

● Depending on the model, [Filter info] cannot be used. In this case, a message is displayed as shown on the right.



● When the filter cleaning time comes, the icon is displayed on the standby screen. Clean the filter if this icon appears.



Quiet Operation

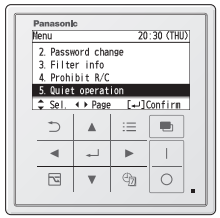
Sets the time zone to operate with noise of outdoor units reduced.

1 **Select [Quiet operation] on the menu screen.** (P.27)

▲ ▼ → ↵

● **To return to the previous screen**
Press ⮌.

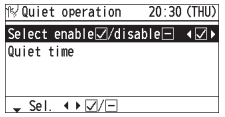
● **To return to the standby screen**
Press ☰ 2 times.



2 **Set [Select enable ☑ /disable −] to [☑].**

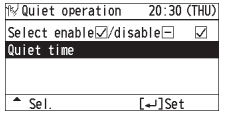
▲ ▼ → ◄ ► (or ▣)

• Select the item with ▲ ▼ and select ☑ / − with ◄ ►.



3 **Select [Quiet time].**

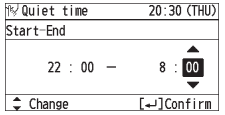
▲ ▼ → ↵



4 **Set the time to perform quiet operation.**

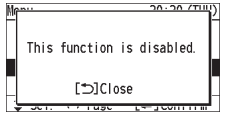
▲ ▼ → ► → ↵ → ☰

(Repeat) (Press 2 times to finish.)



Note

● Depending on the model, [Quiet operation] cannot be used. In this case, a message is displayed as shown on the right.



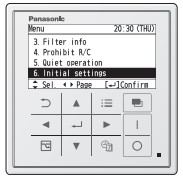
● Using the quiet operation function may deteriorate the performance to reduce the operation sound.
● The power consumption shows an approximate calculation result, which may differ from the measurement result calculated by a power meter.

Initial Settings

Clock / Clock type / Operation lock

1 **Select [Initial settings] on the menu screen.** (P.27)

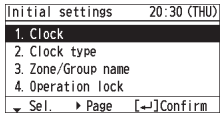
▲ ▼ → ↵



- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.

2 **Select the item to set.**

▲ ▼ → ↵

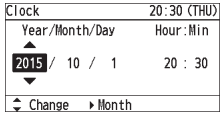


Clock

3 **Set the date and time.**

▲ ▼ → ▶ → ↵ → ☰

(Repeat) (Press 2 times to finish.)

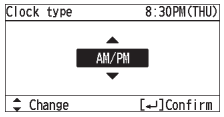


Clock type

3 **Select the type to display.**

▲ ▼ → ↵ → ☰

(Press 2 times to finish.)



AM/PM
↕
24 h

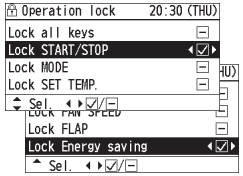
Operation lock

3 **Select the type of lock and set to [☑].**

▲ ▼ → ◀ ▶ → ☰

(Press 2 times to finish.)

- **To cancel lock**
  Select [−].

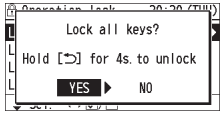


Only for [Lock all keys]

The screen shown on the right is displayed.

Select [YES].

◀ ▶ → ↵



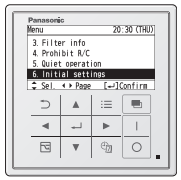
Initial Settings (continued)

Zone/Group name setting

Sets names for zones and groups.

1 **Select [Initial settings] on the menu screen.** (P.27)

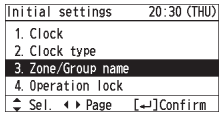
▲ ▼ → ↵



- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.

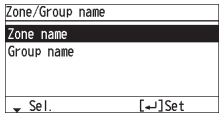
2 **Select [Zone/Group name].**

▲ ▼ → ↵



3 **Select the item to set.**

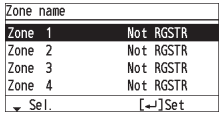
▲ ▼ → ↵



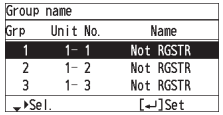
4 **Select the item to give a name to.**

▲ ▼ → ↵

- **Zone name**
  • Select zone 1 to 4.



- **Group name**
  • Select group 1 to 64.

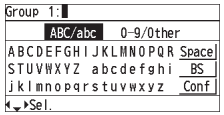


5 **Enter the name.** (Repeat the same procedure for all characters.)

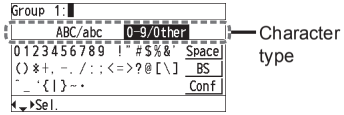
▲ ▼ ◄ ► → ↵

- For Zone
  Up to 14 characters
- For Group
  Up to 16 characters

(Space is included in the number of characters.)



- **To change the character type**
  Select the character type with ◄ ► and press ↵.
- **To enter space**
  Select [Space] with ▲ ▼ ◄ ► and press ↵.
- **To delete 1 character**
  Select [BS] with ▲ ▼ ◄ ► and press ↵.



6 **Select [Conf] in the end.**

▼ ◄ ► → ↵ → ☰

(Press 2 times to finish.)



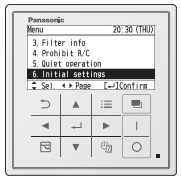
Initial Settings (continued)

Touch sound / Contrast / Backlight / Language / Contact address

1 **Select [Initial settings] on the menu screen.** (P.27)

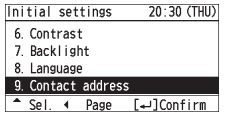
▲ ▼ → ↵

- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.



2 **Select the item to set.**

▲ ▼ → ↵

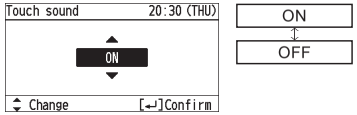


Touch sound

3 ▲ ▼ → ↵ → ☰

(Press 2 times to finish.)

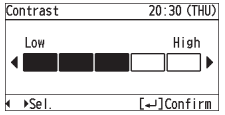
- The volume cannot be changed.



Contrast

3 ◄ ► → ↵ → ☰

(Press 2 times to finish.)

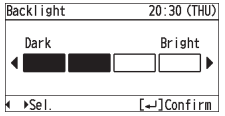


Backlight

3 ◄ ► → ↵ → ☰

(Press 2 times to finish.)

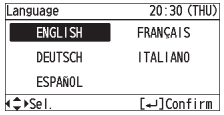
- 4-level brightness adjust-ment
  (▬▭▭▭ shows the back light is off.)



Language

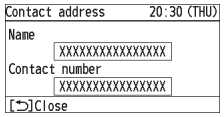
4 **Set.**

▲ ▼ ◄ ► → ↵



Contact address

- If you need to contact for servicing, check the back cover of the operating instructions for indoor units or outdoor units.

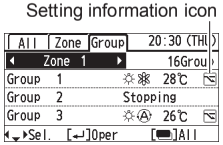


Settings List

Group information / Setup information

This provides the meanings of setting information icons.

Setting information icon



1 **Select [Setting list] on the menu screen.** (P.27)

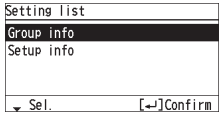
▲ ▼ → ↵

- **To return to the previous screen**
  Press ⮌.
- **To return to the standby screen**
  Press ☰ 2 times.



2 **Select the item.**

▲ ▼ → ↵



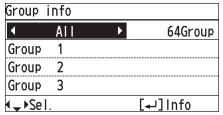
Group information

Displays the selected group setting information.

3 **Select the target group.**

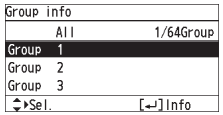
◄ ► (or ▣)

• Press ◄ ► or ▣ to select [All] or [Zone].



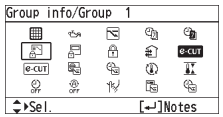
▲ ▼ → ↵

• Press ▲ ▼ to select [Group].
• Pressing ◄ ► skips 3 groups to select.



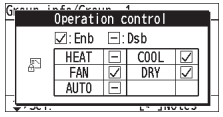
4 **Select the setting information icon.**

▲ ▼ ◄ ► → ↵



5 **Confirm.**

Confirm and press ↵ → ☰
(Press 2 times to finish.)



☑ :Enable
− :Disable

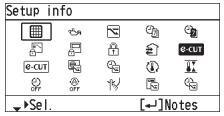
*To display each item, see steps 1 to 2 on the previous page.

Setup information

The icons corresponding to the settings are displayed if they are set for at least one group among all of the connection groups.

3 **Select the setting information icon.**

▲ ▼ ◄ ► → ↵



4 **Select the item.**

▲ ▼ → ↵



5 **Confirm.**



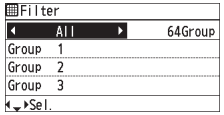
● **Icon description**

After confirming ↵ → ☰ (Press 2 times to finish.)

● **Group list**

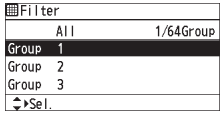
◄ ► (or ▣)

• Press ◄ ► or ▣ to select [All] or [Zone].



▲ ▼ → ↵

• Press ▲ ▼ to select [Group].
• Pressing ◄ ► skips 3 groups to select.

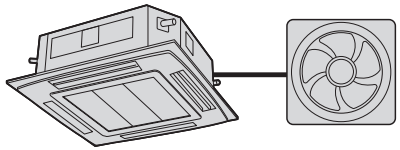


● **Setting information icon list**

Icon	Description	Page
	Switching among operation modes is prohibited. (Switching to Auto mode is also prohibited.)	–
	The remote control operation is restricted by the central control device. (Only in the remote control mode)	–
	The indoor unit filter needs to be cleaned.	P.46
	The engine oil needs to be replaced. (Only when the gas heat pump air conditioner is used)	–
	[Weekly timer] is set. (Holiday is not set.)	P.20
	The weekly timer or Holiday is set.	P.25
	Energy saving operation is in process.	P.15
	The operation capacity of the outdoor unit is restricted.	–
	[Schedule peak cut] is set.	P.36
	[Schedule E-saving] is set.	P.40
	[External input peak cut] is set.	P.38
	[Temp auto return] is set.	P.30
	[Temp range] is set.	P.32
OFF	[Auto shutoff] is set.	P.34
OFF	[Repeat off timer] is set.	P.42
	[Quiet operation] is set.	P.48
	The key operation is locked.	P.49
	Fresh air is used for ventilation. (Only when connecting a commercially sold fan)	P.57
e-CUT	The energy saving function is set.	–
e-CUT	The energy saving function is operating.	–

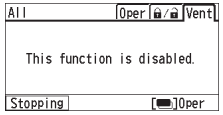
Ventilation Setting

This unit can control ventilation during operation for the following indoor units.



The fan connected to the air conditioner can be switched ON/OFF while the air conditioner is operating.

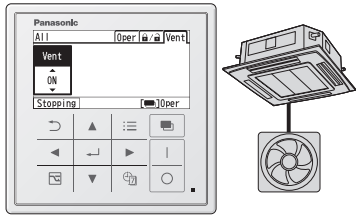
* If the ventilation function is not equipped
If neither of the above settings is set for the selected group, the ventilation screen is displayed as shown on the right.



Use this setting when a commercially sold fan, etc. is connected to the air conditioner. Setting the ventilation to ON/OFF starts to operate or stops the fan. When the air conditioner is operated or stopped, the fan starts to operate or stops at the same time.

1 **Switch to the [Vent/Misc] screen on P.12.**

Press .



■ Ventilation ON/OFF

Switches the fan to ON/OFF.

2 **Set.**

▲ ▼ → ↵



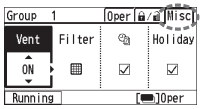
ON Ventilate

OFF Not ventilate

Ventilation Setting (continued)

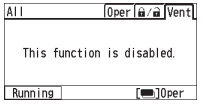
Note

- The screen differs depending on the connected model.
Example



([Misc] screen P.61)

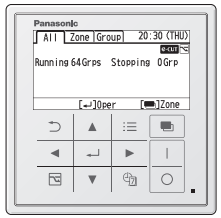
- If there is no ventilation fan present, the screen below is displayed.



Disabling Remote Control Operation

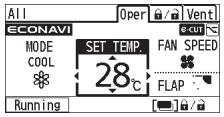
Disables the remote control operation for selected indoor units.

1 **Select indoor units.** (P.16)



2 **Switch to the remote control prohibition screen.**

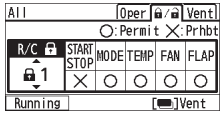
Press [■].



3 **Select from [🔒 1] to [🔒 4].**

▲ ▼ → [↵]

🔓 ↔ 🔒1 ↔ ····· ↔ 🔒4



🔓: Operation is permitted.
🔒: Operation is prohibited.

- For the contents of [🔒 1] to [🔒 4], see the chart below.
- Pressing [↵] returns to the standby screen.

Example): 🔓•🔓 of use of the remote control.

	Start/Stop	Mode	Set Temperature	Fan Speed	Flap
🔓	○	○	○	○	○
🔒 1	×	○	○	○	○
🔒 2	×	×	×	○	○
🔒 3	○	×	×	○	○
🔒 4	○	×	○	○	○

○ : Can set or operate with the remote control.
× : Cannot set or operate with the remote control.

e.g. If you select [🔒 2] and try to change [Mode] using the remote control, the following screen is displayed and the mode cannot be changed.



*** For [Start/Stop], [Mode], [Set Temperature], [Fan Speed] and [Flap], see P.18.**
*** The contents for [🔒 1] to [🔒 4] can be changed.**

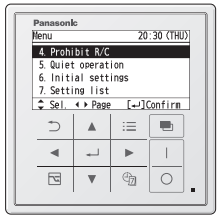
Note

- When using the remote control mode, this function cannot be used. (P.7)
- If contents not applicable to [🔒 1] to [🔒 4] are attempted to be set using other controllers (Intelligent controller, etc.), 🔒 is displayed.

Changing the setting contents for the remote control [🔒 1] to [🔒 4].

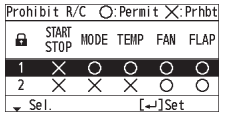
1 **Select [Prohibit R/C] on the menu screen.** (P.27)

▲ ▼ → [↵]



2 **Select from [🔒 1] to [🔒 4].**

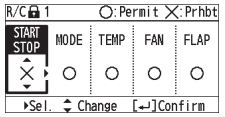
▲ ▼ → [↵]



3 **Select the item to disable.**

◄ ► → ▲ ▼ → [↵]

- Press ◄ ► to select the item, and press ▲ ▼ to select ○: Permit/ ×: Prohibit.



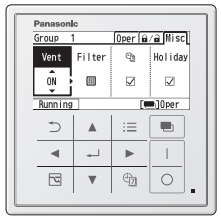
- **To return to the previous screen**
  Press [⮌].
- **To return to the standby screen**
  Press [☰] 2 times.

Other Screen

Filter sign reset / Weekly timer / Holiday

If the [Vent/Misc] tab shows [Misc], the following settings can be made on the [Misc] screen.
• Filter sign reset • Weekly timer setting Enable/Disable • Holiday setting

1 **Switch to the [Misc] screen on P.12.**
Press [▣].

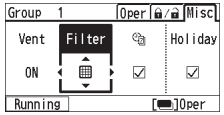


Filter sign reset

Displays the filter cleaning timing, and resets the elapsed time from cleaning. (P.46)

2 **Select the item.**
◄ ►

−− Filter cleaning unnecessary
▦ Filter cleaning necessary



3 **Set.**
▲ ▼ → [↵]



• Clean the filter, and press ▲ ▼.

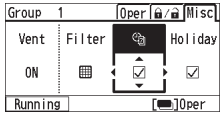
• Press ◄ ► to select [YES], and press [↵].
(The elapsed time count from the filter cleaning is reset.)



Weekly timer

Switches the weekly timer setting to enable/disable. (P.20)

2 **Select the item.**
◄ ►



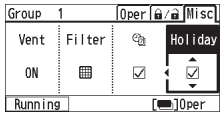


☑ Timer operation performed
− No timer operation

Holiday

Switches Holiday setting to ☑ (set)/ − (unset). (P.25)

2 **Select the item.**
◄ ►





☑ Holiday set
− Holiday not set

Troubleshooting

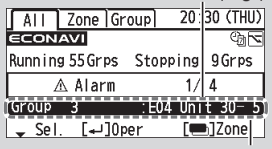
If operation does not start by pressing [|]...

Check the following before asking for repair.

Cannot disable the remote control operation (Remote prohibited)	● Cannot perform 🔒 operation when using in the remote control mode. (P.8)
Blackout?	● After recovery from blackout, press [|] again. → If operation does not start, turn off the circuit breaker and consult the dealer of purchase about the symptom and Model No.
Is the circuit breaker turned off?	● After checking with the responsible manager, turn on the circuit breaker, and press [|] again. → If operation does not start, turn off the circuit breaker and consult the dealer of purchase about the symptom and Model No.
Is [Assigning] blinking?	● After blinking stops, press [|] again. → If operation does not start, turn off the circuit breaker and consult the dealer of purchase about the symptom and Model No.
Weekly timer does not work.	● Is the weekly timer set to ☑ [enable]? The weekly timer does not work if set to − [disable]. Check Timer Reservation (P.21). ● Is the current date and time correct? If the current time is not correct, the unit operates at unexpected time.

Alarm is displayed.

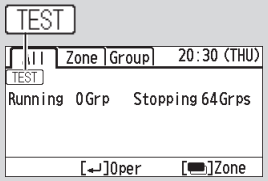
Alarm indication (e.g.)



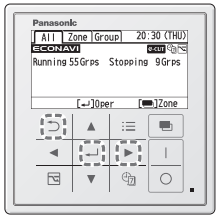
Defective indoor unit No.

- If any of the following alarm indications appears, stop operation once and restart approx. 1 minute later.
  (Alarm indication, off)
  [•E04 •E06 •P10 •P20 •H06]
  → If the indication does not reappear, use the unit.
  → If the indication reappears or an alarm indication other than the above (combination of numbers and characters such as E, F, H, L and P) appears, stop operation, turn off the circuit breaker and consult the dealer of purchase about alarm indication, Model No. and indoor unit No.

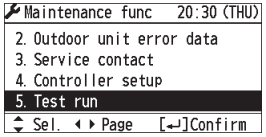
TEST is displayed.



- Set the test operation to [OFF].
  ① Press and hold the 3 buttons for 4 seconds or more simultaneously.



([Maintenance func] screen is displayed)



② Select [5. Test run] and press ↵, ▼.
③ Select [All] and press.
④ Select [OFF] and press ↵.
⑤ Press ☰ → ⮌ to finish.
Do not operate the item other than [Test run].

• If you need to contact for servicing, check the back cover of the operating instructions for indoor units or outdoor units.

Specifications

Model No.		CZ-64ESMC3
Dimensions		(H) 120 mm × (W) 120 mm × (D) 16 + 51.9 mm
Weight		520 g
Temperature/ Humidity range		0 ˚C to 40 ˚C / 20 % to 80 % (No condensation) *Indoor use only.
Power Source		Single phase 100 to 240 V ~ 50/60 Hz
Power consumption		Max. 1.3 W
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 ˚C) *Adjust periodically.
	Holding time	100 hours (When fully charged) *Approx. 8 hours are required for full charge.
Number of connected indoor units		Up to 64 groups (64 units)

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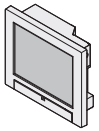


Installation Instructions
Intelligent Controller
Model No. **CZ-256ESMC3**

ENGLISH
Read through the Installation Instructions before you proceed with the installation.
In particular, you will need to read under the “Safety Precautions” on page 2.
ENGLISH 2-5

FRANÇAIS
Lisez les instructions d'installation avant de commencer l'installation.
En particulier, vous devez lire la section « Consignes de sécurité » en page 6.
Pour des instructions plus détaillées, veuillez vous référer au DVD fourni.
FRANÇAIS

ESPAÑOL
Lea las Instrucciones de instalacion antes de proceder con la instalacion del equipo.
En concreto, deberá leer detenidamente la sección “Precauciones de seguridad” situada en la página 7.
Si desea instrucciones más detalladas, consulte el DVD suministrado.
ESPAÑOL

DEUTSCH
Lesen Sie die Installationsanleitung aufmerksam durch, bevor Sie mit der Installation beginnen.
Lesen Sie insbesondere die „Sicherheitshinweise“ auf S. 8 sorgfältig durch.
Weitere detaillierte Anweisungen finden Sie auf der beigefügten DVD.
DEUTSCH

ITALIANO
Leggere le Istruzioni di installazione prima di procedere con l'installazione.
Prestare particolare attenzione alla sezione “Precauzioni di Sicurezza” a pagina 9.
Per istruzioni più dettagliate, fare riferimento al DVD in dotazione.
ITALIANO

NEDERLANDS
Lees de installatie-instructies voordat u verder gaat met de installatie.
U moet in het bijzonder de “Veiligheidsvoorschriften” op pagina 10 lezen.
Voor gedetailleerdere instructies, verwijzen wij u naar de bijgeleverde DVD.
NEDERLANDS

PORTUGUÊS
Leia cuidadosamente as instruções de instalação antes de prosseguir com a instalação.
Em particular, é necessário ler as informações na secção “Precauções de segurança” na página 11.
Para instruções mais detalhadas, por favor consulte o DVD fornecido.
PORTUGUÊS

TÜRKÇE
Kuruluma başlamadan önce Kurulum Talimatlarını baştan sona okuyun.
Özellikle 12. sayfadaki “Güvenlik Önlemleri” kısmını okumanız gerekecektir.
Daha detaylı talimatlar için lütfen ürünle birlikte verilen DVD'ye bakınız.
TÜRKÇE

POLSKI
Przed przystąpieniem do instalacji należy przeczytać instrukcje instalacyjne,
a w szczególności „Środki ostrożności” na stronie 13.
Bardziej szczegółowe instrukcje można znaleźć na dołączonej płycie DVD.
POLSKI

РУССКИЙ
Прежде чем приступать к установке, прочитайте инструкцию по установке.
В частности, следует прочитать раздел «Меры безопасности» на стр. 14.
Для получения более подробных инструкций, пожалуйста, обращайтесь к поставляемому в комплекте DVD-диску.
РУССКИЙ

УКРАЇНСЬКА
Перед початком установки уважно прочитайте інструкції.
Особливу увагу зверніть на розділ «Запобіжні заходи» на ст. 15.
Щоб отримати більш детальні інструкції, будь ласка, зверніться до DVD-диска, який постачається в комплекті.
УКРАЇНСЬКА

Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

85464369910010

Panasonic Corporation
http://www.panasonic.com

H0916-0
CV6233334141

ENGLISH

Safety Precautions

Please Read Before Starting
This controller must be installed by the sales dealer or installer. These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

⚠**WARNING** This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠**CAUTION** This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This controller shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this controller, provide the Installation Instructions to the servicing personnel.

⚠ WARNING

⚠ ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- This controller is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown. Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.
- Provide a power outlet to be used exclusively for this controller.
- Turn off the circuit breaker of the controllers before installation.
- Do not supply power to the controller until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clamper so that the power supply terminal board is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the controller must be grounded.
- Select an installation location which is rigid and strong enough to support or hold the controller, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances. Modified or disassembled controller may cause fire, electric shock or injury.
- Do not clean inside the controller by users. Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.

⚠ CAUTION

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the controller at the following locations.
  - Areas where leakage of flammable gas may be expected
  - Places where large amounts of oil mist exist
  - Locations where external air may enter the room directly (This may cause “condensation”)
  - Locations where high-frequency emissions are generated
  - Locations where voltage fluctuation frequently occurs
- Do not wash with water.

NOTICE
The English text is the original instructions. Other languages are translation of the original instructions.

Specifications

Model No.	CZ-256ESMC3	Clock	Precision	± 30 seconds/month (at normal temperature 25 ˚C) *Adjust periodically.
Dimensions [H × W × D]	240 × 280 × (20 + 65) mm		Holding time	100 days (at normal temperature 25 °C with full charge) *Approx. 8 hours are required for full charge.
Weight	2.7 kg			
Temperature/ Humidity range	0 °C to 40 °C / 20 % to 80 % (no condensation) Indoor use only.	Number of connectable units per link*1		Up to 100 units of the combined total of the following • Indoor unit - Up to 64 units*2 • Outdoor unit - Up to 30 units • Central control device - Up to 10 units
Rated voltage/ Rated frequency	Single phase 100-240 V ~ 50/60 Hz			
Power consumption	Max. 20 W			

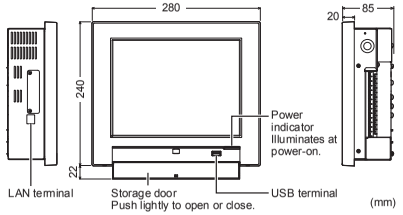
*1: The maximum number of connectable units is shown below.
- When using only this unit: 128 indoor units and 60 outdoor units
- When connecting a Communication Adaptor: 256 indoor units and 120 outdoor units

*2: The number of indoor units includes the Interface Adaptor.

Supplied accessories	< >: Number of pieces
Screw <4> (M4×10)	Washer <4>
Nut <4> (M4)	Clamper <4>
Instructions and License List (DVD), Quick Reference, Installation Instructions	

* Wiring are not included (field supplied item).

Dimensions (Part Names)



Symbols on the controller

⏚ This symbol refers to “Protective earth”.

Caution for Network Connection

- Connecting to Internet will enable you to operate the unit and check the status using a PC from a remote location.
- When connecting to Internet, implement security measures against illegal access from outside. For detailed connection and setup method, consult the network administrator.

Installation Precautions

■ Installation Location

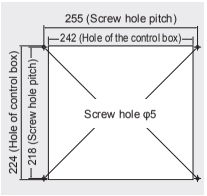
- Avoid the following locations for installation.
  - Under direct sunlight
  - Location near heat source
  - Location where the controller will be splashed with water or affected by dampness or humidity
  - Uneven surface
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller vertically to the floor.
- Install the controller at a location with suitable temperature and humidity for using.
- Do not install controller at the locations with the equipment (medical equipment, etc.) which generates the high-frequency emissions. (It may interfere with the equipment and may cause accidents due to malfunction.)
- Install at least 1 m away from TV, radio, PC. etc. (To prevent fuzzy images or noise)

■ General Precautions on Wiring

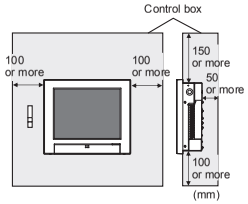
- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)
- Using putty (field supplied item), etc., fill the hole of the control box through which the wiring passes.
- Do not pass the power supply wiring and other wirings through the same wire tube. Keep as long a distance as possible between them to alleviate the influence of noise.
- Do not store the power supply wiring and other wiring in the same metal tube or bundle them together. (An operational error from noise may occur.)
- Do not bury the wiring in the ground.

Mounting

■ Design Control Box



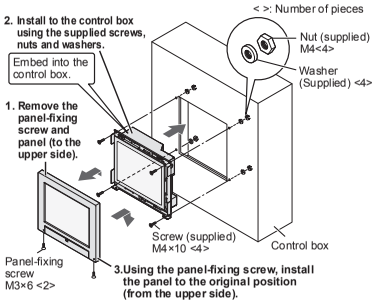
■ Mounting Position



To ensure proper airflow (for heat dissipation) inside the control box, provide vents (slits, etc.) both on the upper part and lower part (or bottom side) of the right and left sides.

- Do not allow the temperature inside the control box to exceed 40 °C.
- Be careful not to block the above vents during installation.

■ How to Mount (Control Box)



Preparations for Wiring

■ Power Supply Wiring

- Be sure to use a dedicated line for power source.
- Be sure to earth this controller.
- Do not connect the earth wiring to those of gas pipe, water pipe, lighting rod, telephone, etc.

- **Type of wiring**
  - Use a flexible wiring of 2 mm² (Recommended).
  - Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).
- **Total Wire Length :** 30 m or less

■ Inter-Unit Control Wiring

- **Type of wiring**
  - Use a flexible shield wiring of 0.5 to 2 mm².
  - No polarity
- **Total Wire Length :** 1000 m or less
- **Number of connectable units and devices :** (→ P.2 “Specifications”)

■ Communication Adaptor Control Wiring

(When connecting a Communication Adaptor)

- Polarity (**+/-**) present
- Number of connectable Communication Adaptor: up to 7 units
- For the type of wiring and total wiring length, see “Installation Instructions” supplied with the Communication Adaptor.

■ External I/O Wiring

(When connecting external equipment)

- **Type of wiring**
  - Use a flexible wiring of 0.5 to 2 mm².
- **Wire Length :** 20 m or less

Attention

- When using the controller at a location susceptible to noise, use a shield wiring.

■ LAN Cable (When connecting to a network)

- **Type of wiring**
  - Category 5 or above straight cable
- **Wire Length :** 100 m or less

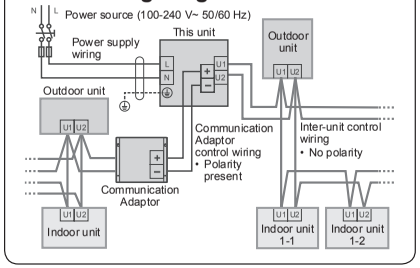
Attention

- Ground the shield on both sides of shield wiring, otherwise an operation error from noise may occur.



Wiring

Basic Wiring Diagram



1. Turn the circuit breaker off before connecting the wiring

2. How to Attach the Ring Pressure Terminal

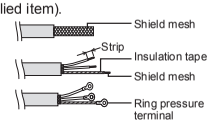
- **For power supply wiring**
  Process the end of each wiring, and attach the ring pressure terminal (field supplied item).

- **For shield wiring**
  Process the end of the each wiring and attach the ring pressure terminal (field supplied item).

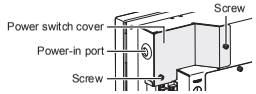
① Remove wiring coat.

② Cover with the tape.

③ Attach ring pressure terminal.



3. Remove the power switch cover



4. Wiring

① **Connect the power supply wiring.**
- Connect the power supply wiring and the earth wiring to the power supply terminal board and the earth terminal board*3 (on the sheet metal case) respectively.
  *3: Use earth terminal board as protective earth
- Do not over-tighten. (The screw may be damaged.)

② **Connect the inter-unit control wiring.**
- Connect the shield part of the shield wiring to No. 0 (FG*4) of the signal terminal board (TB2).
  *4: Functional Ground
- Do not over-tighten. (The screw may be damaged.)
- There is no polarity.

③ **Connect the Communication Adaptor control wiring.**
- Make sure the polarities (+/-) are correct.

Attention
- Read the “Installation Instructions” supplied with the Communication Adaptor.

④ **Connecting external equipment.**

Attention
- See “Connecting to External Equipment” (P.5).

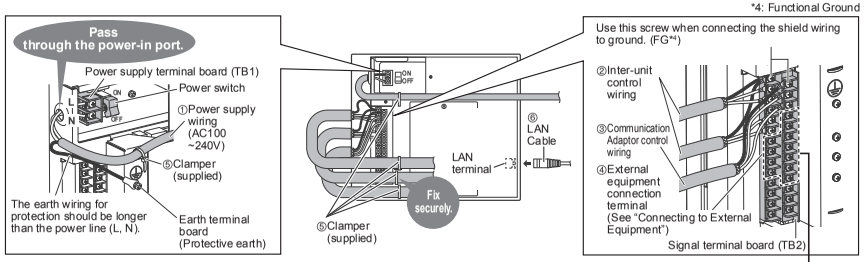
⑤ **Fix the power supply wiring and other communication wirings with the clamper (supplied) securely.**
(Do not apply tensile force on the terminal connection part.)

⑥ **Connect the LAN cable.**

⑦ **After all wiring arrangements are complete, turn the circuit breaker on.**
- Before power on, measure the voltage of the power supply terminal board, and check it for the specified voltage. Turning the power on with a voltage other than the specified one may blow the fuse. If this occurs, no power is supplied, and this unit may need to be replaced.

Wiring (continued)

*4: Functional Ground



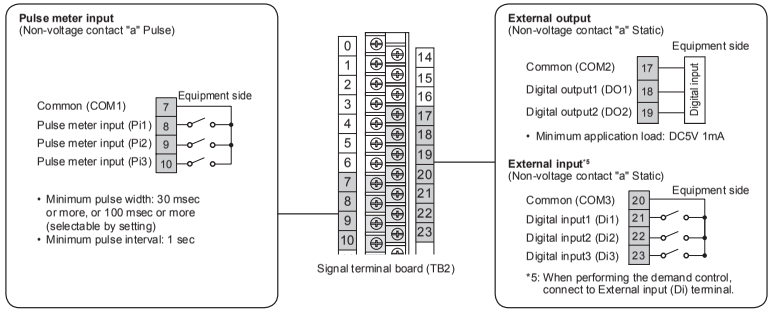
- If the power supply wiring is mistakenly connected to a terminal board other than the power supply terminal board, the devices connected to this controller or this controller will malfunction.

Signal terminal board (TB2) connection

Connect the shield wiring for the inter-unit control wiring to ground. (FG*4) .	FG*4	0		14	FG*4	Connect the Communication Adaptor control wiring. (ADAPT +,-,FG*4)
Connect to inter-unit control wiring (LINK1)	U1	1		15	+	
	U2	2		16	–	
		3		17		
Connect to inter-unit control wiring (LINK2)	U1	4		18		
	U2	5		19		

Connecting to External Equipment

- Non-voltage contact "a"
- Keep the external I/O wiring lengths of 20 meters or less. If a longer length is needed, use a Communication Adaptor or relay.
- A voltage of DC5 V (approx. 10 mA) is applied to the contact to detect the input signal.
- Do not apply an external voltage to the input terminal.
- The contact allowable voltage and current for the output signal terminal are max. DC30 V and 0.5 A respectively.



Setting and Test Operation

① **Turn on all of the indoor units and the outdoor units.**
② **Turn on the Communication Adaptor (only when connected), and make the necessary settings.**
(See "Installation Instructions" supplied with the Communication Adaptor.)
③ **Turn on this unit.**
④ **Attach the power switch cover to the original position.**
- Do not allow the wirings to be caught.

⑤ **Refer to "Quick Reference" and check the following.**
- Check if the clock setting and the number of connected units are correctly displayed.
- Set the central address.
- Make other necessary settings (unit name, area setting, distribution setting, etc.).
- Check if the indoor unit, etc. can be operated properly using this unit, and correct statuses are displayed.

⑥ **Refer to one of "Service Manual", "Test Run Service Manual" and "Technical Data", and check the following.**
- Make the communication setting with the air conditioner.
- Check and confirm the connection configuration.

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Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

Panasonic

Operating Instructions
Intelligent Controller
Model No. **CZ-256ESMC3**



ENGLISH
Before operating the unit, read these operating instructions thoroughly and keep them for future reference.

Installation Instructions
Separately Attached.

Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

Panasonic Corporation
http://www.panasonic.com

CV6233334158

3-4-75

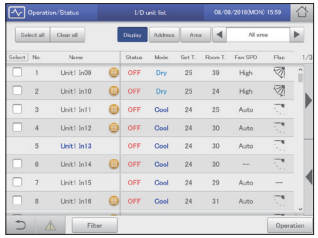
Features

This unit is a centralized air conditioning management system designed for use with precision air conditioning systems (PAC, air conditioning systems for offices and shops, and multi-unit systems for buildings) and gas heat pump (GHP) air conditioners.

- With one of these units you can connect and control up to 128 indoor units (2 systems of 64 units each) and 60 outdoor units (2 systems of 30 units each).
- By connecting a communication adaptor this can be increased to 256 indoor units and 120 outdoor units.
- The unit is equipped with a 10.4-inch TFT colour touch panel display (1024 x 768 dots), enabling control by almost anyone.

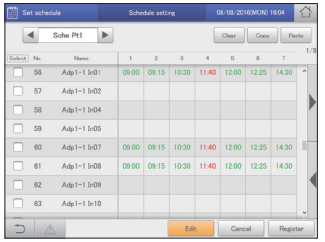
Operation and status
P.23

You can check to operational status (ON/OFF, operating mode, alarms, etc.) of all indoor units and outdoor units in real time.
You can also select indoor units to change their settings.



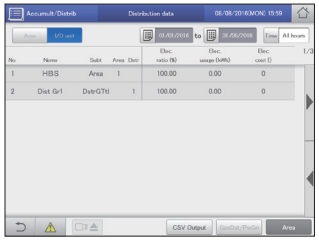
Operation scheduling
P.39

You can register daily operation schedules (ON/OFF time, operating modes, set temperatures, etc.) for individual indoor units or groups of indoor units.
Operations can be schedule for up to 2 years in advance.



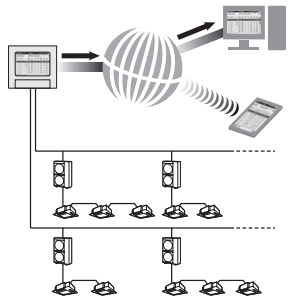
Distributing air conditioner energy
P.71

You can view cumulative operating times for indoor units, engine operating times for outdoor units, and operation cycles in a list. (Cumulative values)
Using these data, you can calculate the distribution ratio of electricity or gas consumed for air conditioning and volumes used (kWh, m^3) per indoor unit or in an area, then show these calculations in a list.



Remote control
P.122

The LAN terminal on this unit enables you connect it to a network.
Connecting to Internet will enable you to operate the unit and check the status using a PC from a remote location.



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- Read the Operating Instructions carefully for safe use. This manual describes the Operating Instructions of the intelligent controller. Read this manual as well as operating instructions supplied with indoor units and outdoor units.
- **Be sure to read the "Safety precautions" (P.5) before using.**
- Keep this manual with operating instructions supplied with indoor units and outdoor units in a safe place.
- Be sure to keep this manual in a place easily accessible by users. In the case of user change, be sure to give this manual to the new user.

NOTICE
The English text is the original instructions. Other languages are translation of the original instructions.

Simple guide to features

This guide only shows the main features.

Operations on the indoor unit

What you want to do	Title	Page
To change the settings on the indoor unit	Changing the settings on the indoor unit	26
To change the operating mode	Changing the settings on the indoor unit	26
To change the set temperature	Changing the settings on the indoor unit	26
To reset the filter sign	Checking the settings on the indoor unit	25
To change the airflow direction and fan speed	Changing the settings on the indoor unit	26
To prevent operation by remote controllers	Changing the settings on the indoor unit	26

Checking the operating status

What you want to do	Title	Page
To check the operational status of the indoor units you are managing	Checking the operational status of indoor units	28
To check the current alarms	Checking on current alarms	35
To check alarm history	Checking the alarm logs	58
To check the current or past cumulative times	Checking the list of accumulated values on the indoor unit	65
To check the current or past distribution ratios	Checking distribution data in a list	72

Settings

What you want to do	Title	Page
To change the name of an indoor unit	Basic settings on the indoor unit	141
To change the name of the area group	Changing the name of the area group	153
To adjust the date or time	Setting the date and time	178
To operate an indoor unit according to a schedule	Setting a schedule	39
To adjust the brightness of the screen	Setting the screen display and volume for this unit	173
To adjust the sound of the buzzer	Setting the screen display and volume for this unit	173

Miscellaneous

What you want to do	Title	Page
To backup data (settings, cumulative values, distribution data, etc.) to a USB memory device	Backing up data	130
To show the operating times, temperature changes, and other information in graphs	Displaying data in graphs	105

Safety precautions

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

❗ Matters to be observed

🚫 Prohibited matters

⚠ WARNING

🚫 Do not use this appliance in a potentially explosive atmosphere.

🚫 In case of malfunction of this appliance, do not repair by yourself. Contact the sales or service dealer for repair.

❗ In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the mains power.



⚠ CAUTION

❗ This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

🚫
- Do not operate with wet hands.
- Do not wash with water.

Operating precautions

- **Do not use in the following locations**
  - Where flammable gases, etc. may leak
  - Near the ocean or other areas with a lot of salt
  - In areas where sulphurous gases occur such as natural spa areas
  - In places where there may be airborne water or oil (including machinery lubricants, etc.) or steam
  - Where there are large fluctuations in voltage
  - Where machinery emitting electromagnetic waves are located
  - Where there may be airborne organic solvents
- **Do not apply strong shocks**
  (This may cause malfunction)
- **Do not use heaters near the controller**
  (This may cause deformation or discolouration)
- **Do not use hard or pointy objects**
  (This may cause scratches or malfunction)
- **Do not hit the touch panel or push on it too strongly**
  (This may cause malfunction)

Installation precautions

- **Do not install in locations with high humidity, lots of oil, vibrations, where direct sunlight can reach the unit, or near sources of heating**
  (This may cause malfunction)
- **Do not install in noisy locations**
  (This may cause incorrect operation)
- **Install at least 1 m away from TV, radio, PC. etc.**
  (To prevent fuzzy images or noise)

Information for Users on Collection and Disposal of Old Equipment and Used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

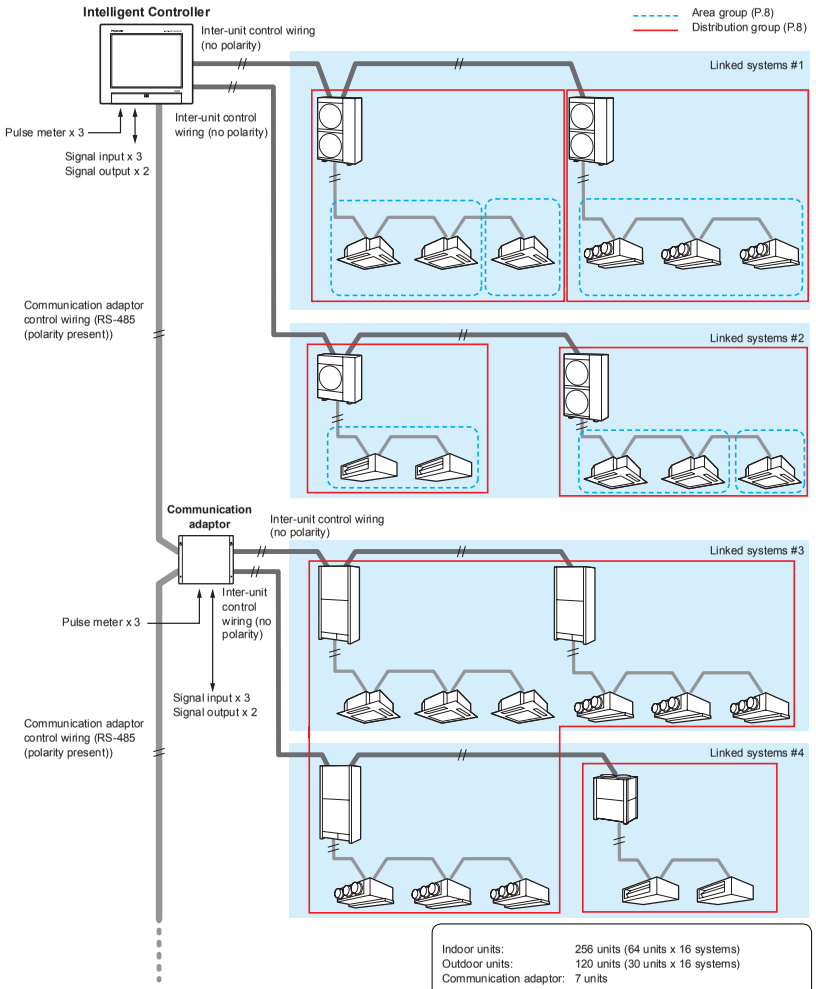
[Information on Disposal in other Countries outside the European Union]
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



Note for the battery symbol (bottom two symbol examples):
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

System configuration

The following is an example of a system configuration.



Explanation of terms

This section explains the terms used in this document.

Term	Explanation
Adaptor address	The address allocated to a single communication adaptor (sold separately). If the pulse meter is connected to a communication adaptor, use the address of the adaptor. **Setting** No.0: This unit (setting complete) No.1 to 7: Settings with the communication adaptor
Linked systems address	This is a grouping of indoor units and/or outdoor units connected to the same inter-unit control wiring. 2 linked systems can be connected to this unit or a communication adaptor (sold separately). **Setting** No.1 and 2 (fixed)
Outdoor unit systems address	An outdoor unit and the grouping of indoor units connected by the coolant piping. A single linked system can consist of a maximum of 30 outdoor unit systems. **Setting** No.1 to 30: Set on the outdoor unit for each linked system
Indoor unit address	In an indoor unit system, this is a fixed number allocated to an indoor unit. This is also allocated to each indoor unit for group control. **Setting** No.1 to 64: Set on the indoor unit for each outdoor unit system
Central address	This is a fixed value within the linked system and is shared with other centralised controllers (system controllers, etc.). In group control, all indoor units belonging to a group have the same address. In this document and on the unit, this is described as the “CNTR addr.”. **Setting** No.1 to 64: Set on this unit and other central controllers for each linked system
Unit name	In group control, this will be the same name. This is the minimum unit used for operation, monitoring, and scheduling. **Setting** Set on this unit
Distribution group	A distribution group consists of multiple (or single) areas and matches with the measuring range of a pulse meter, with the distribution ratio of the grouping totalling to 100%. A maximum of 8 groups can be created across the whole system. With time distributing, it is not possible to mix PAC and GHP in a single distribution group. You can have PAC and GHP in the same group if you are using load distributing. **Setting** No.1 to 8: Set on this unit
Area group	An area group is one grouping used for calculating distributions (or for operating or monitoring) and consists of multiple (or single) indoor units. A maximum of 256 groups can be created across the whole system. **Setting** No.1 to 256: Set on this unit
Control groups	Control groups consist of multiple (or single) indoor units or outdoor units controlled the same in cyclic control settings. A maximum of 10 groups can be set for indoor units and a maximum of 5 groups can be set for outdoor units.

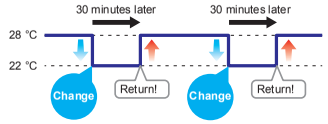
The Energy Saving function

This reduces waste in air conditioning so that you can save energy without replacing the air conditioning units.

e-CUT function

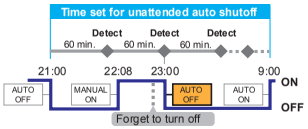
Set temperature auto return

When you want to return to the set temperature after a certain time even if the temperature is changed. (P.77)



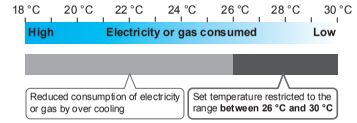
Unattended auto shutoff

When you want to operate outside of a schedule but to monitor and stop automatically. (P.80)



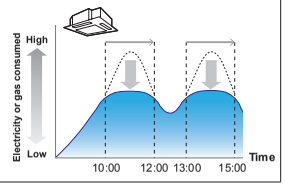
Set temperature range limit

When you want to limit the temperatures that can be set. (P.83)



Energy saving timer/Efficient operation setting*1

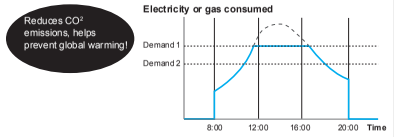
Specify time slots when you want operation capacity reduced. (P.85)



The Demand function

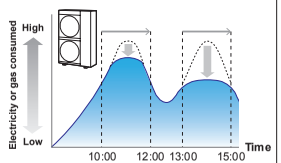
Demand settings (indoor unit/outdoor unit)

When you want to suppress the maximum demand for electricity or maximum gas consumption. (P.89, P.92)



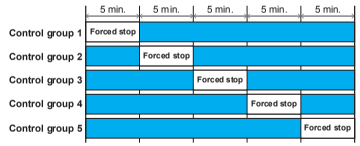
Demand/peak shaving settings/ Peak cut settings*2

Specify time slots when you want operation capacity of the outdoor units reduced. (P.94)



Indoor/outdoor unit cyclic

When you want operation capacity of the outdoor units reduced during certain repeated intervals. (P.97, P.101)

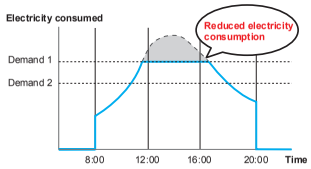


*1 The "Efficient operation setting" is the name of setting when using gas heat pump air conditioners.
*2 The "Peak cut settings" is the name of setting when using gas heat pump air conditioners.

Note
- Some models may not support these functions.

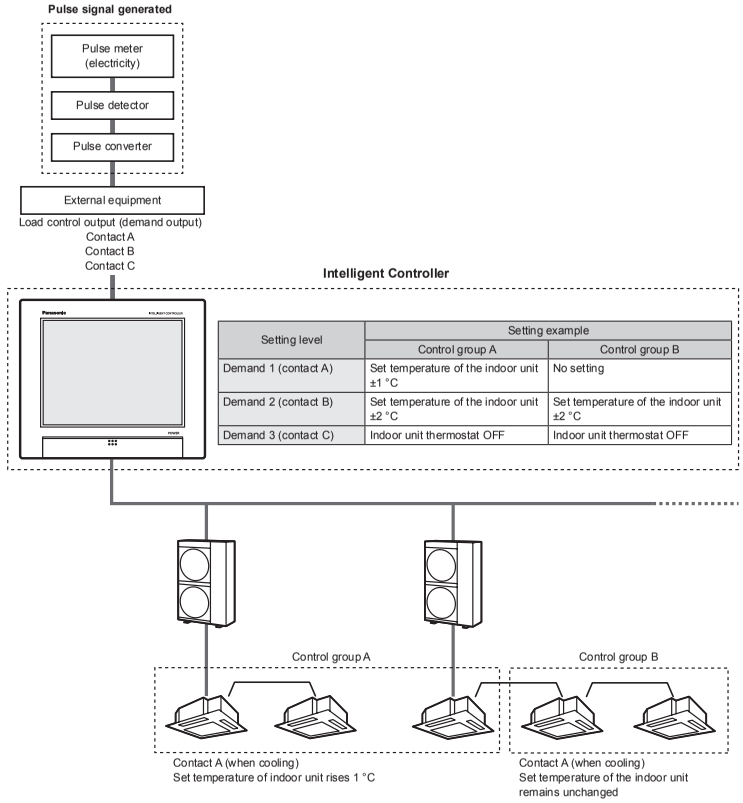
Demand control

"Demand" indicates the "electricity demand" (average electricity over 30 minutes). The basic charges for electricity are determined by the maximum value of demand (the maximum electricity demand). This maximum demand for electricity occurs during summer and winter when the air conditioning burden is the greatest. One way of reducing electric power costs is to suppress the maximum electricity demand during these periods. (Your actual situation depends on your contract with your electricity provider)
Furthermore, by suppressing the maximum demand for electricity, you can assist in the reduction of carbon dioxide emissions and help reduce global warming.



Demand control means that the air conditioning units are monitored so that their electricity consumption does not exceed a contracted amount, and by setting a level as shown in the following diagram (demand 1, 2, or 3), the performance of the air conditioning units can be controlled so that energy usage is reduced.
This unit suppress the maximum demand for electricity through automated control of air conditioning units by demand control output (demand output) signals emitted by external equipments.

Demand control (with indoor unit demand settings)



Setting level	Setting example	
	Control group A	Control group B
Demand 1 (contact A)	Set temperature of the indoor unit ±1 °C	No setting
Demand 2 (contact B)	Set temperature of the indoor unit ±2 °C	Set temperature of the indoor unit ±2 °C
Demand 3 (contact C)	Indoor unit thermostat OFF	Indoor unit thermostat OFF

Energy navigation function

Indoor units will run in energy saving modes according to the amount of human activity detected by ECONAVI sensors (sold separately).

When there is a lot of human activity



- **In cooling or drying mode**
  Operates at the set temperature.
- **In heating mode**
  The air conditioners run at a temperature lower than the set temperature.

When there is not a lot of human activity



- **In cooling or drying mode**
  The air conditioners run at a temperature higher than the set temperature.
- **In heating mode**
  Operates at the set temperature.

When there are no people



When there is a continuous 20 minute period of no people

- **In cooling or drying mode**
  The temperature is set higher than when there are people in the room.
- **In heating mode**
  The temperature is set lower than when there are people in the room.

When there are no people for about an hour

- The units run according to the mode set for when there are no people. The factory preset is for low energy use operation to continue with the temperature suppressed. (Refer to the operating instructions for the ECONAVI sensor for information on the operation mode when there are no people.)
- If people are detected while operating in the Absent mode, the air conditioners return to a mode appropriate to the level of activity.

Warning

Do not use the ECONAVI feature in rooms where only disabled people or infants are present.
(It may cause damage to their condition or worsen their health)
If there is not much movement for a long time, the ECONAVI sensor may determine that the room is unoccupied and stop the air conditioning unit.

Note

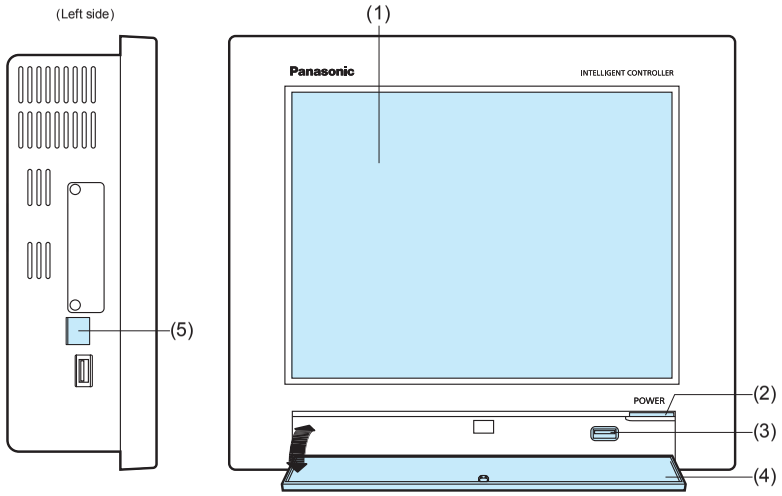
- You can turn on or off the ECONAVI feature on this unit.
- You will need a separate remote controller* with ECONAVI functionality in order to make advanced settings for the ECONAVI feature. Refer to the operating instructions for the remote controller* with ECONAVI functionality for details on how to configure the feature.
- Even if the target temperature is changed by ECONAVI, the set temperature displayed on the unit will not change.
- Even if the mode is switched to fan due to the absence of people (standby mode), the mode displayed on the unit will not change.
- When running multiple indoor units, the energy reduction effect may be reduced depending on the conditions in the room.

* Multi-function wired remote controller (CZ-RTC5 or later)

Preparations before changing settings

This chapter describes the part names of the unit and their functions and also explains some basic operations.

Part names



(The illustration shows the storage door open)

	Name	Explanation
(1)	Colour LCD with touch panel	You can operate the unit by touching the screen with your fingers.
(2)	Power indicator	This lights when the power is on.
(3)	USB terminal	Connect a USB memory device here to backup data from this unit (settings, accumulation/distribution).
(4)	Storage door	Open this cover to connect a USB memory device to the USB terminal. To open, gently push on the storage door and then allow to drop down. To close, lift the storage door and gently press closed.
(5)	LAN terminal	Connect to a network with wiring.

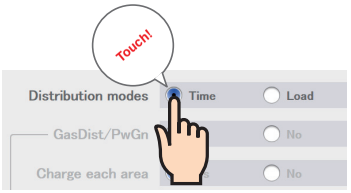
Operations on this unit

Operations on this unit are performed by following menus.
The screens used for operations all follow a common pattern, with the screens being easy to read and easy to use.

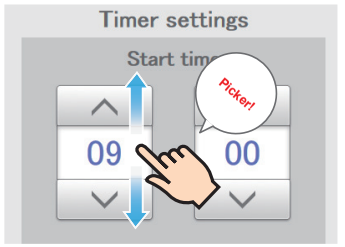
Basic operation of the touch panel

This section describes the basic operations on the touch panel.

Touch
This is a light touch with a finger on the buttons or text boxes displayed on the touch panel.



Picker
This is an up and down movement of the finger touching the screen, used to pick settings in elements such as spin boxes.



Swipe
This is an operation where the finger is slid in a direction (up or down) on the touch panel.
This is used to scroll slowly.



Flick
This is an operation where the finger on the touch panel is flicked in a direction (up or down).
This is used to scroll quickly.



Buttons and boxes

There are varieties of buttons and boxes on the screen that you use to perform operations and settings on the touch panel.

Buttons

These are used to switch screens, save settings, switch settings on or off, select items, and similar operations.

Display example	Status	Explanation
OFF	Setting is off	In this state the setting is off.
OFF	Setting is on	In this state the setting is on.
OFF	Setting unavailable	This indicates that the setting is currently unavailable due to other conditions.

Display example	Status	Explanation
Ope. OFF ----- Authentictn LOGIN CRAM-MD5	Selected	The highlighted item is the one that is currently selected.
Ope. OFF ----- Authentictn LOGIN CRAM-MD5	Selection disabled	This indicates that the selection is currently unavailable due to other conditions.

Check boxes

These are mainly used to switch on or off item selection and functions.

Display example	Status	Explanation
auto shutoff ☐ Valid	Unselected	In this state the item is not selected.
auto shutoff ☑ Valid	Selected	In this state the item is selected. (In this example, the automatic stop feature will operate.) A check mark appears when you touch it. The check mark disappears when you touch it again.

Spin boxes

These are used to switch the display of items and to set numeric items such as time.

Display example	Explanation
Control Gr. 1–5 ◀ Gr.2 ▶	▶ takes you to the next item. ◀ takes you to the previous item. Items may cycle around in the following way: → Gr.1 ⟷ Gr.2 ⟷ ··· ⟷ Gr.5 ←
09 : 00	^ increases the numeric figure. v decreases the numeric figure. The numbers will change continuously if you continue to touch the button. The numbers cycle around in the following way: For example: When the number is an "hour" → "(blank)" ⟷ "00" ⟷ "01" ⟷ ··· ⟷ "23" ←

Buttons and boxes (continued)

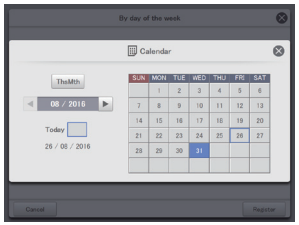
Text boxes

These are used when you need to edit some text.

Display example	Explanation
IP address XXX.XXX.XXX.XXX	The touchscreen keyboard appears when you touch the text box. Use the touchscreen keyboard to enter the text. Refer to "Number and letter input" (P.188) for instructions on how to enter text.

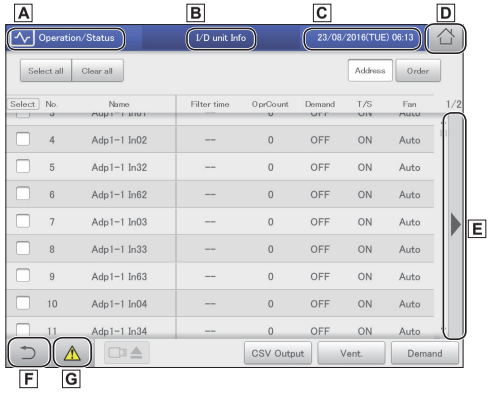
Dialogues

These are elements that appear on the screen and are mainly used for settings.
They close automatically once you have registered the settings.
Touch ⊗ to close the dialogue without changing the setting.
(There may also be cases where you touch ⊗ at the top right of the screen to register the setting)



How to read the screens

There are some items and icons common to the operations and settings screens.
The follow explains the items and icons.



Name	Explanation
A Submenu name	This displays the submenu name.
B Operations/Settings screen name	This displays the operations/settings screen name.
C Date and time	The current date and time is displayed.
D "Home" icon	Touch this to display the Top menu (P.18).
E Scroll buttons	Touch ▶ on the right side of the screen to scroll to the right. Touch ◀ to scroll to the left. (The display changes according to the direction you can scroll.)
F "Back" icon	Touch this to go back to the previous menu.
G "Warning" icon	The "Alarm list" screen is displayed when you touch this. (→ "Checking on current alarms" (P.35))

- In this document and on the unit, indoor units are described as the "I/D".
- In this document and on the unit, outdoor units are described as the "O/D".

■ Notations in this document

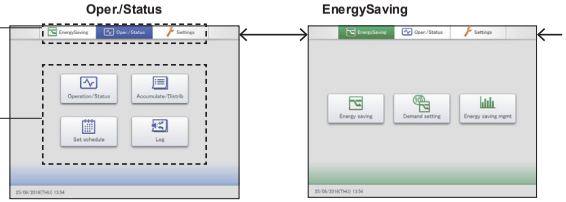
Menu names, screen names, etc., are shown as follows in this document.

Type	Notation	Example
Top menus Screen names Screen display items	"xxx"	"Oper./Status" "I/D unit list" screen "Select" column, "ON/OFF"
Submenu names Screen menu names Button names	[xxx]	[Operation/Status] [I/D unit list] [Operation]

Menu list

1 Select the top menu.
- Touch one of the "EnergySaving", "Oper./Status", or "Settings" tabs.

2 Select the submenu.



Oper./Status (Check on the status of connected units)

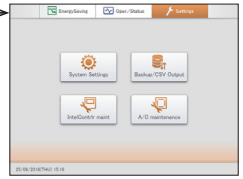
Submenu	Screen menu	Overview	Page
Operation/Status	I/D unit list	Check the operational status of the indoor units in a list.	24
	I/D unit information	Check the details about the indoor units (number of operation cycles, etc.) in a list.	28
	O/D unit information	Check the details about the outdoor units (outdoor temperatures, etc.) in a list.	32
	Alarm list	You can view a list of units with current alarms, where you can check the unit, the alarm type, and the date of the alarm.	35
Set schedule	Schedule/results	You can see the schedules set up for the future and how they performed in the past in a list.	53
	Calendar	You can allocate a single day's schedule to a calendar.	49
	Schedule setting	You can register the schedule for a single day.	43
	Update schedule	You can modify a schedule that you have registered (only from the day of the change up to 4 days later, or a total of 5 days).	55
Log	Alarm log	Check the log of alarms that have occurred in the system in a list.	58
	Operation/Status change log	Check the log of operation/status changes of the indoor units in a list.	61
Accumulate/Distrib	I/D unit acc.	Check the accumulated data for the indoor units in a list.	65
	O/D unit acc.	Check the accumulated data for the outdoor units in a list.	67
	Pulse acc.	Check the accumulated data for the pulse meters in a list.	69
	Distribution data	Check the details about distribution calculations in a list.	72

EnergySaving (Perform energy saving settings)

Submenu	Screen menu	Overview	Page
Energy saving	★ Set temp. auto return	Even if the temperature initially set is changed, the temperature automatically returns to the set one after a certain amount of time.	77
	★ Unattended auto shutoff	If the indoor unit automatically stops at the set time but then is started again, this setting automatically stops the unit again repeatedly at set intervals.	80
	★ Set temperature range limit	Restrict the temperatures that can be set by setting upper and lower limits on temperatures.	83
	★ Energy saving timer/Efficient operation setting*	You can specify time slots when you want operation capacity reduced.	85
	★ Out unit silent setting	Set a time for the outdoor unit to operate at a lower level at night compared to the day.	87
Demand setting	★ I/D unit demand settings	You can automatically control indoor units to cut the maximum demand for electricity or maximum gas consumption.	89
	★ O/D unit demand settings	You can automatically control outdoor units to cut the maximum demand for electricity or maximum gas consumption.	92
	★ Demand/peak shaving settings/ Peak cut settings*	Limit the electricity or gas consumed by outdoor units during the set time slot.	94
	★ O/D unit cyclic	At specified 10 minute intervals, the thermostats of outdoor units in control groups are turned off and restored repeatedly in order.	101
	★ I/D unit cyclic	At specified intervals (3, 4, or 5 minutes), the thermostats of indoor units in control groups are turned off and restored repeatedly in order.	97
	★ Register demand point	Register the contacts between the external equipments and the main unit (Contact A, Contact B, Contact C).	104
Energy saving mgmt	Bar chart	Quantities of energy usage (electricity, gas), etc., are shown in bar charts.	109
	Line graph	Temperature changes, etc., are shown in line graphs.	113

* When using gas heat pump air conditioners

Settings



Settings (Perform other miscellaneous settings)

Submenu		Screen menu	Overview	Page
System Settings	★	Calendr sttngs for distr calc	Set specified days, cut-off days, particular time slots (regular hour ranges) and days of the week for calculating distributions.	148
	☆	I/D unit settings	Change settings on indoor units, such as indoor unit addresses, groups belonged to, etc.	141
	☆	O/D unit settings	Change settings on outdoor units (addresses, etc.).	145
	★	Schedule group name settings	Edit the name of the schedule group.	151
	★	Area group name settings	Edit the name of the area group.	153
	★	Distribution group settings	Edit the name of the distribution group.	155
	☆	Pulse meter settings	Make allocations between pulse meters and distribution groups.	158
	★	Distribution mode settings	Set the mode used for distributing when calculating charges.	160
	★	Distribution Ratio settings	Set the units for calculating electricity and gas usage charges.	161
	★	Event control	Perform linked control by setting input and output conditions for devices.	162
	☆	Network settings	Make settings to enable remote control over a network.	123
	☆	Email settings	Configure the outgoing mail server.	168
	☆	Web user settings	Register users that will access the unit over a network.	125
	☆	Communication adapter setting	Register the communication adaptor connected to this unit.	170
	☆	Check configuration*	Modify the registered configuration when there have been changes to the configuration of the system.	200
Backup/CSV Output	★	Backup	Save data (settings, accumulation/distribution, logs) to USB memory devices.	130
	★	Restore	Restore data that has been stored in the unit or saved to a USB memory device.	132
	★	CSV Output	Export (output) the settings for this unit in CSV format.	134
	★	CSV Input	Import (input) the settings for this unit in CSV format.	136
	★	Auto-save CSV file	Saves the CSV files (distributions, logs) automatically generated in this unit.	138
IntelContrlr maint	★	Display/Volume settings*	Adjust the brightness of the unit's screen and the sound of the buzzer.	173
	★	Intelligent Controller info	Register the contacts for servicing (telephone numbers) for this unit.	174
	★	Software update*	Update the software for this unit.	175
	☆	Initialize*	Initialise the settings for this unit. All data will be lost when you initialise. Do not initialise under any circumstances.	176
	☆	Language&TimeZone sttngs	Set the language to be used when setting and operating this unit.	179
	★	Date settings	Manually set the date and time.	178
		Open license	The licences for the freeware is displayed.	—
A/C maintenance	☆	Test run	Perform a test operation of the indoor unit after installing this unit.	181
	☆	A/C communication settings	Make settings such as the communications protocol between this unit and the air conditioning units.	184
	★	Maintenance information	Register the units that will require maintenance.	186

* These settings are not available for setting or operation over the network.

Menus marked with ★☆ require you to enter the admin number (password) when you select them.
★ menus require entry of the level 1 or higher admin number, while ☆ requires the level 2 admin number.
Refer to "Input of the admin number (password)" (P.22) for details.

Initial settings

The initial settings are those items that require setting after the unit is installed so that the system operates normally.
The unit will operate normally if you make settings according to the following flow for the type of operation intended.

○: Settings required. △: Settings may be required. ×: Settings not required.

Step	Category step	Setting	Screen menu names	Reference page	Operation				
					Air conditioning operations only	Distribution rate display only		Quantity used, charges display	
						Time	Load	Time	Load
1	Date settings	Setting the current date and time	Date settings	178	○	○	○	○	○
2	Composition loading	Confirming the connection configuration	Check configuration	—	○	○	○	○	○
3	Unit related	Central address*1	I/D unit settings	141	○	○	○	○	○
		Name of the indoor units	I/D unit settings	141	○	○	○	○	○
		Distribution group	I/D unit settings	141	×	○	○	○	○
		Area group	I/D unit settings	141	△*2	○	○	○	○
		Control group	I/D unit settings	141	△	△	△	△	△
		Not batch, not managed	I/D unit settings	141	△	△	△	△	△
		Name of the outdoor units	O/D unit settings	145	△	△	△	△	△
		Local remote controller prohibition setting	A/C communication settings	184	△	△	△	△	△
4	Group related	Name of the area group	Area group name settings	153	△*2	○	○	○	○
		Name of the distribution group	Distribution group settings	155	×	○	○	○	○
		Name of the schedule group	Schedule group name settings	151	△	△	△	△	△
5	Pulse meter related	Association with the distribution group	Pulse meter settings	158	×	×	×	○	○
		Type of pulse meter (electricity/gas), multiplying factor (number of pulse units)	Pulse meter settings	158	×	×	×	○	○
		Name of the pulse meter	Pulse meter settings	158	×	×	×	△	△
6	Distribution related	Distribution modes (time/load)	Distribution mode settings	160	×	○	○	○	○
		Power distribution calculation target*3	Distribution mode settings	160	×	○	○	○	○
		Energy saving distribution setting	Distribution mode settings	160	×	×	△*4	×	△*4
		Distribution of gas for power generation	Distribution mode settings	160	×	×	×	△*5	△*5
		Setting the monthly cut-off days	Calendr sttngs for distr calc	148	△*6	○	○	○	○
		Setting the regular hour range	Calendr sttngs for distr calc	148	×	△	△	△	△
		Setting specified days	Calendr sttngs for distr calc	148	×	△	△	△	△
		Currency for electricity or gas charges*7	Distribution Ratio settings	161	×	×	×	△	△
		Setting the capacity of the indoor units*8	I/D unit settings	141	×	△	×	△	×
		Setting the capacity of the electric heater*9	I/D unit settings	141	×	×	△	×	△
7	Scheduling related	Schedule for a single day	Schedule setting	43	△	△	△	△	△
		Allocating a schedule to a calendar	Calendar	49	△	△	△	△	△
		Schedule group	I/D unit settings	141	△	△	△	△	△
8	Event control	Input point (names and conditions)*10	Event control	162	△	△	△	△	△
		Output point (names and operation)*11	Event control	162	△	△	△	△	△

Step	Category step	Setting	Screen menu names	Reference page	Operation				
					Air conditioning operations only	Distribution rate display only		Quantity used, charges display	
						Time	Load	Time	Load
9	Network related*12	IP address, net mask, DHCP, etc.	Network settings	123	△	△	△	△	△
		Setting to send alarm mails	Email settings	168	△	△	△	△	△
		User ID, password, privileges	Web user settings	125	△	△	△	△	△
10	Intelligent controller related	Buzzer volume	Display/Volume settings	173	△	△	△	△	△
		Brightness of the back light	Display/Volume settings	173	△	△	△	△	△
		Auto logout time	Display/Volume settings	173	△	△	△	△	△
		Identification number	Initialize	176	△	△	△	△	△
		Initialise the days accumulated data*13	Initialize	176	○	○	○	○	○

*1 Attention needs to be paid to administration divisions when devices such as systems controllers are to be used in conjunction with this unit.
*2 Settings required when area administration is to be performed.
*3 Select the object of calculations for electricity distributing from the following:

Operating hours	Select when consideration is to be paid to the electricity for the indoor units. The electricity for outdoor units and indoor units are both loaded into this unit and distributed.
Thermostat on times	Select when no consideration is to be paid to the electricity for the indoor units. The electricity for outdoor units only is loaded into this unit and distributed.

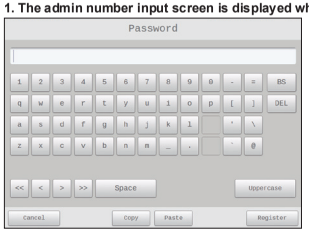
*4 If the air conditioning units included in the system are multi-function types supporting simultaneous heating and cooling or ice thermal storage models, settings are required.
*5 Settings are required only when units are GHP with generators.
*6 Settings are required when only the accumulation operating time is to be managed.
*7 This must be set if you want to display charges.
*8 This only needs to be set for interface adaptors. (→"Interface adaptors (sold separately)" (P.198))
*9 This is used when calculating load distributing.
*10 Set items such as batch startup and stopping from external input.
*11 Set items such as batch alarm output to external devices.
*12 Required when logging in through a network device to operate and monitor.
*13 Clears the data calculated from test operation of the air conditioning units before hand over.

Input of the admin number (password)

When using this unit

Items marked with ★ or ☆ in the "Menu list" (P.18 and P.19) require you to enter an admin number before use to maintain security.

1. The admin number input screen is displayed when you touch a menu on the screen.



2. Enter the admin number.

- Depending on the level of admin number you have, you may not be able to enter the menu.

When using a browser

Depending on your user level, some menus may not be displayed.
Refer to "Control remotely" (P.128) for information on how to access the menus.
You may need to enter the admin number again after gaining access, depending on the menu.
See "When using this unit" above for information on how to enter the admin number.

Check the status of air conditioning units



This chapter explains how to check the setting status of air conditioning units (indoor units and outdoor units).

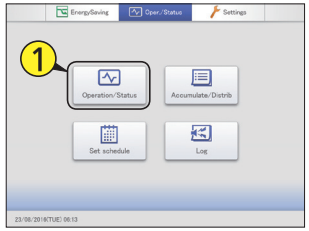
This unit allows you to confirm and change settings for indoor units, and confirm the operational status of indoor units and outdoor units.
You can also check alarms that have occurred in the system in a list.

Screen menu	Overview	Page
I/D unit list	Check the operational status of the indoor units in a list.	24
I/D unit information	Check the details about the indoor units (number of operation cycles, etc.) in a list.	28
O/D unit information	Check the details about the outdoor units (outdoor temperatures, etc.) in a list.	32
Alarm list	You can view a list of units with current alarms, where you can check the unit, the alarm type, and the date of the alarm.	35

Checking the settings on the indoor unit

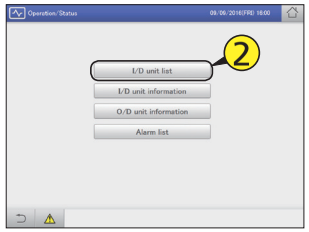
You can check the setting status of all indoor units connected to this unit in a list. You can also change the display to show by area.

1 Touch [Operation/Status] in “Oper./Status”.

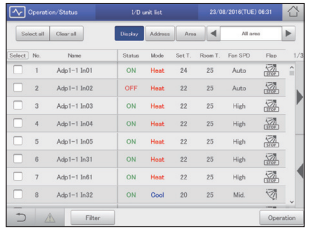


2 Touch [I/D unit list].

- The “I/D unit list” screen is displayed.



3 Checking the status of settings. (P.25)



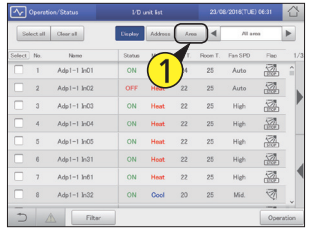
Note

- You can select indoor units to change their settings. (→ “Changing the settings on the indoor unit” (P.26))

Select the area to display

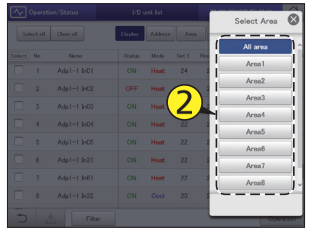
1 Touch [Area].

- The “Select Area” dialogue is displayed.



2 Select the area to display.

- If 9 or more area groups have been registered (P.153), you can scroll up or down by swiping or flicking the screen.
- The “Select Area” dialogue is closed and the settings of the selected area are displayed in the list.



"I/D unit list" screen

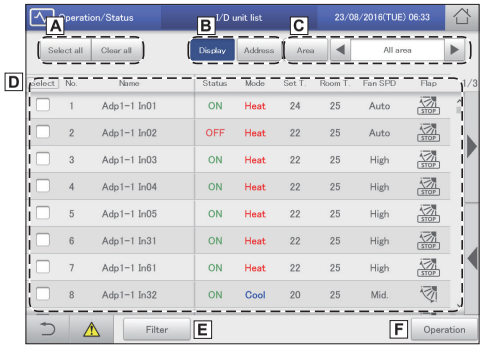
A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

B: Change list order.

Display	The display follows the order set in "I/D unit settings" (P.141).
Address	The display follows the address order set in "I/D unit settings" (P.141).

C: Select the area to display in the list.
The area changes each time you touch ◀ and ▶. Touch [Area] to display the "Select Area" dialogue. (→ "Select the area to display" (P.24))
("All area" → "Area1" → "Area2" →…→ "AreaXXX*" → "All area")
* "XXX" stands for the number of the last of the registered areas.



D: The settings of the indoor units are displayed in a list.
You can scroll up or down by swiping or flicking the screen.
- Each time you touch the item name, the order switches between ascending (▲) and descending (▼).
- Some items are not displayed for some models.

Item	Explanation
[Select]	Select the indoor units you want to operate.
Name	The names of the indoor units are displayed. When an icon is displayed to the right of the name, this indicates that some situation has occurred. (Alarm displays) : The indoor unit filters need cleaning : An alarm has occurred
Status	This indicates the current operating status (ON/OFF). (P.26)
Mode	The current operating mode (Heat, Dry, Cool, Fan, Auto) is displayed. (P.26)
Set T.	The current temperature setting is displayed. (P.27)
Room T.	The current room temperature is displayed.
Fan SPD	The current fan speed (High, Mid., Low, Auto) is displayed. (P.27)
Flap	The airflow direction is displayed. (P.27)
Prhbt.	This indicates the remote controller operation "Accept" or "Prhbt1" to "Prhbt4". (P.27)
Sche.	This indicates the setting status of the schedule (Yes, --, OFF). Yes: This indicates that a schedule is set. --: This indicates that a schedule is not set. OFF: This indicates that a schedule is set, but that the schedule has not started because indoor units are off or similar.
Eco	"●" is displayed when the energy saving setting is running. (P.27)
ECONAVI	"ECONAVI" is displayed when the ECONAVI setting is running. (Only for models with ECONAVI) (P.27)
e-CUT	"●" is displayed when the e-CUT function is running.

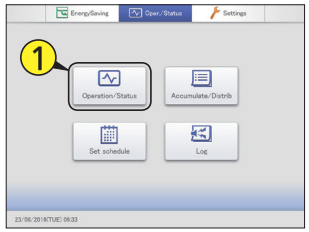
E: After cleaning the filters, touch to clear the filter icon from the display.

F: The "Settings" dialogue of the indoor unit selected at D is displayed.
You can change the settings for the selected indoor unit in the "Settings" dialogue. (→ "Changing the settings on the indoor unit" (P.26))
- There may be differences in the items you can set depending on the model of the indoor unit.
- When you have selected multiple units, setting items in common are displayed in the "Settings" dialogue.

Changing the settings on the indoor unit

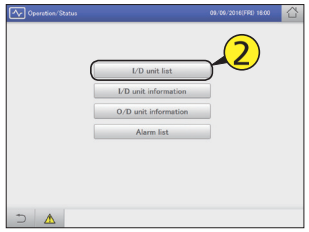
You can select indoor units to change settings, for example, start or stop them, or change their set temperature, etc.. Change settings in the "Settings" dialogue.
You can also select multiple indoor units and operate them using the same settings.

1 Touch [Operation/Status] in "Oper./ Status".



2 Touch [I/D unit list].

- The "I/D unit list" screen is displayed.



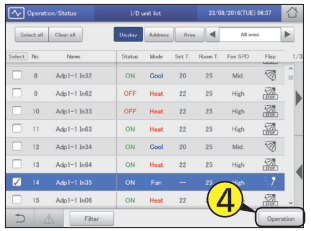
3 Put a check mark in the "Select" column.

- Select the indoor units whose settings you want to change.
- You can touch [Select all] to change the settings in a batch.



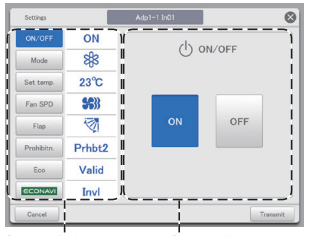
4 Touch [Operation].

- The "Settings" dialogue is displayed.



Note
- There may be differences in the items you can set in the "Settings" dialogue, depending on the model of the indoor unit.
- When you have selected multiple units, setting items in common are displayed in the "Settings" dialogue.

5 Change the settings of the items.



Select an item from the common display area and set the operation in the operation display area.

Item	Explanation
ON/OFF	Set whether to start or stop operation. 1) Touch [ON/OFF]. 2) Select "ON" or "OFF".
Mode	Set the operating mode. 1) Touch [Mode]. 2) Select the operating mode ((heating), (drying), (cooling), (fan), (automatic)).

Continued on next page

Item	Explanation
Set temp.	Set the temperature. 1) Touch [Set temp.]. 2) Set the temperature with ∧ and ∨. (± in 1 °C steps) <Setting ranges> • In cooling or drying mode: Between 18 °C and 30 °C • In heating mode: Between 16 °C and 30 °C*1 • Automatic: Between 17 °C and 27 °C *1 The upper limit for gas heat pump air conditioners is 26 °C.
Fan SPD	Set the strength of the fan. 1) Touch [Fan SPD]. 2) Select the fan speed (high), (mid), (low), (automatic)).
Flap	Set the direction of the airflow. 1) Touch [Flap]. 2) Set the flap to the desired position (F1), (F2), (F3), (F4), (F5), (Swing)). Touch during the swing to stop the flap at the desired position. • Heating, fan, and automatic (heating) can be adjusted in 5 steps and cooling and dry can be adjusted in 3 steps. • You can set either or if the model does not support airflow direction settings.
Prohibitn.*2	Set whether to allow or prohibit use of the local remote controller. 1) Touch [Prohibitn.]. 2) Use ∧ ∨ to select from "Accept", "Prhbt1", "Prhbt2", "Prhbt3", or "Prhbt4". Accept: Allows operations with the remote controller. Prhbt1 to Prhbt4: Operations on the remote controller are restricted. You can change the restricted operations. (→P.185)
Eco	Enable or disable energy saving operation. 1) Touch [Eco]. 2) Select "Valid" or "Invl".
ECONAVI	Enable or disable ECONAVI setting. 1) Touch ECONAVI. 2) Select "Valid" or "Invl".

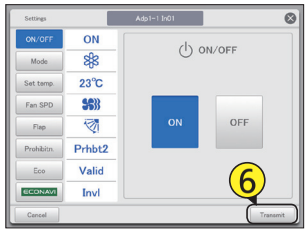
*2 Example of prohibiting or enabling remote controller use (factory setting)

	ON/OFF	Mode	Set temp.	Fan SPD	Flap	Eco
Accept	○	○	○	○	○	○
Prhbt1	×	○	○	○	○	○
Prhbt2	×	×	×	○	○	○
Prhbt3	○	×	×	○	○	○
Prhbt4	○	×	○	○	○	○

○: Operation and setting with the remote controller is possible
×: Operation and setting with the remote controller is not possible

6 Touch [Transmit].

- The settings are registered and the "Settings" dialogue closes.
- To cancel the settings, touch [Cancel].



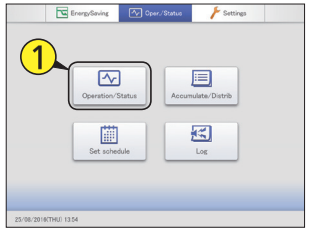
Note

- Touch ∧ (or ∨) at the upper value (or lower value) of the set temperature and the set value becomes a blank (no setting). Make the setting blank when you want no setting. Furthermore, touch ∧ (or ∨) and the upper value (or lower value) is displayed.
  For example: If upper value 30 °C and lower value 18 °C (when cooling)
  ⋮
  19 °C
  ∨
  18 °C (lower limit value)
  ∨
  (blank)
  ∨
  30 °C (upper limit value)
  ∨
  29 °C
  ⋮

Checking the operational status of indoor units

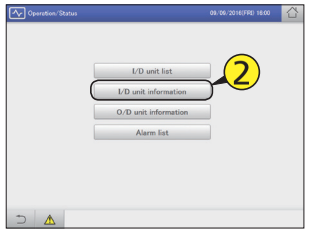
Check the operational status of indoor units (remaining filter time, number of operation cycles, etc.) in a list.
You can also change the ventilation system and demand control settings (ON or OFF only).

1 Touch [Operation/Status] in "Oper./ Status".

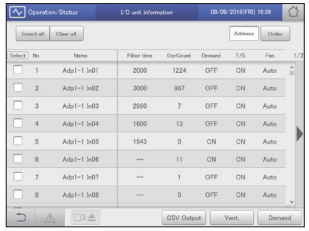


2 Touch [I/D unit information].

- The "I/D unit information" screen is displayed.



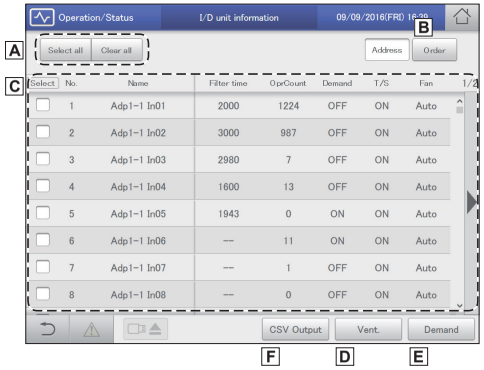
3 Check the setting details. (P.29)



Note

- You can select indoor units to change their ventilation output settings. (→ "Changing the settings for ventilation output" (P.30))
- You can select indoor units to change their demand control settings. (→ "Changing the demand control settings" (P.31))

"I/D unit information" screen



A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

B: Change list order. The list order changes each time you touch it.

Address	The display follows the address order set in "I/D unit settings" (P.141).
Display	The display follows the order set in "I/D unit settings" (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.

C: Indoor unit details are displayed in a list.
You can scroll up or down by swiping or flicking the screen.

Item	Explanation
[Select]	Select the units you want to make ventilation settings or demand settings for.
Name	The names of the indoor units are displayed. You can change the names. (→ "I/D unit settings" (P.141))
Filter time	This displays the approximate time remaining before is displayed.
OprCount	The number of operation cycles for the day is displayed.
Demand	Demand control setting status is displayed. "ON" is displayed when demand control is set. (→ "Demand settings on the indoor unit" (P.89))
T/S	This displays the operational status of the thermostat. "ON" is displayed when the thermostat is working.
Fan	The fan strength (High/Mid./Low/Brze/OFF) is displayed.
SuctnTmp	The current inlet temperature is displayed.
DschgTmp	The current outlet temperature is displayed.
VentOpen	The ventilation output setting (ON or OFF) is displayed.

D: Change the settings for ventilation output.
The "Vent." dialogue is displayed when you touch this. (→ "Changing the settings for ventilation output" (P.30))

ON	Operation of the ventilation output starts.
OFF	Operation of the ventilation output stops.

E: Change the demand control settings.
The "Demand setting" dialogue is displayed when you touch this. (→ "Changing the demand control settings" (P.31))

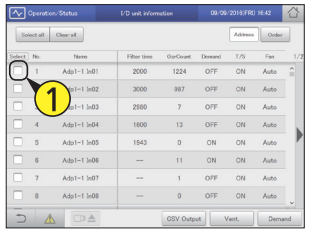
ON	Demand control is set.
Cancel	Demand control is cancelled.

F: The contents currently displayed are output to the USB memory device as a CSV file.

Changing the settings for ventilation output

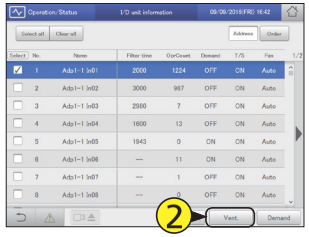
1 Put a check mark in the "Select" column.

- Select the indoor units whose settings you want to change.
- You can select multiple indoor units.



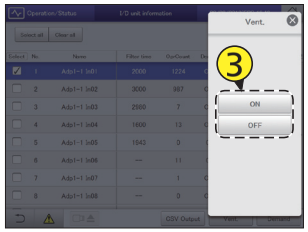
2 Touch [Vent.].

- The "Vent." dialogue is displayed.



3 Change the settings.

- The settings are registered and the "Vent." dialogue closes.

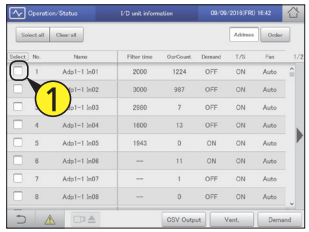


Changing the demand control settings

Switch between setting and cancelling demand control. Refer to “Demand settings on the indoor unit” (P.89) for information about demand control.

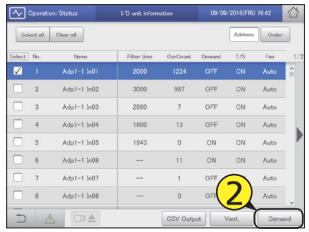
1 Put a check mark in the “Select” column.

- Select the indoor units whose settings you want to change.
- You can select multiple indoor units.



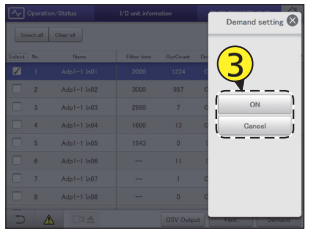
2 Touch [Demand].

- The “Demand setting” dialogue is displayed.



3 Change the settings.

- A confirmation message appears.



Note

- This setting is linked with “I/D unit demand settings”. (→ “Demand settings on the indoor unit” (P.89))

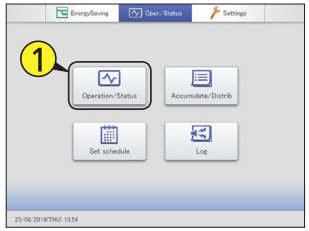
4 Touch [Yes].

- The setting is registered.

Checking the operational status of the outdoor unit

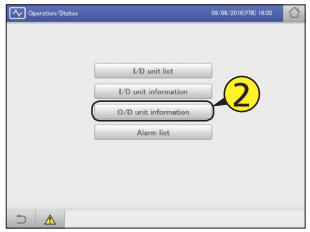
Check the details about the outdoor units (outdoor temperatures, demand setting status, etc.) in a list.
You can also select outdoor units to change their demand control settings (ON or OFF only).

1 Touch [Operation/Status] in “Oper./Status”.

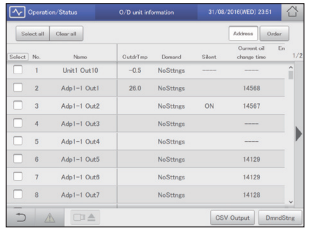


2 Touch [O/D unit information].

- The “O/D unit information” screen is displayed.



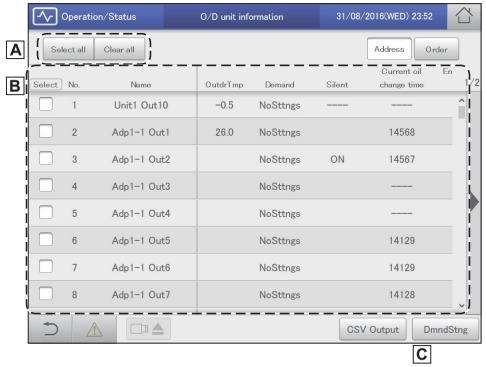
3 Check the setting details. (P.33)



Note

- You can select outdoor units to change their demand control settings. (→ “Changing the demand control settings” (P.34))

"O/D unit information" screen



A: [Select all]/[Clear all] buttons

[Select all]	Select all outdoor units.
[Clear all]	Cancel selection of all outdoor units.

B: Outdoor unit details are displayed in a list.
You can scroll up or down by swiping or flicking the screen.

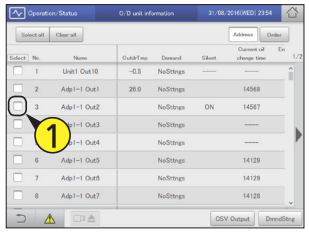
Item	Explanation
[Select]	Select the units you want to set demand control for.
Name	The names of the outdoor units are displayed. You can change the names. (→ "Basic settings on the outdoor unit" (P.145))
OutdrTmp	The temperature outside is displayed.
Demand	Demand control setting status is displayed. (→ "Demand settings on the outdoor unit" (P.92))
Current oil change time	The number of operating hours after the last oil change is displayed. (Available only when using a gas heat pump)
Engine oil check sign	This displays the check sign for engine oil. (Available only when using a gas heat pump) • If this sign is displayed, contact the place of purchase or your servicing agent to have the oil replaced.
Inverter instant.(kW)	This displays the current value for the inverter generator instantaneous value of the ECO G HIGH POWER.
Solar instant.(kW)	This displays the current value for the solar generator instantaneous value of the ECO G HIGH POWER.

C: Change silent mode.
The "Demand" dialogue is displayed when you touch this.
(→ "Changing the demand control settings" (P.34))

Changing the demand control settings

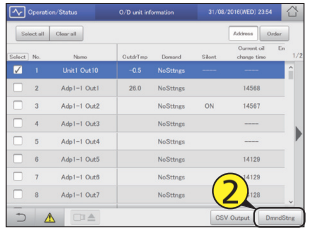
1 Put a check mark in the "Select" column.

- Select the outdoor units whose settings you want to change.
- You can select multiple outdoor units.

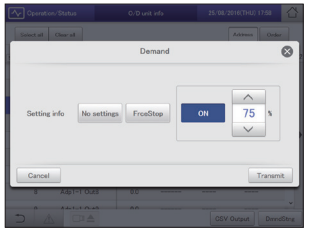


2 Touch [DmndSting].

- The "Demand" dialogue is displayed.



3 Set the demand operating range.



[No settings]	The demand operation setting is cancelled.
[FreeStop]	Demand operation is forcibly stopped.
[ON XX%] (Demand values)	Use ▲ and ▼ to select an available demand value for the selected outdoor unit. • If multiple outdoor units are selected, the demand values common between them are displayed.

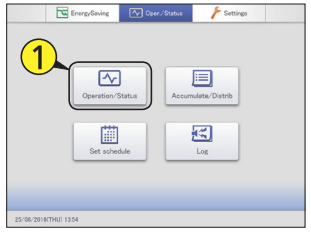
4 Touch [Transmit].

- The settings are changed and the "Demand" dialogue is closed.
- To cancel the settings, touch [Cancel].

Checking on current alarms

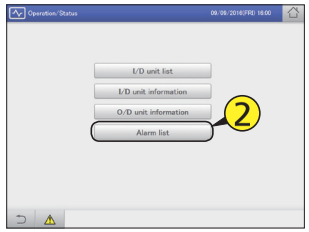
You can check the indoor unit names, alarm codes, and dates and times of occurrence and recovery for alarms that have occurred in the air conditioning system in a list. You can also do things such as output the alarm list in CSV format and check the alarm log.

1 Touch [Operation/Status] in “Oper./Status”.

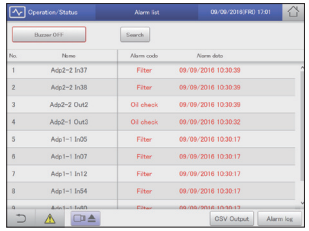


2 Touch [Alarm list].

- The “Alarm list” screen is displayed.



3 Checking on current alarms. (P.36)



“Alarm list” screen

A: Stop the alarm notification buzzer.

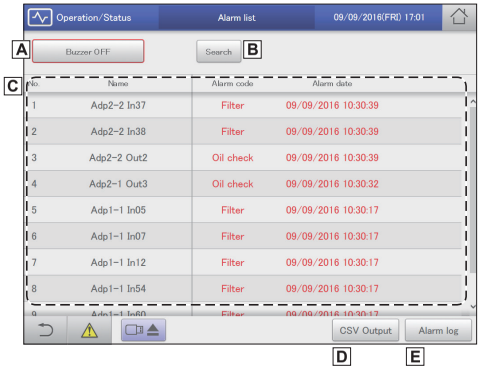
B: Set conditions (unit names, periods) to search alarms. (→ “Searching alarms” (P.37))

C: Display a list of current alarms. You can scroll up or down by swiping or flicking the screen.

Item	Explanation
Name	The names of units where alarms are currently occurring are displayed.
Alarm code	The alarm detail of current alarms is displayed.
Alarm date	This displays the date and time the alarm occurred.

D: You can output (save) the displayed list of alarms in CSV format. (→ “Outputting (saving) the list of alarms in CSV format” (P.38))

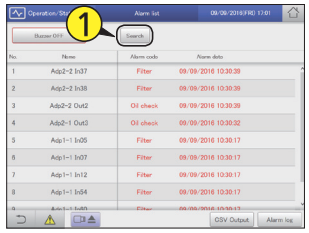
E: The “Alarm log” screen is displayed when you touch this. (→ “Checking the alarm logs” (P.58))



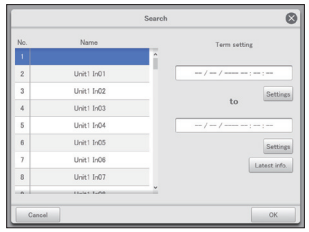
Searching alarms

1 Touch [Search].

- The “Search” screen is displayed.



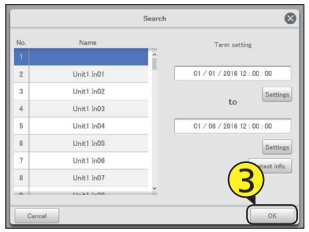
2 Setting the conditions.



Item	Explanation
Name	Select the name of the unit for which you want to find the information from the list.
Term setting	Set the start and finish for the period you want to search. The time at the top is the start of the period and the time at the bottom is the end. 1. Touch [Settings]. • The “Date setting” dialogue is displayed. 2. Set the date and time. • Use ▲ ▼ to set the “Day”, “Month”, “Year”, “Hours”, “Minutes”, and “Seconds”.  3. Touch [OK]. • The settings are registered and the “Date setting” dialogue closes. • To cancel the settings, touch [Cancel].
[Latest info.]	Touch to clear the period you have set and show the most recent 100 alarms.

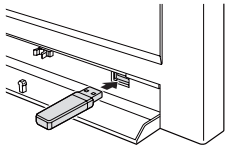
3 Touch [OK].

- Alarms matching the conditions are displayed in a list.
- To cancel the search, touch [Cancel].



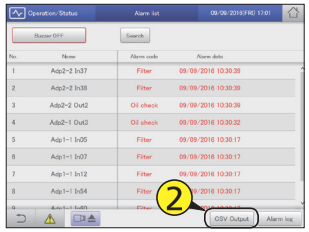
Outputting (saving) the list of alarms in CSV format

1 Open the storage door and connect a USB memory device to the USB terminal.



2 Touch [CSV Output].

- A confirmation screen is displayed.

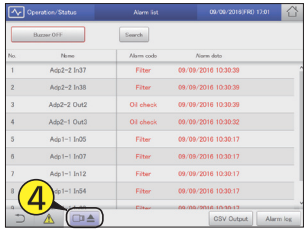


3 Touch [OK].

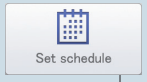
- The list of alarms currently displayed is output (saved) to the USB memory device as a CSV file.
- When saving is complete, a message confirming that saving is complete is displayed.
- The CSV file is saved to the “icxi/csv/almlist” folder. (Example file name for the output file)
  al_18052016.csv

4 Touch [⏏] when you want to disconnect the USB memory device.

- The message “USB memory can now be safely removed” is displayed. Touch [OK] and then remove the USB memory device.
- Close the storage door after removing the USB memory device.



Setting a schedule



This chapter explains how to set schedules.

You can register a single day's schedule as a pattern and then allocate to a date on the calendar.
Indoor units can be registered in groups or individually.

Screen menu	Overview	Page
Schedule/results	You can see the schedules set up for the future and how they performed in the past in a list.	53
Calendar	You can allocate a single day's schedule to a calendar.	49
Schedule setting	You can register the schedule for a single day.	43
Update schedule	You can modify a schedule that you have registered (only from the day of the change up to 4 days later, or a total of 5 days).	55

Schedule setting flow

This system allows you to set schedules for each indoor unit so that they run automatically.
You can set schedules by month for up to 2 years in the future.
Furthermore, you can put indoor units that will run on the same schedule into "Schedule group".

Schedules are set according to the following flow.

1 Setting a schedule

● "Setting a schedule" (P.43)

Register the schedule for indoor units.
- Decide a "daily running mode" to set when registering the schedule. You can register up to 50 types of daily running mode.

What is the "daily running mode"?

Scheduling patterns for indoor units (individually or as part of a schedule group) are called "daily running mode".
Daily operating modes are registered as different patterns for schedules to match different days of the week, holidays, and seasons.

Example of daily running mode settings

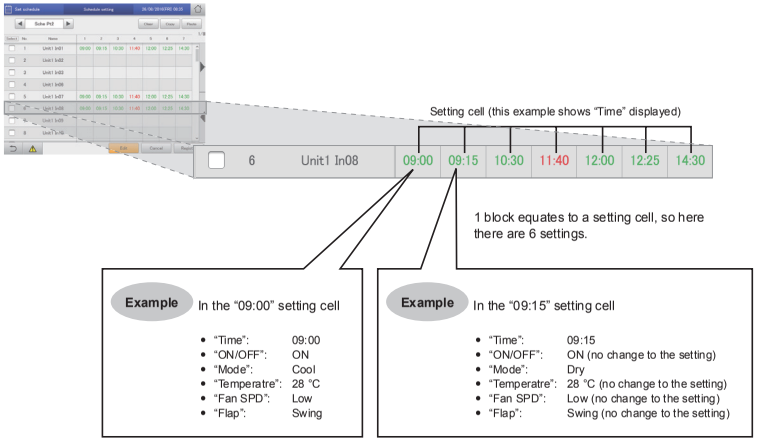
- Daily running mode for a working day (Monday to Friday) ("Mode1")
- Daily running mode for Saturday ("Mode2")
- Daily running mode for Sunday ("Mode3")

* Schedule group: Indoor units that run on the same schedule registered in groups. To register into schedule groups, see "Basic settings on the indoor unit" (P.141).

What is a “setting cell”?

To set a schedule, you need to register operations in “setting cells”. The “setting cell” is the smallest unit of operations used to configure a schedule.
You set “Time”, “ON/OFF”, “Mode”, “Temperatre”, “Fan SPD”, “Flap”, “Prhbt”, and “EnerSavStg” in a “setting cell”. Each time you change an operation (for example from “ON” to “OFF”), you register a different “setting cell”.
A schedule consists of a collection of these “setting cells” lined up.

The following is an example schedule set for an indoor unit.

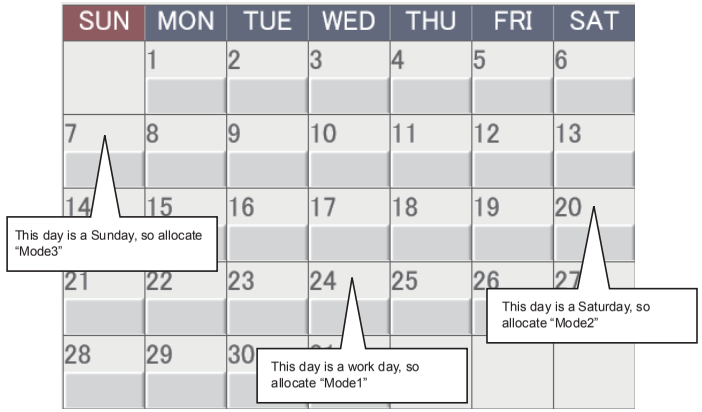


The following summarises the flow followed when setting a schedule.

(1) Select the daily running mode to register for a schedule.
↓
(2) Select an indoor unit or schedule group.
↓
(3) Set the schedule.
↓
(4) Register the setting.

2 Allocating a schedule to a date on the calendar

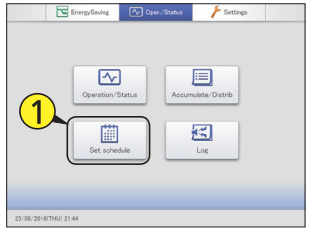
● “Allocating a schedule to a calendar” (P.49)



Setting a schedule

Register the schedules for an indoor unit or a schedule group in the “daily running mode”.

1 Touch [Set schedule] in “Oper./Status”.



2 Touch [Schedule setting].

- The “Schedule setting” screen is displayed.

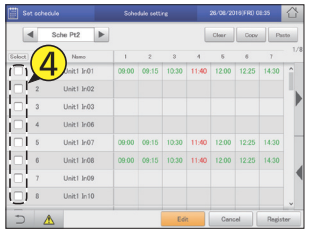


3 Press ◄ ► to select the daily running mode.



4 Put a check mark in the “Select” column.

- Select the indoor unit or schedule group you want to set.



5 Touch [Edit].

- The “Detail setting” screen is displayed.



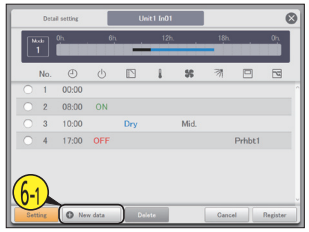
Continued on next page

6 Register setting cells.

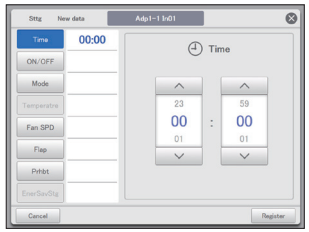
- Repeat the following (1) to (3) to register setting cells.

(1) Touch [New data].

- The “Sttg” dialogue is displayed.
- In the “Sttg” dialogue, set “Time”, “ON/OFF”, “Mode”, “Temperatre”, “Fan SPD”, “Flap”, “Prhbt”, and “EnerSavStg”.



(2) Change the settings.



Item	Explanation
Time	Set the time for the operation. 1) Touch [Time]. 2) Use ▲ ▼ to set the “hour” and “minute”.
ON/OFF	Set whether to start or stop operation. 1) Touch [ON/OFF]. 2) Select “ON” or “OFF”.
Mode	Set the operating mode. 1) Touch [Mode]. 2) Select the operating mode (heating), (drying), (cooling), (fan), (automatic)).

Item	Explanation
Temperatre	Set the temperature. 1) Touch [Temperatre]. 2) Set the temperature with ▲ and ▼. (± in 1 °C steps) Setting ranges • In cooling or drying mode: Between 18 °C and 30 °C • In heating mode: Between 16 °C and 30 °C*1 • Automatic: Between 17 °C and 27 °C *1 The upper limit for gas heat pump air conditioners is 26 °C.
Fan SPD	Set the strength of the fan. 1) Touch [Fan SPD]. 2) Select the fan speed (high), (mid), (low), (automatic)).
Flap	Set the direction of the airflow. 1) Touch [Flap]. 2) Set the flap to the desired position ((F1), (F2), (F3), (F4), (F5), (Swing)). • Heating, fan, and automatic (heating) can be adjusted in 5 steps and cooling and dry can be adjusted in 3 steps. • You can set either or , if the model does not support airflow direction settings.
Prhbt	Set whether to allow or prohibit use of the local remote controller. 1) Touch [Prhbt]. 2) Use ▲ ▼ to select from “Accept”, “Prhbt1”, “Prhbt2”, “Prhbt3”, or “Prhbt4”. Accept: Allows operations with the remote controller. Prhbt1 to Prhbt4: Operations on the remote controller are restricted. You can change the restricted operations. (P.185)
EnerSavStg	Enable or disable energy saving operation. 1) Touch [EnerSavStg]. 2) Select “Valid” or “Invl”.

Note

- You do not have to set all items, but “Time” must be set.
- You can register up to 50 setting cells per day for a single indoor unit or single schedule group.
- When setting schedule groups, you can only set those items that are common to the indoor units that make up the group.

Continued on next page

(3) Touch [Register].

- The settings are registered and the "Sttg" dialogue closes.
- To cancel the settings, touch [Cancel].



7 Touch [Register].

- The "Detail setting" dialogue closes.
- To cancel the settings, touch [Cancel].



8 Repeat steps 4 to 7 to register other indoor units.

- Repeat steps 3 to 7 if you want to register in other daily running modes.
- The confirmation message "Change sched. for the next day to 4 days later?" may be displayed.
  To overwrite the setting touch [OK]. To change, touch [Cancel].

9 Touch [Register].

- A confirmation message appears.
- To cancel the settings, touch [Cancel].



10 Touch [OK].

- The setting is registered.
- The confirmation message "Change sched. for the next day to 4 days later?" may be displayed.
  To overwrite the setting touch [OK]. To change, touch [Cancel].

Note

- Indoor units or schedule groups whose setting cells are all blank will not run at all.

The "Schedule setting" screen

A: Select the daily running mode to register.
You can select daily running modes from the following types.

Mode	Register as a normal pattern. (Mode1 to 50)

- Use ◀ ▶ to select the daily running mode.
- The display order is as follows.
  "Mode1" ⇔ "Mode2" ⇔ ⋯ ⇔ "Mode50"

B: You can delete the selected schedule either by indoor unit or by schedule group. (→ "Deleting a schedule" (P.47))

C: You can copy the selected schedule either by indoor unit or by schedule group. (→ "Copy a schedule for setting" (P.47))

D: You can paste the schedule specified at C to an indoor unit or schedule group. (→ "Copy a schedule for setting" (P.47))

E: You can view the schedule for a single day in a list.
You can scroll up or down by swiping or flicking the screen.



Note

- Before setting an operating schedule, the setting cell on the right is blank.
- When at least one check mark has been put in the "Valid" column in the "Set schedule group name" screen (refer to "Changing the name of the schedule group" (P.151)), the schedule group name is displayed first, then the indoor unit names that do not belong to schedule groups are displayed.

F: The "Detail setting" dialogue is displayed when you touch this, and you can make advanced settings for the schedule.

The "Detail setting" dialogue

A: The name of the selected indoor unit or schedule group is displayed.

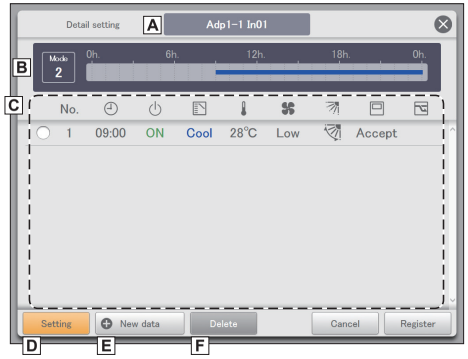
B: The daily running mode is displayed.
Set schedules are displayed in a timetable.

C: View a list of registered setting cells.
Each line is one setting cell.
You can scroll up or down by swiping or flicking the screen.

D: Modify the registered content of setting cells. (→ "Changing the settings in setting cells" (P.48))

E: The "Sttg" dialogue is displayed when you touch this and you can add setting cells.

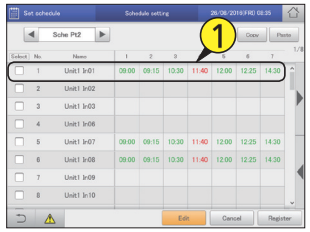
F: Delete the registered content of setting cells. (→ "Deleting the settings in setting cells" (P.48))



Deleting a schedule

1 Select the schedule to delete.

- The highlighted indoor unit or schedule group is the one to be deleted.
- You cannot delete multiple indoor units or schedule groups.



2 Touch [Clear].

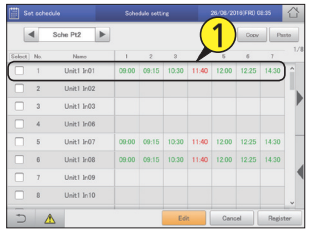
- The selected schedule is deleted.
- The schedule is restored if you touch [Cancel].

Copy a schedule for setting

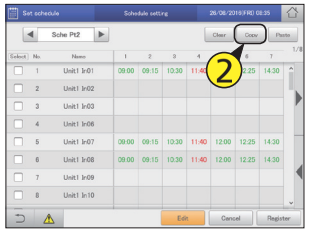
This is convenient when setting the same kind of schedule.

1 Select the schedule to copy.

- The highlighted indoor unit or schedule group is the one to be copied.

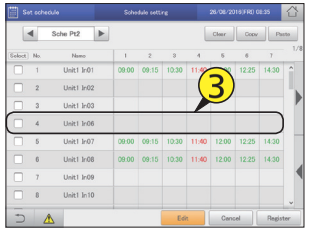


2 Touch [Copy].



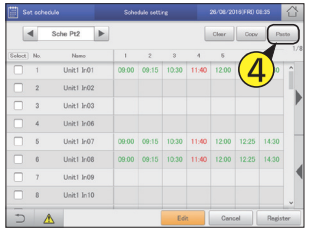
3 Select the indoor unit or schedule group you want to paste.

- You cannot simultaneously paste multiple indoor units or schedule groups.



4 Touch [Paste].

- The selected schedule is pasted.



Changing the settings in setting cells

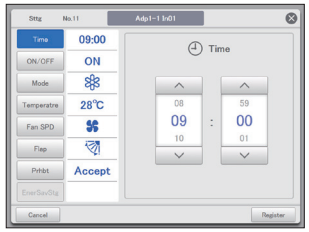
1 Select the setting cell to be changed (1-1) in the “Detail setting” dialogue and touch [Setting] (1-2).

- The “Sttg” dialogue is displayed.



2 Change the settings.

- Refer to step 6 on P.44 for the settings.



3 Touch [Register].

- The settings are registered and the “Sttg” dialogue closes.
- To cancel the settings, touch [Cancel].



Deleting the settings in setting cells

1 Select the setting cell to be deleted in the “Detail setting” dialogue.



2 Touch [Delete].

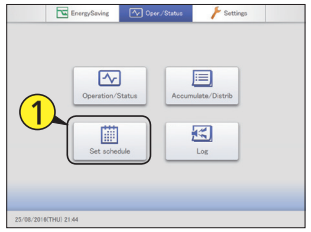
- The selected setting cell is deleted.



Allocating a schedule to a calendar

Allocate daily running modes to a calendar.
Calendars can be set starting with the current month and up to 2 years in the future.

1 Touch [Set schedule] in “Oper./Status”.

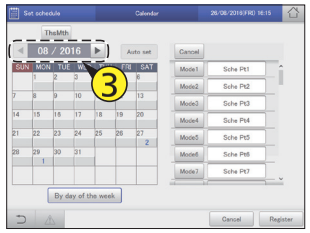


2 Touch [Calendar].

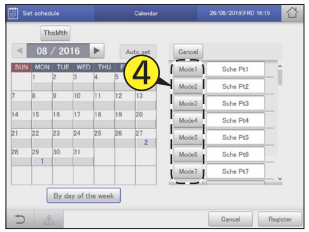
- The “Calendar” screen is displayed.



3 Use ◄ ► to select the year and month.

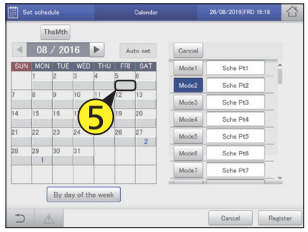


4 Select the daily running mode.



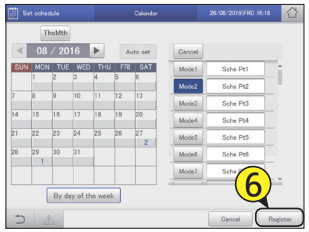
5 Touch the date.

- The daily running mode is allocated to the selected date.
- While a daily running mode is selected, you can allocate it to other dates.
- Repeat steps 4 and 5 to allocated daily running modes to other dates.



6 Touch [Register].

- The setting is registered.
- To cancel the settings, touch [Cancel].



Note
- You cannot allocate daily running modes to dates in the past.

The “Calendar” screen

A: Returns the calendar display to the current month.

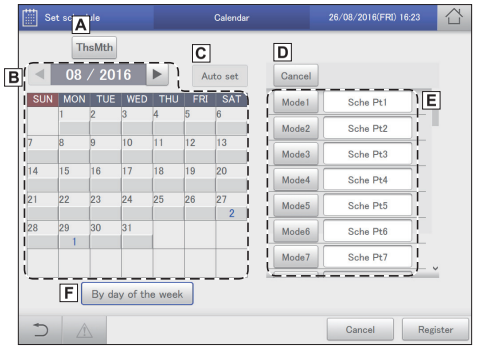
B: The calendar for the specified year and month is displayed.

C: Automatic update is executed.

D: Delete the daily running mode allocated to a calendar. (→ “Deleting allocated daily running modes” (P.51))

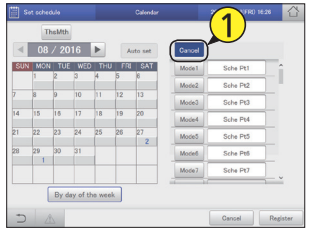
E: A list of daily running modes allocated to the calendar is displayed. You can put comments in the text boxes on the right. (→ “Adding comments to daily running modes” (P.51))

F: Allocate modes by day of the week. (→ “Allocating by day of the week” (P.52))

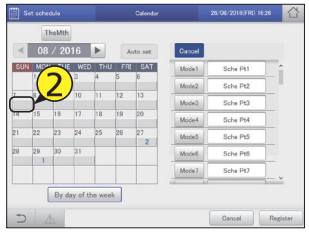


Deleting allocated daily running modes

1 Touch [Cancel].



2 Touch the date of the daily running mode to be deleted.

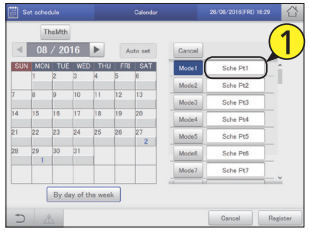


Adding comments to daily running modes

It can be helpful to add a comment to the daily running mode to describe how it is used, for example.
The comment can be up to 16 characters long using letters and numbers.

1 Touch the text box on the right of the daily running mode.

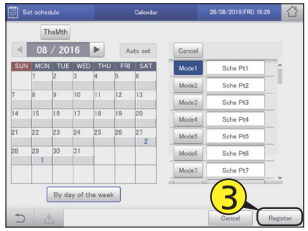
- The touchscreen keyboard is displayed.



2 Enter the text.

3 Touch [Register].

- The setting is registered.
- To cancel the settings, touch [Cancel].

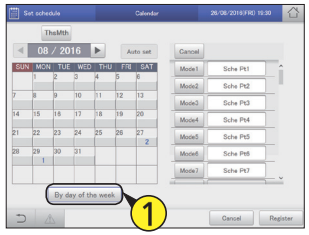


Allocating by day of the week

Allocate daily running modes by day of the week.

1 Touch [By day of the week].

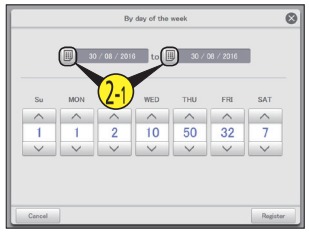
- The “By day of the week” screen is displayed.



2 Set the period.

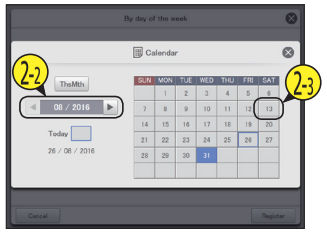
(1) Touch (2-1).

- The “Calendar” dialogue is displayed.
- The period at the left is the start and the period at the right is the end.

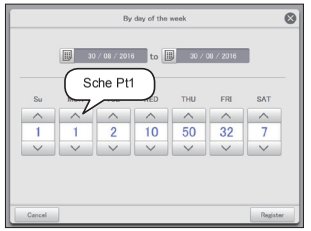


(2) Use to select the month to be set (2-2), then select the day to be set (2-3).

- The settings are registered and the “Calendar” dialogue closes.

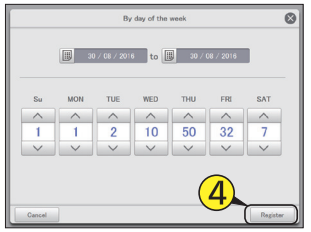


3 Use to allocate the daily running modes to days of the week.



4 Touch [Register].

- The setting is registered.
- To cancel the settings, touch [Cancel].



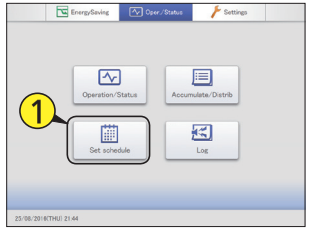
Note

- You cannot allocate daily running modes by day of the week to the current day, the next day, or the day after the next day.
- You do not need to set daily running modes in every day of the week.
- You do not need to touch [Register] or [Cancel] in the “Calendar” screen.
- If daily running modes have already been registered in the calendar, then when you set at the day of the week level, the daily running modes are overwritten.

Checking the future schedule and past performance

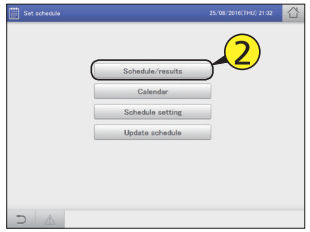
You can see the registered schedules in a list.
You can also see how operations performed in the past.

1 Touch [Set schedule] in “Oper./Status”.



2 Touch [Schedule/results].

- The “Schedule/results” screen for that day is displayed.



3 Set the day you want to check.

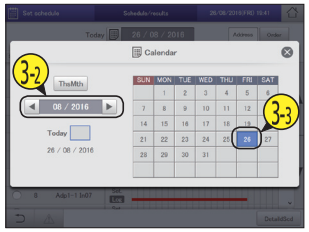
(1) Touch [ ] (3-1).

- The “Calendar” dialogue is displayed.



(2) Use ◀ ▶ to select the month to be set (3-2), then select the date (3-3).

- The settings are registered and the “Calendar” dialogue closes.



4 Touch the “Select” column (4-1), then touch [DetaildScd] (4-2).

- The “Detail setting” dialogue (P.54) is displayed.



“Schedule/results” screen

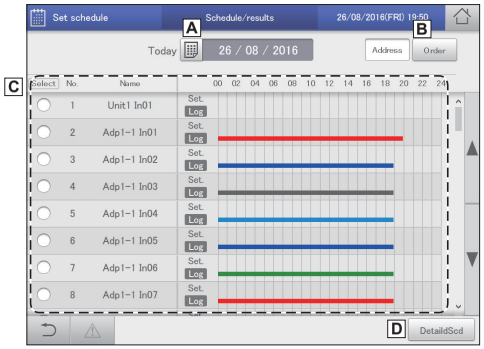
A: Select the year, month, and day to display. The calendar screen is displayed when you touch [ ] and you can select the date.

B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the order of the central addresses.

C: The day’s schedule and past operating performance is displayed in a list for each indoor unit.
The schedules are displayed in the 24-hour format with the passage of time indicated with a horizontal line.
The upper part of the row shows the planned schedule and the lower part of the row shows the past performance.
The colour key is as follows:

Blue:	Cooling	Light blue:	Dry
Red:	Warming	Grey:	Fan
Green:	Automatic		



Note
Past performance is not displayed in the following cases:
- When a date after the next day is specified in setting A
- When the power of the indoor unit has been turned off so that the schedule could not be executed

D: The “Detail setting” dialogue is displayed when you touch this. Details about the schedules for indoor units with a check mark in the “Select” column are displayed.

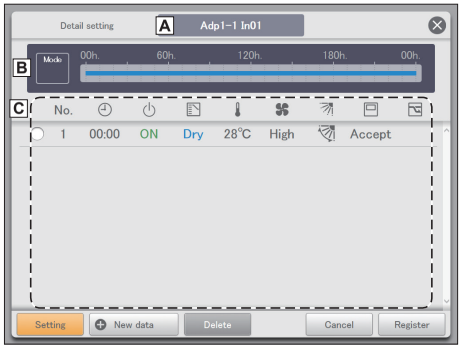
The “Detail setting” dialogue

A: The name of the selected indoor unit or schedule group is displayed.

B: The daily running mode is displayed. The time line for a set schedule for one day is displayed.

C: Details of B are displayed in a list.

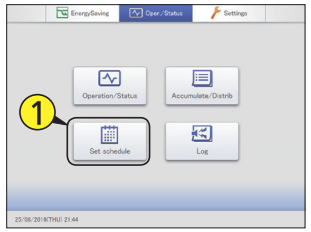
Note
- You can check the future schedule in this screen. Settings cannot be changed.



Temporarily modifying or adding a schedule

You can temporarily change the schedule for five days starting with the current day and up to 4 days into the future.
You cannot change the settings in the “Schedule setting” screen.

1 Touch [Set schedule] in “Oper./Status”.

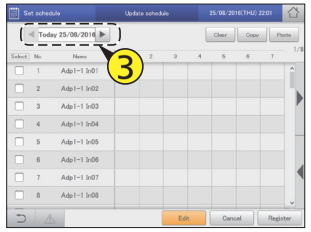


2 Touch [Update schedule].

- The “Update schedule” screen is displayed.

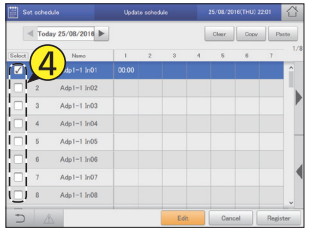


3 Use ◀ ▶ to select the year, month, and day.



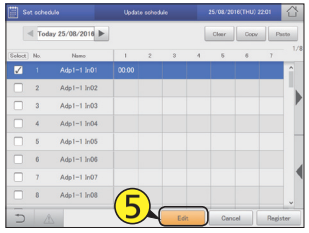
4 Put a check mark in the “Select” column.

- Select the indoor unit or schedule group whose settings you want to change.



5 Touch [Edit].

- The “Detail setting” dialogue is displayed.



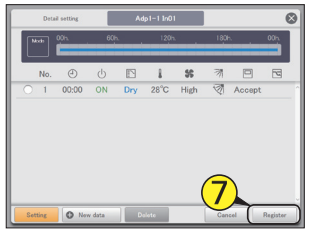
6 Change and add settings.

- Refer to “Changing the settings in setting cells” (P.48) to change the settings.
- Refer to step 6 in “Setting a schedule” (P.44) to add settings.
- Refer to step 6 in “Setting a schedule” (P.44) for the setting items.

Continued on next page

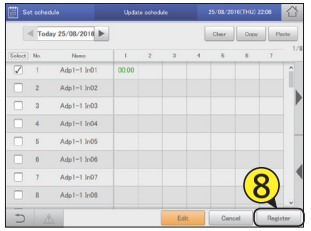
7 Touch [Register].

- The settings are registered and the “Detail setting” dialogue closes.
- To cancel the settings, touch [Cancel].



8 Touch [Register].

- The setting is registered.
- To cancel the settings, touch [Cancel].



Note

- Even if you change the schedule in this screen, the daily running mode settings in the “Schedule setting” screen are not changed.

The “Update schedule” screen

A: Select the year, month, and day to change.
- Only the current day and 4 days into the future are shown in the date.

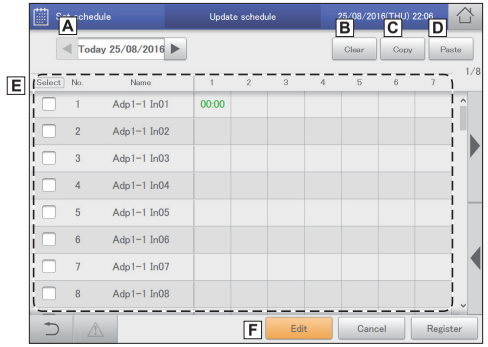
B: You can delete the selected schedule either by indoor unit or by schedule group. (→ “Deleting a schedule” (P.47))

C: You can copy the selected schedule either by indoor unit or by schedule group. (→ “Copy a schedule for setting” (P.47))

D: Paste the schedule specified at C to an indoor unit or schedule group. (→ “Copy a schedule for setting” (P.47))

E: View the operating schedule for a single day in a list.

F: When you touch this, the “Detail setting” dialogue is displayed for indoor units or schedule groups with a check mark in the “Select” column.



Checking the alarm logs and operation/ status change logs



This chapter explains how to check alarm logs and operation/status change logs.

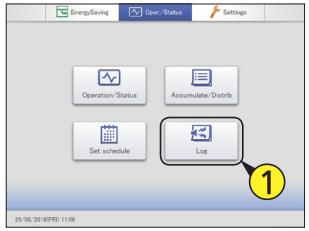
You can check the logs for alarms that have occurred in the system and the logs of operation/status changes in lists on this unit.
You can also output the log lists in a CSV format file.

Screen menu	Overview	Page
Alarm log	Check the log of alarms that have occurred in the system in a list.	58
Operation/Status change log	Check the log of operation/status changes of the indoor units in a list.	61

Checking the alarm logs

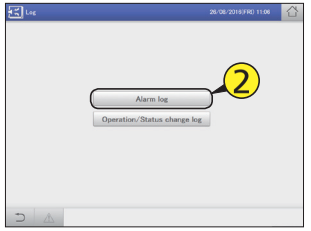
You can display up to 100 of the most recent alarms that have occurred or that have been restored.

1 Touch [Log] in “Oper./Status”.

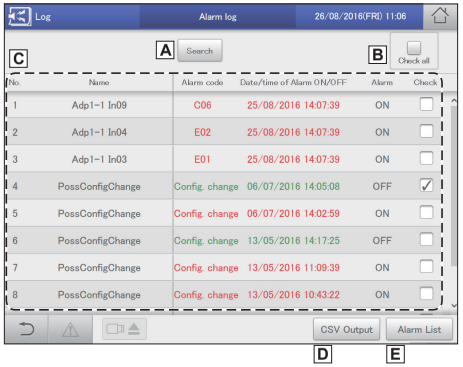


2 Touch [Alarm log].

- The “Alarm log” screen is displayed.
- Alarms are in red letters immediately after occurring. They change to green letters after they are restored.



The “Alarm log” screen



A: The “Search” dialogue is displayed when you touch this.
You can find the log information you need from amongst the logs for alarms that have occurred. You can search by either the device name or the display period. (→ “Searching alarm logs” (P.59))

B: A check mark appears in all of the “Check” columns when you touch this.

C: The alarm log is displayed in a list.
You can scroll up or down by swiping or flicking the screen.

Item	Explanation
Name	The names of units where alarms are occurring are displayed.
Alarm code	The type of alarm is displayed.
Date/time of Alarm ON/OFF	This displays the date and time the alarm occurred. When a problem in the system has been restored, this shows the date and time it was restored.
Alarm	Immediately after an alarm has occurred, this shows “ON”, and after it is restored it shows “OFF”.
Check	Select the alarms you want to check.

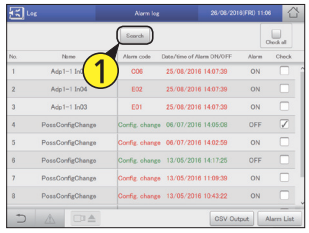
D: You can output (save) the displayed list of alarm logs in CSV format. (→ “Outputting (saving) logs as a CSV file” (P.60))

E: The “Alarm list” screen is displayed when you touch this. (P.35)

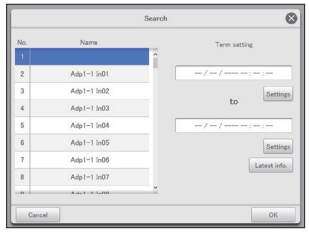
Searching alarm logs

1 Touch [Search].

- The “Search” dialogue is displayed.



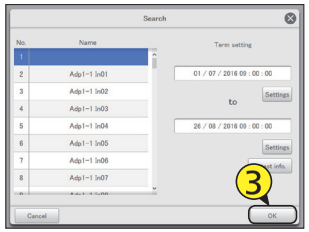
2 Set the search conditions.



Item	Explanation
Name	Select the name of the unit for which you want to find the information from the list.
Term setting	Set the start and finish for the period you want to search. The time at the top is the start of the period and the time at the bottom is the end. 1) Touch [Settings]. • The “Date setting” dialogue is displayed. 2) Set the date and time. • Use ∧ ∨ to set the “Day”, “Month”, “Year”, “Hours”, “Minutes”, and “Seconds”.  3) Touch [OK]. • The settings are registered and the “Date setting” dialogue closes. • To cancel the settings, touch [Cancel].
[Latest info.]	Touch to clear the period you have set and show the most recent 100 alarms.

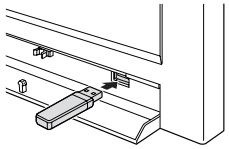
3 Touch [OK].

- Alarms matching the conditions are displayed in a list.
- If you specify name, the latest 200 alarms are displayed. If you do not specify, the latest 100 alarms for all units are displayed.
- If you specify period, the latest 200 alarms are displayed.
- You can save the search results in a file in the CSV format. (→ “Outputting (saving) logs as a CSV file” (P.60))
- To cancel display conditions, touch [Cancel].



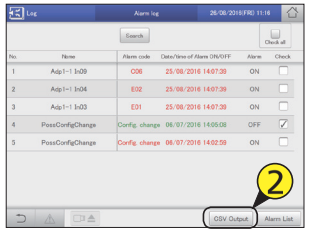
Outputting (saving) logs as a CSV file

1 Open the storage door and connect a USB memory device to the USB terminal.



2 Touch [CSV Output].

- A confirmation screen is displayed.

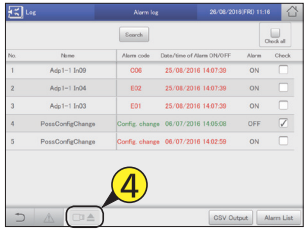


3 Touch [OK].

- The alarm log currently displayed is saved to the USB memory device in CSV format.
- When saving is complete, a message confirming that saving is complete is displayed.

4 Touch  when you want to disconnect the USB memory device.

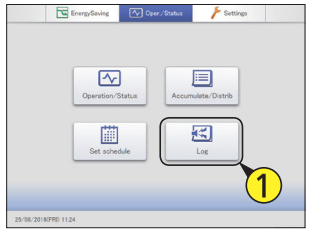
- The message “USB memory can now be safely removed” is displayed. Touch [OK] and then remove the USB memory device.
- Close the storage door after removing the USB memory device.



Checking the operation/status change log in a list

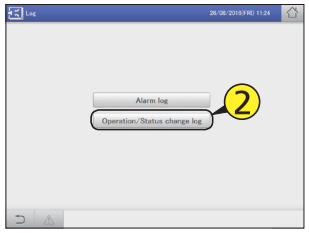
You can display a list showing operations for indoor units that logs when and how changes were made.

1 Touch [Log] in “Oper./Status”.

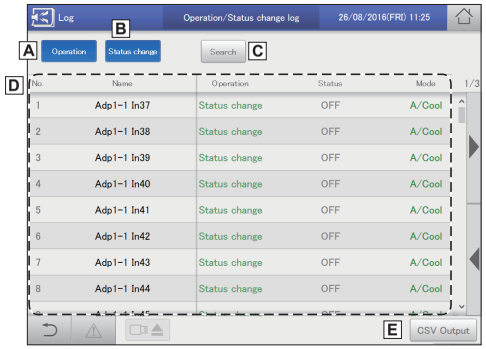


2 Touch [Operation/Status change log].

- The “Operation/Status change log” screen is displayed.



The “Operation/Status change log” screen



A: The operation log is displayed. This is usually displayed. Touch to hide.

B: The status change log is displayed. This is usually displayed. Touch to hide.

C: The “Search” dialogue is displayed when you touch this.
You can find the log information you need from amongst the operation/status change logs.
You can search by either the device name or the display period. (→ “Searching operation/status change logs” (P.62))

D: The operation/status change logs are displayed in a list.

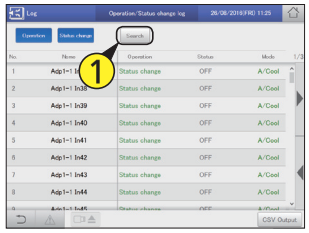
Item	Explanation
Name	The names of the units are displayed.
Operation	This shows whether the operation occurred as schedule or if the operation was changed.
Status	This indicates the operating status (ON or OFF).
Mode	The operating mode (Heat, Dry, Cool, Fan, A/Heat, A/Cool) is displayed.
Set T.	The temperature setting is displayed.
Fan	The fan speed (High, Mid., Low, Auto) is displayed.
Flap	The airflow direction is displayed.
Prhbt	This indicates the remote controller operation “Accept”, or “Prhbt1” to “Prhbt4”.
Date	The date and time of the change to operational status is displayed.

E: You can output (save) the displayed list of operation/status change logs in CSV format.
(→ “Outputting (saving) logs as a CSV file” (P.63))

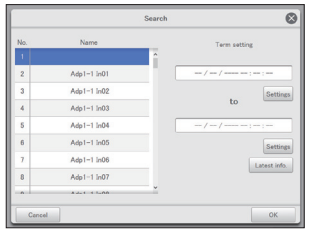
Searching operation/status change logs

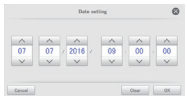
1 Touch [Search].

- The “Search” dialogue is displayed.



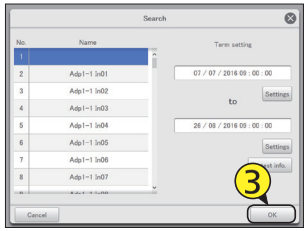
2 Set the search conditions.



Item	Explanation
Name	Select the name of the unit for which you want to find the information from the list.
Term setting	Set the start and finish for the period you want to search. The time at the top is the start of the period and the time at the bottom is the end. 1) Touch [Settings]. • The “Date setting” dialogue is displayed. 2) Set the date and time. • Use ▲ ▼ to set the “Day”, “Month”, “Year”, “Hours”, “Minutes”, and “Seconds”.  3) Touch [OK]. • The settings are registered and the “Date setting” dialogue closes. • To cancel the settings, touch [Cancel].
[Latest info.]	Touch to clear the period you have set and show the most recent 100 alarms.

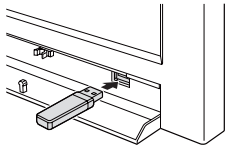
3 Touch [OK].

- Operation/status change logs matching the conditions are displayed in a list.
- If you specify device, the latest 200 operation logs are displayed. If you do not specify the device, the latest 100 operation logs for all devices are displayed.
- If you specify period, the latest 200 operation logs are displayed.
- You can save the search results in a file in the CSV format. (→ “Outputting (saving) logs as a CSV file” (P.63))
- To cancel the search, touch [Cancel].



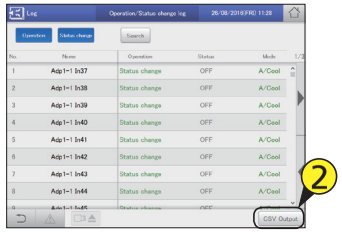
Outputting (saving) logs as a CSV file

1 Open the storage door and connect a USB memory device to the USB terminal.



2 Touch [CSV Output].

- A confirmation screen is displayed.

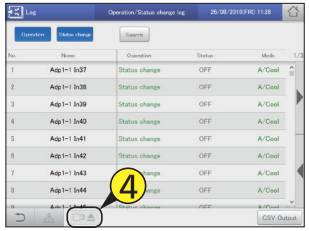


3 Touch [OK].

- The log currently displayed is saved to the USB memory device in CSV format.
- When saving is complete, a message confirming that saving is complete is displayed.

4 Touch [ ] when you want to disconnect the USB memory device.

- The message “USB memory can now be safely removed” is displayed. Touch [OK] and then remove the USB memory device.
- Close the storage door after removing the USB memory device.



Check accumulated values

Accumulate/Distrib

This chapter explains how to check the accumulated values for the devices.

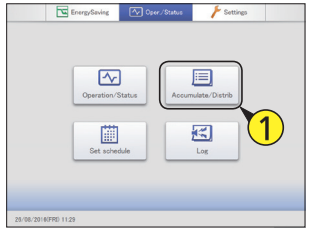
You can check accumulated values for indoor units, outdoor units, and pulse meters in a list on this unit.
The display for indoor units can be viewed by area or individual unit, and outdoor units and pulse meters can be viewed by different values (adaptor value or total value for a period).

Screen menu	Overview	Page
I/D unit acc.	Check the accumulated data for the indoor units in a list.	65
O/D unit acc.	Check the accumulated data for the outdoor units in a list.	67
Pulse acc.	Check the accumulated data for the pulse meters in a list.	69

Checking the list of accumulated values on the indoor unit

The accumulated values for indoor units (thermostat ON operating times, etc.) are displayed in a list.

1 Touch [Accumulate/Distrib] in “Oper./ Status”.



2 Touch [I/D unit acc.].

- The “I/D unit acc.” screen is displayed.

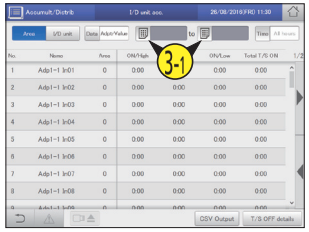


3 Set the period to be displayed.

- Set the start and end of the period to be displayed.
- The time at the left is the start of the period and the time at the right is the end.
- If you set “Data” to “Adaptor value”, you cannot select the period to be displayed.

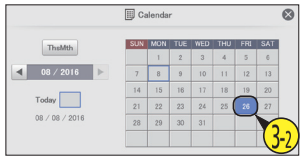
(1) Touch (3-1).

- The “Calendar” dialogue is displayed showing the current date.



(2) Touch the date (3-2).

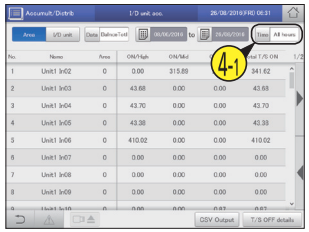
- Use ◀ ▶ to select the month you want to check. The current month is displayed if you touch [ThsMth].
- The settings are registered and the “Calendar” dialogue closes.



4 Set the time slots to display.

(1) Touch [Time] (4-1).

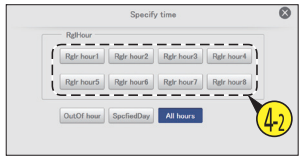
- The “Specify time” dialogue is displayed.
- If you set “Data” to “Adaptor value”, you cannot select the time slots to be displayed.



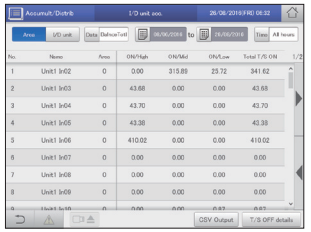
Continued on next page

(2) Touch the time slot to accumulate (4-2).

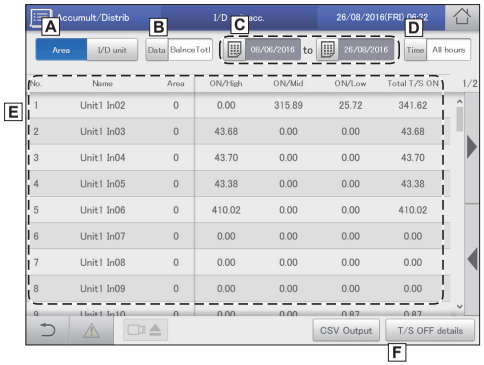
- The settings are registered and the “Specify time” dialogue closes.
- Refer to “RglrHourRnge” in “Calendr sttgs for distr calc” (P.148) for information about “Rglr hour1” to “Rglr hour8”.



5 Check accumulated values.



The “I/D unit acc.” screen



A: Set the order of display.

[Area]	Display indoor units by area.
[I/D unit]	Display indoor units in display order.

B: Set the displayed values. The “Data type” dialogue is displayed when you touch this. Select from “Adaptor value”, “Balance total”, or “WeighFactrBlnceTtl”.

C: Set the periods to be displayed. The “Calendar” dialogue is displayed when you touch this.

D: Set the time slots to be displayed. The “Specify time” dialogue is displayed when you touch this.

E: The accumulated values for indoor units are displayed in a list.
You can scroll up or down by swiping or flicking the screen.

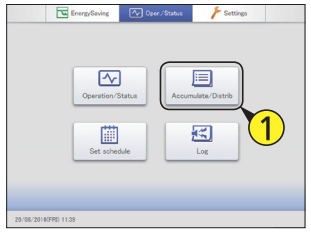
Item	Explanation
Name	The names of the indoor units are displayed.
Area	The area number that the indoor unit belongs to is displayed.
ON/High	Displays the accumulated operating hours when the thermostat is “ON” and the fan is set to “High”.
ON/Mid	Displays the accumulated operating hours when the thermostat is “ON” and the fan is set to “Mid.”.
ON/Low	Displays the accumulated operating hours when the thermostat is “ON” and the fan is set to “Low”.
Total T/S ON	The total value of accumulated operating hours when the thermostat is “ON” and when “ON/High”, “ON/Mid”, and “ON/Low”.
OFF/High	Displays the accumulated hours when the thermostat is “OFF” and the fan is set to “High”. (When [T/S OFF details] is touched)
OFF/Mid	Displays the accumulated hours when the thermostat is “OFF” and the fan is set to “Mid.”. (When [T/S OFF details] is touched)
OFF/Low	Displays the accumulated hours when the thermostat is “OFF” and the fan is set to “Low”. (When [T/S OFF details] is touched)
Total T/S OFF	Displays the accumulated hours when the thermostat is “OFF”.
Elec Htr ON	Displays the accumulated hours when the heater is “ON”. (When [T/S OFF details] is touched)
T/S ON + T/S OFF	Displays all the accumulated operating hours.

F: The “OFF/High ”, “OFF/Mid”, “OFF/Low”, and “Elec Htr ON” items are added to the display when you touch this. Touch again to return to the items displayed previously.

Checking the list of accumulated values on the outdoor unit

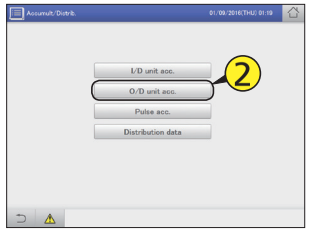
The accumulated values for outdoor units (engine operating times, engine operation cycles, etc.) are displayed in a list.

1 Touch [Accumulate/Distrib] in “Oper./Status”.



2 Touch [O/D unit acc.].

- The “O/D unit acc.” screen is displayed.



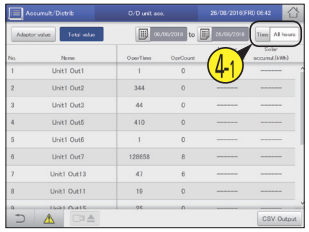
3 Set the period to be displayed.

- Set the start and end of the period to be displayed.
- The time at the left is the start of the period and the time at the right is the end.
- If you set the “Adaptor value”, you cannot select the period to be displayed.

4 Set the time slots to display.

(1) Touch [Time] (4-1).

- The “Specify time” dialogue is displayed.
- If you set the “Adaptor value”, you cannot select the time slots to be displayed.



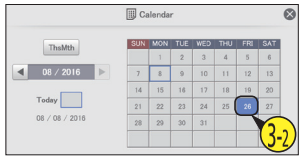
(1) Touch (3-1).

- The “Calendar” dialogue is displayed showing the current date.



(2) Touch the date (3-2).

- Use ◀ ▶ to select the month you want to check. The current month is displayed if you touch [ThsMth].
- The settings are registered and the “Calendar” dialogue closes.



Continued on next page

(2) Touch the time slot to accumulate (4-2).

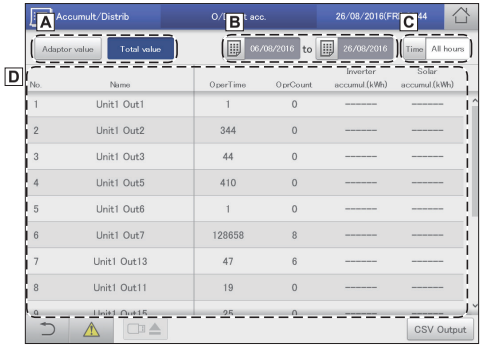
- The settings are registered and the “Specify time” dialogue closes.
- Refer to “RglrHourRnge” in “Calendr sttgs for distr calc” (P.148) for information about “Rglr hour1” to “Rglr hour8”.



5 Check accumulated values.



The “O/D unit acc.” screen



A: Set the values to be displayed. Touch to select either “Adaptor value” or “Total value”.

B: Set the periods to be displayed. The “Calendar” dialogue is displayed when you touch this.
- When “Total value” is set, totals matching the time slot set in “Time” (“RglHour”, “OutOf hour”, etc.) are displayed. If “All hours” is set in “Time”, all totals are displayed.

C: Set the time slots to be displayed. The “Specify time” dialogue is displayed when you touch this.

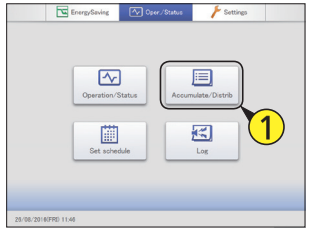
D: The accumulated values for outdoor units are displayed in a list.
You can scroll up or down by swiping or flicking the screen.

Item	Explanation
Name	The names of the outdoor units are displayed.
OperTime	The number of operation hours for the outdoor units are displayed.
OprCount	The number of operation cycles for the outdoor units are displayed.
Inverter accumul.(kWh)	The accumulated values if inverter generation is being used are displayed.
Solar accumul.(kWh)	The accumulated values if solar generation is being used are displayed.

Checking the list of accumulated values on a pulse meter

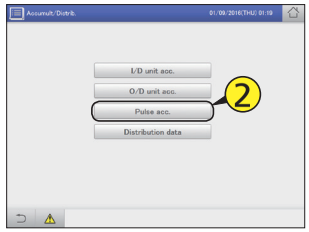
The accumulated pulse count values for the pulse meter are displayed in a list. (When a pulse meter is set)

1 Touch [Accumulate/Distrib] in “Oper./ Status”.



2 Touch [Pulse acc.].

- The “Pulse acc.” screen is displayed.



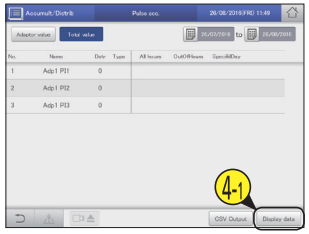
3 Set the period to be displayed.

- Set the start and end of the period to be displayed.
- The time at the left is the start of the period and the time at the right is the end.
- If you set the “Adaptor value”, you cannot select the period to be displayed.

4 Select the display item.

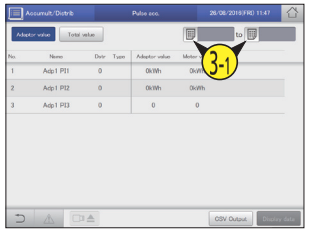
(1) Touch [Display data] (4-1).

- The “Display data” dialogue is displayed.



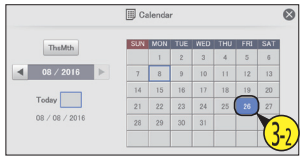
(1) Touch (3-1).

- The “Calendar” dialogue is displayed showing the current date.



(2) Touch the date (3-2).

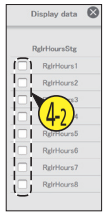
- Use ◄ ► to select the month you want to check. The current month is displayed if you touch [ThsMth].
- The settings are registered and the “Calendar” dialogue closes.



Continued on next page

(2) Select the items to be displayed (4-2).

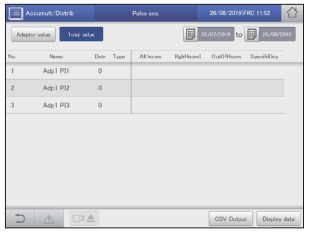
- You can select multiple items.
- Refer to “RglrHourRnge” in “Calendr sttgs for distr calc” (P.148) for information about “RglrHours1” to “RglrHours8”.



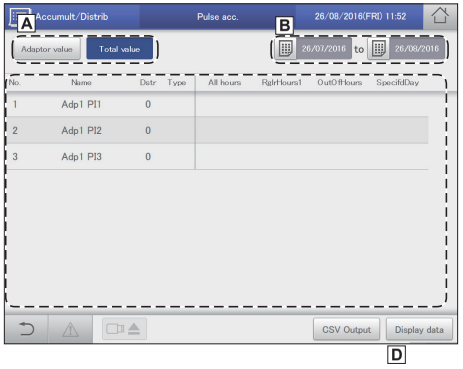
(3) Touch .

- The settings are registered and the “Display data” dialogue closes.

5 Check accumulated values.



The “Pulse acc.” screen



A: Set the values to be displayed. Touch to select either “Adaptor value” or “Total value”.
- If you set “Adaptor value”, the displayed value changes at 10-second intervals.

B: Set the periods to be displayed. The “Calendar” dialogue is displayed when you touch this.
- When “Total value” is set, totals matching the time slot set in “Time” (“RglrHours”, “OutOfHours”, etc.) are displayed.

C: The accumulated values for pulse meters are displayed in a list.
You can scroll up or down by swiping or flicking the screen.

Item	Explanation
Name	The names of all units (indoor units and outdoor units) are displayed.
Dstr	The distribution group number is displayed.
Type	The type of meter is displayed.
Adaptor value (when “Adaptor value” is selected)	The accumulated value of the communication adaptor is displayed.
Meter value (when “Adaptor value” is selected)	The accumulated value for pulse meter is displayed.
Time (when “Total value” is selected)	The accumulated pulse count values for the adaptor or specified period are displayed. (“All hours”, “OutOfHours”, “SpecifdDay”) Display items (“RglrHours1” to “RglrHours8”) can also be added.

D: The “Display data” dialogue is displayed when you touch this, and you can select the items to add to the display.
- If you set the “Adaptor value”, you cannot select the items to be displayed.

Checking distribution data



This chapter explains how to check distribution data.

You can check distribution data in a list by unit and by area on this unit.
You can check the distribution ratio, usage, and charges for both electricity and gas.

Screen menu	Overview	Page
Distribution data	Check the details about distribution calculations in a list.	72

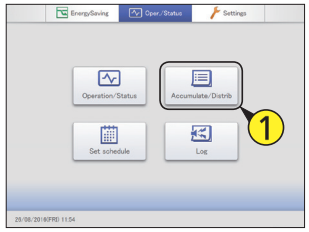
Checking distribution data in a list

Details about distribution data (distribution ratios, usage, and charges) are displayed in a list.
For indoor units used in tenanted buildings, it can be difficult to know how much electricity or gas is used in each area because the same air conditioning system may be used across multiple areas.
By putting the indoor units in each area into "Distribution group", rates can be calculated based on the data acquired from the air conditioning units (indoor units and outdoor units) in a "Distribution group", and this can help you know how much electricity or gas is used in each area. The rate calculated by this is called the "Distribution ratio".

You need to make the following settings before you can check distribution data.

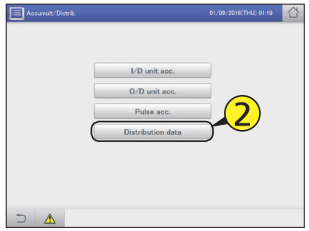
- Distribution mode settings (P.160)
- Area group name settings (P.153)
- Distribution group settings (P.155)
- Pulse meter settings (P.158)
- Calendar settings for distribution calculation (P.148)
- Distribution ratio settings (P.161)

1 Touch [Accumulate/Distrib] in "Oper./ Status".



2 Touch [Distribution data].

- The "Distribution data" screen is displayed.



3 Set the period to be displayed.

- Set the start and end of the period to be displayed.
- The time at the left is the start of the period and the time at the right is the end.

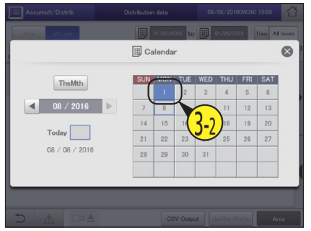
(1) Touch (3-1).

- The "Calendar" dialogue is displayed showing the current date.



(2) Touch the date (3-2).

- Use ◀ ▶ to select the month you want to check. The current month is displayed if you touch [ThsMth].
- The settings are registered and the "Calendar" dialogue closes.



Continued on next page

4 Set the time slots to display.

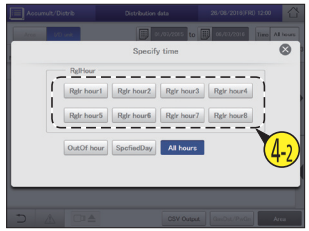
(1) Touch [Time] (4-1).

- The “Specify time” dialogue is displayed.

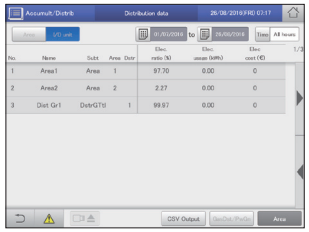


(2) Touch the time slot to accumulate (4-2).

- Refer to “RglrHourRnge” in “Calendr sttgs for distr calc” (P.148) for information about “Rglr hour1” to “Rglr hour8”.
- The settings are registered and the “Specify time” dialogue closes.



5 Checking distribution data.



Note

- The calculations for distribution made by this unit do not accord with the relevant laws and statutes, so they cannot be used for official transactions.
- The operating time data accumulated on the indoor units is acquired via a communication adaptor. When this unit sends a request for the data to the communication adaptor, the communication adaptor makes inquiries to the indoor units about their operating hours, and when collection is complete is transfers the results to this unit. This may result in a difference in counts when moving from one time slot to the next.
- Stopping of indoor units by scheduling is subject to some delays due to communications, so make sure it is not set at the same time as the “RglrHourRnge stngs” (P.150) time slot is changed over. If the schedule stops operation prior to the change over of a time slot, avoid setting it inside 10 minutes (this may change depending on the state of communications) of the change over of the time slot.
- When there is a problem with the communications between the main unit and the indoor units (or the communication adaptor), it may not be possible to accumulate by time slot normally. The accumulated values received by this unit are counted in the time slot when they are received.
- The usage in [All hours] in the “Specify time” dialogue is calculated from the distribution ratio distributed overall according to the total operating data from all time slots. This means that the usages in [RglHour], [OutOf hour], and [SpcfiedDay] will not match.
- If you remove an air conditioning unit after accumulating distribution data, all accumulated values for that air conditioning unit are deleted, so it will not be possible to view distribution data that includes that air conditioning unit after it is removed.
  Before removing the unit, output (save) the distribution data as a CSV file to a USB memory device.
  The output method for CSV files is the same as for outputting logs. (→ “Outputting (saving) logs as a CSV file” (P.60))

Changing the units of display

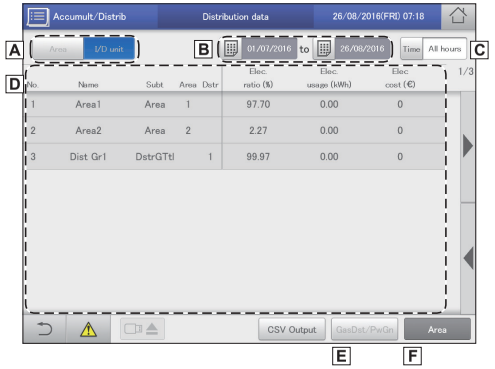
1 Make sure that [Area] is off.

2 Select the unit of display.

- Switch the display between “Area” and “I/D unit”.



The “Distribution data” screen



A: Set the units of display.

[Area]	Display indoor units by area.
[I/D unit]	Display indoor units in display order.

B: Set the periods to be displayed. The “Calendar” dialogue is displayed when you touch this.

C: Set the time slots to be displayed. The “Specify time” dialogue is displayed when you touch this.

D: Indoor unit distribution data is displayed in a list.

Item	Explanation
Name	The names of the indoor units are displayed.
Subt	This is the subtotal of the specified unit.
Area	The area number that the indoor unit belongs to is displayed.
Dstr	The distribution group number is displayed.
Elec. ratio (%)	This is the distribution ratio of electricity supplied from outdoor units.
Elec. usage (kWh)	This is the usage of electricity supplied from outdoor units.
Elec. cost	This is the charges calculated based on the electricity usage.
O/D Gas ratio(%)	This is the distribution ratio of gas supplied from GHP.
O/D Gas usage(m3)	This is the quantity of gas supplied from GHP.
O/D Gas cost	This is the charges calculated based on the gas usage.
PwrGnGas ratio(%)	This is the distribution ratio of gas used to generate power.
PwrGnGas usage(m3)	This is the volume of gas used to generate power.
PwrGnGas cost	This is the charges calculated based on the volume of gas used to generate power.
Total cost	This is the total of “Elec. cost”, “O/D Gas cost”, and “PwrGnGas cost”.

E: The “PwrGnGas ratio”, “PwrGnGas usage”, and “PwrGnGas cost” items are added to the display when you touch this. This is not possible if time distribution is set, however.

F: Display by area or by distribution group. (Factory setting: ON)
When this is cancelled, it is possible to display by area or by indoor unit. (→ “Changing the units of display” (P.74))

Settings for energy saving



This chapter explains how to make energy saving settings.

This unit is equipped with the e-CUT functions (temperature auto return, unattended auto shutoff, temperature range limit, energy saving timer/efficient operation*).
The e-CUT functions reduce waste when air conditioning so that you can even save energy using existing air conditioning units.

Screen menu	Overview	Page
Set temp. auto return	Even if the temperature initially set is changed, the temperature automatically returns to the set one after a certain amount of time.	77
Unattended auto shutoff	If the air conditioning unit automatically stops at the set time but then is started again, this setting automatically stops the unit again repeatedly at set intervals.	80
Set temperature range limit	Restrict the temperatures that can be set by setting upper and lower limits on temperatures.	83
Energy saving timer/Efficient operation setting*	You can specify time slots when you want operation capacity reduced.	85
Out unit silent setting	Set a time for the outdoor unit to operate at a lower level at night compared to the day.	87



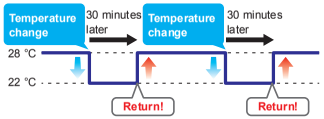
Screen menu	Overview	Page
I/D unit demand settings	You can automatically control indoor units by setting particular levels to cut the maximum demand for electricity or maximum gas consumption.	89
O/D unit demand settings	You can automatically control outdoor units by setting particular levels to cut the maximum demand for electricity or maximum gas consumption.	92
Demand/peak shaving settings/ Peak cut settings*	Limit the electricity or gas consumed by outdoor units during the set time slot.	94
O/D unit cyclic	At specified 10 minute intervals, the thermostats of outdoor units in control groups are turned off and restored repeatedly in order.	101
I/D unit cyclic	At specified intervals (3, 4, or 5 minutes), the thermostats of indoor units in control groups are turned off and restored repeatedly in order.	97
Register demand point	Register the demand point input.	104

* When using gas heat pump air conditioners

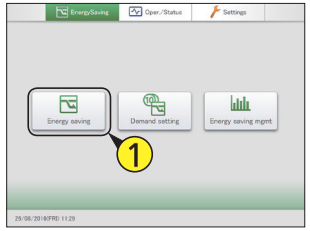
Automatically return to set temperatures [Set temp. auto return]

Even if the set temperature is changed, the temperature automatically returns to the set temperature ("Return temperature") at certain times ("Return time"). This feature prevents over cooling or heating.

- **When you want to keep the set temperature at 28 °C during the summer months**
  Make the return temperature 28 °C in the temperature auto return setting and the return time 30 minutes later, and it will not matter how many times the temperature is changed, the set temperature will return to 28 °C every 30 minutes after it is changed.
  However, when the return temperature is set to 27 °C, if the set temperature is changed to 28 °C, the temperature will not return to the return temperature even after the return time has elapsed.
  (When "Eco dirc. only" is set)

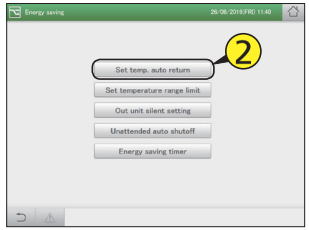


1 Touch [Energy saving] in "EnergySaving".



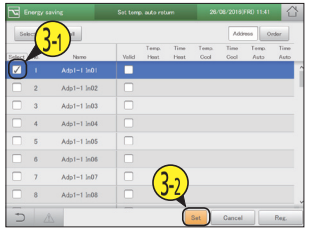
2 Touch [Set temp. auto return].

- The "Set temp. auto return" screen is displayed.

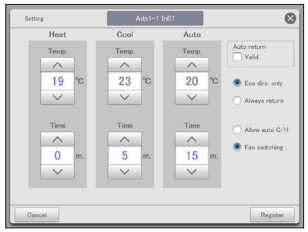


3 Put a check mark in the "Select" column (3-1), and touch [Set] (3-2).

- The "Setting" dialogue is displayed.



4 Change the settings.



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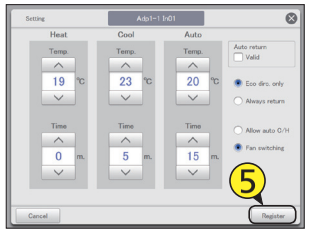
Item	Explanation
Return temperature Return time	Set the return temperatures for "Heat", "Cool", and "Auto" and the return time. Use ▲ ▼ to set the temperature or time. The setting ranges are as follows. • Return temperature for heating: 16 to 30 °C*1 (1 °C intervals) *1 The upper limit for gas heat pumps is 26 °C. • Return temperature for cooling (dry): 18 to 30 °C (1 °C intervals) • Return temperature for auto: 17 to 27 °C (1 °C intervals) • Return time (shared): 0 to 240 minutes (5 minute intervals)
Auto return	The auto return function is enabled for the selected indoor unit if you put a check mark here.

The following items are settings common to all indoor units.

• Eco dirc. only • Always return	Select the conditions for return. When you select "Eco dirc. only", the return to the set temperature only occurs automatically if it saves energy.
• Allow auto C/H • Fan switching	When you select "Allow auto C/H", temperature auto return control also occurs in the automatic mode. When you select "Fan switching", when the running mode of the indoor units is switched to "Auto Cool/Heat" the mode switches from automatic mode to fan mode.

5 Touch [Register].

- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].

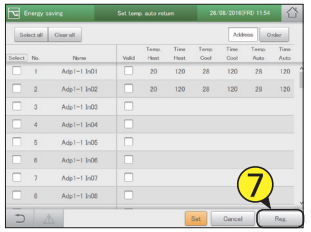


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Reg.].

- To cancel the settings, touch [Cancel].



The “Set temp. auto return” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

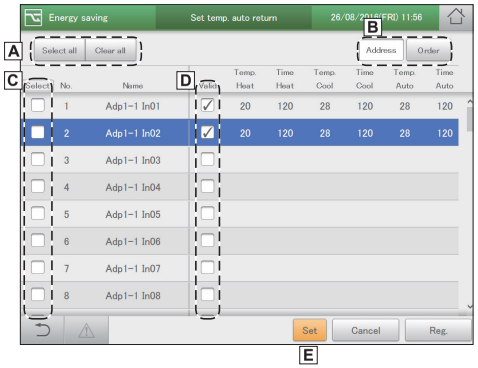
B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in “I/D unit settings” (P.141).

C: The indoor units with a check mark next to them will be the subject of the changes to the settings.

D: The temperature auto return setting is enabled for the selected indoor unit if you put a check mark here. This is linked with the “Auto return” (“Setting” dialogue) (P.78) setting.

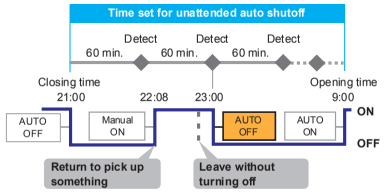
E: The “Setting” dialogue is displayed when you touch this.



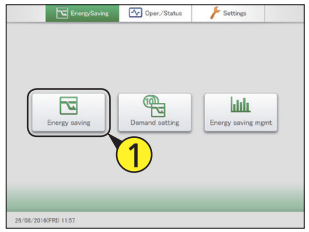
Automatically stopping restarts [Unattended auto shutoff]

If air conditioning automatically stops at the time set on the timer, but then is started again, this setting automatically stops the unit again repeatedly at set intervals, so it helps prevent people from forgetting to turn the air conditioning off.

- **When the settings are for closed between 21:00 and 09:00, and the stop monitoring during closed hours is set to 60-minute intervals**
  The “auto shutoff” feature works as many times as necessary during the closed hours (21:00 to 9:00 the next morning in the example).

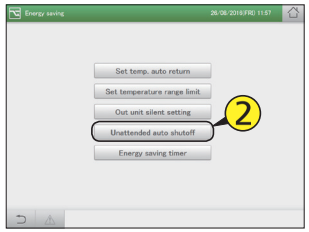


1 Touch [Energy saving] in “EnergySaving”.



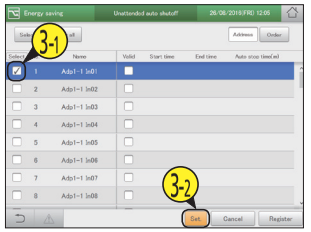
2 Touch [Unattended auto shutoff].

- The “Unattended auto shutoff” screen is displayed.

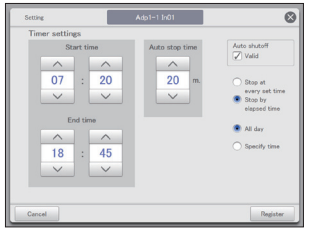


3 Put a check mark in the “Select” column (3-1), and touch [Set.] (3-2).

- The “Setting” dialogue is displayed.



4 Change the settings.



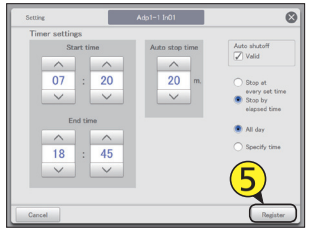
Item	Explanation
Timer settings (Start time, End time)	Set the time slots to automatically stop. Use ▲ ▼ to set the time. **Note** • You can make the settings extend over different dates. For example: 22:00 to 08:00 • If you set the start time and end time as the same time, the setting is taken as being for the entire day.

Continued on next page

Item	Explanation
Auto stop time	Set the time to automatically stop after operation is started. Use ▲ ▼ to set the time. You can set between 0 and 180 minutes (5 minute intervals).
Auto shutoff	The auto shutoff function is enabled for the selected indoor unit if you put a check mark here.
• Stop at every set time • Stop by elapsed time	Select the stop conditions. • "Stop at every set time" Even after automatically stopping at the "Start time", the unit continues to automatically stop repeatedly at the "Auto stop time" interval. • "Stop by elapsed time" After automatically stopping at "Start time" automatic stopping only happens after the "Auto stop time" has elapsed if the indoor unit is running.
• All day • Specify time	Select the time conditions. • "All day" Automatic stopping at "Auto stop time" continues repeatedly throughout the day. ("Timer settings" is ignored) • "Specify time" Auto shutoff is repeated between the "Start time" and the "End time".

5 Touch [Register].

- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].

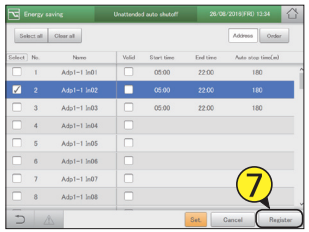


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Register].

- To cancel the settings, touch [Cancel].



The "Unattended auto shutoff" screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

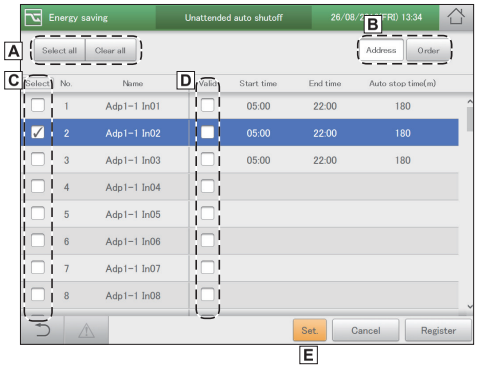
B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in "I/D unit settings" (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in "I/D unit settings" (P.141).

C: The indoor units with a check mark next to them will be the subject of the changes to the settings.

D: The unattended auto shutoff is enabled for the selected indoor unit if you put a check mark here. This is linked with the "Auto shutoff" ("Setting" dialogue) (P.81) setting.

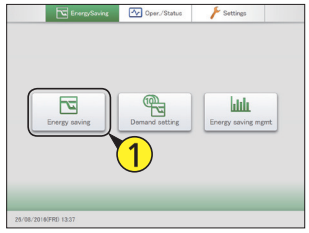
E: The "Setting" dialogue is displayed when you touch this.



Restricting the range of set temperatures [Set temperature range limit]

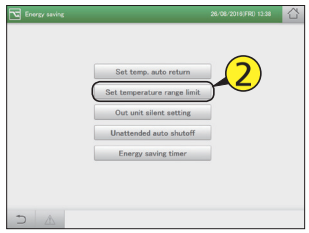
Restrict the range of temperatures that can be set by setting upper and lower limits on temperatures.

1 Touch [Energy saving] in "EnergySaving".



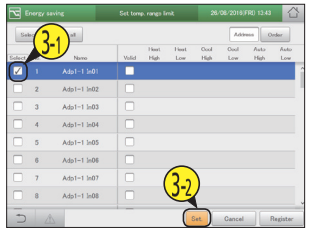
2 Touch [Set temperature range limit].

- The "Set temp. range limit" screen is displayed.

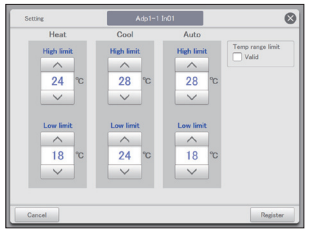


3 Put a check mark in the "Select" column (3-1), and touch [Set.] (3-2).

- The "Setting" dialogue is displayed.



4 Change the settings.

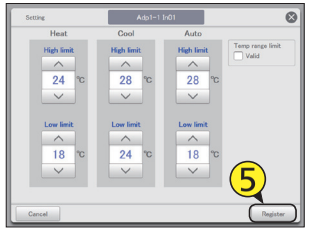


Item	Explanation
High limit Low limit	Set the upper temperature and lower temperature for "Heat", "Cool", and "Auto". Set the temperature with ∧ and ∨. The setting ranges are as follows. • In heating mode: 16 to 30 °C*1 (1 °C intervals) *1 The upper limit for gas heat pumps is 26 °C. • In cooling (drying) mode: 18 to 30 °C (1 °C intervals) • In automatic mode: 17 to 27 °C (1 °C intervals) **Note** • The temperature range you can set depends on the model.
Temp range limit	The temperature range limit function is enabled for the selected indoor unit if you put a check mark here.

Continued on next page

5 Touch [Register].

- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].

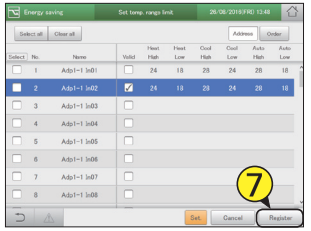


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Register].

- To cancel the settings, touch [Cancel].



The "Set temp. range limit" screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

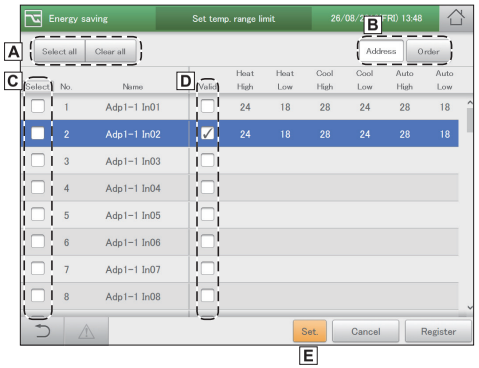
B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in "I/D unit settings" (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in "I/D unit settings" (P.141).

C: The indoor units with a check mark next to them will be the subject of the changes to the settings.

D: The temperature range limit setting is enabled for the selected indoor unit if you put a check mark here. This is linked with the "Temp range limit" ("Setting" dialogue) (P.83) setting.

E: The "Setting" dialogue is displayed when you touch this.

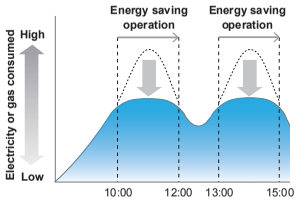


Restricting operating capacity according to the time slot [Energy saving timer]/[Efficient operation setting*]

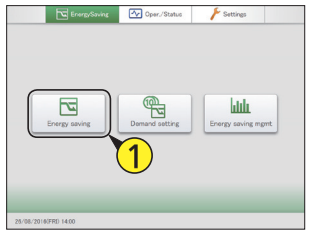
* When using gas heat pump air conditioners

You can specify time slots when you want operation capacity reduced.

When set to the 10:00 to 12:00 and 13:00 to 15:00 time slots, the consumption of electricity/gas is reduced during those time periods.

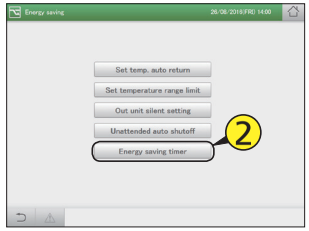


1 Touch [Energy saving] in "EnergySaving".



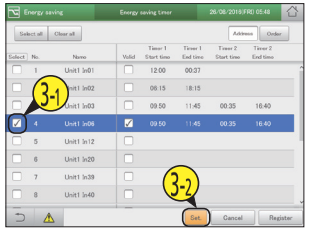
2 Touch [Energy saving timer].

- The "Energy saving timer" screen is displayed.

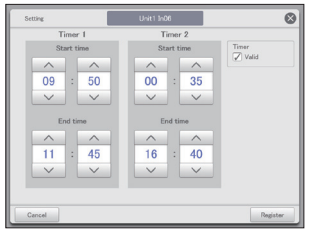


3 Put a check mark in the "Select" column (3-1), and touch [Set.] (3-2).

- The "Setting" dialogue is displayed.



4 Change the settings.



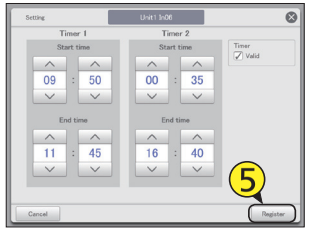
Item	Explanation
Start time End time	Set the start and end times for "Timer 1" and "Timer 2". Use ▲ ▼ to set the time. The setting ranges are as follows. • Hours: 00 to 23 (1 hour intervals) • Minutes: 00 to 59 (1 minute intervals) **Note** • You can make the settings extend over different dates. For example: 22:00 to 08:00 • If you set the start time and end time as the same time, the setting is taken as being for the entire day.

Continued on next page

Item	Explanation
Timer	The energy saving timer function is enabled for the selected indoor unit if you put a check mark here.

5 Touch [Register].

- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].

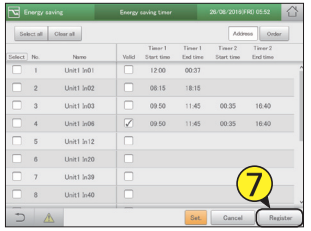


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- The settings for efficient operation (when using gas heat pump air conditioners) are made in the same way as energy saving timer.

The "Energy saving timer" screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

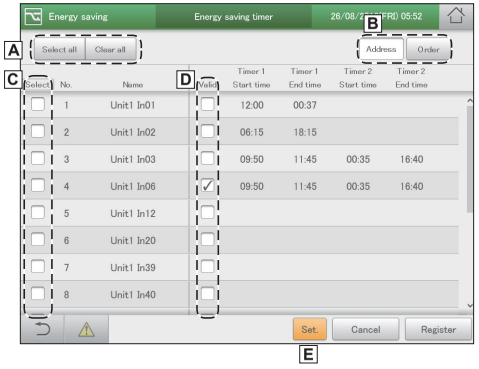
B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in "I/D unit settings" (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in "I/D unit settings" (P.141).

C: The indoor units with a check mark next to them will be the subject of the changes to the settings.

D: The energy saving timer setting is enabled for the selected indoor unit if you put a check mark here. This is linked with the "Timer" ("Setting" dialogue) setting.

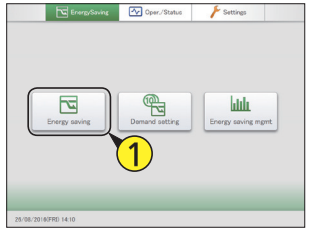
E: The "Setting" dialogue is displayed when you touch this.



Reducing the noise of outdoor units [Out unit silent setting]

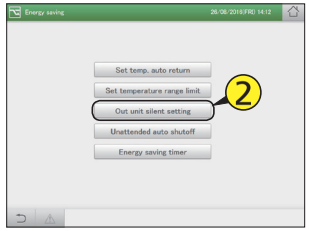
Set a time for the outdoor unit to operate more quietly at night compared to the day.

1 Touch [Energy saving] in “EnergySaving”.



2 Touch [Out unit silent setting].

- The “Out unit silent setting” screen is displayed.

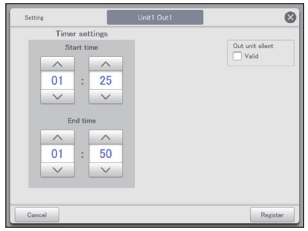


3 Put a check mark in the “Select” column (3-1), and touch [Set.] (3-2).

- The “Setting” dialogue is displayed.



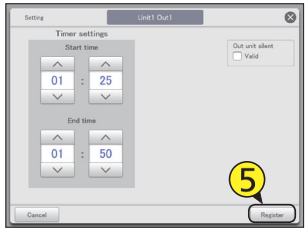
4 Change the settings.



Item	Explanation
Start time End time	Set the start and end times. Use ▲ ▼ to set the time. The setting ranges are as follows. • Hours: 00 to 23 (1 hour intervals) • Minutes: 00 to 59 (1 minute intervals) **Note** • You can make the settings extend over different dates. For example: 22:00 to 08:00 • If you set the start time and end time as the same time, the setting is taken as being for the entire day.
Out unit silent	The silent operating mode is enabled if you put a check mark here.

5 Touch [Register].

- The “Setting” dialogue closes.
- To cancel the settings, touch [Cancel].



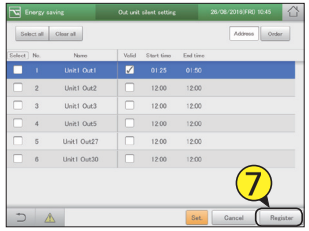
6 Set other indoor units.

- Repeat steps 3 to 5.

Continued on next page

7 Touch [Register].

- To cancel the settings, touch [Cancel].



The “Out unit silent setting” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all outdoor units.
[Clear all]	Cancel selection of all outdoor units.

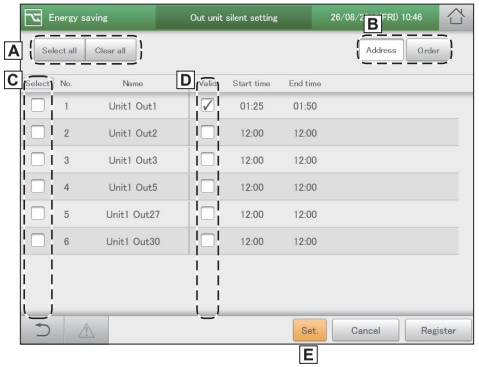
B: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
Address	The display follows the address order set in “I/D unit settings” (P.141).

C: The outdoor units with a check mark next to them will be the subject of the changes to the settings.

D: The out unit silent setting is enabled for the selected out unit silentt if you put a check mark here. This is linked with the “Out unit silent” (“Setting” dialogue) (P.87) setting.

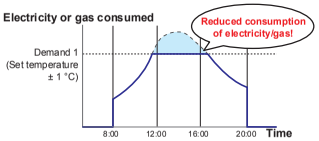
E: The “Setting” dialogue is displayed when you touch this.



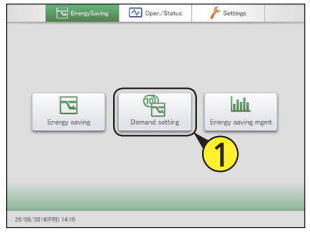
Demand settings on the indoor unit [I/D unit demand settings]

You can automatically control indoor units by setting indoor unit demand control levels to cut the maximum demand for electricity or maximum gas consumption.
Set an operation when the setting levels for the demand point inputs come on.
Refer to P.104 for information on how to register demand point inputs.

- **When "±1°C" is set in the setting level "Demand 1" during cooling**
  When the demand signal is received from the external equipment, the demand 1 contact comes on and the set temperature is raised by 1 °C.

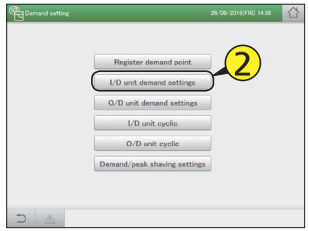


1 Touch [Demand setting] in "EnergySaving".



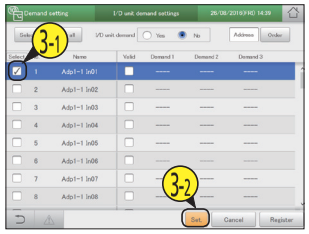
2 Touch [I/D unit demand settings].

- The "I/D unit demand settings" screen is displayed.



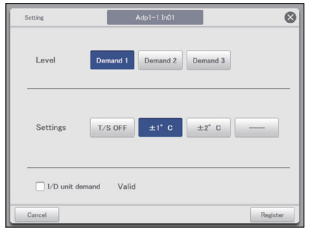
3 Put a check mark in the "Select" column (3-1), and touch [Set.] (3-2).

- The "Setting" dialogue is displayed.



4 Change the settings.

- Set the "Settings" for "Demand 1", "Demand 2", and "Demand 3" in "Level".

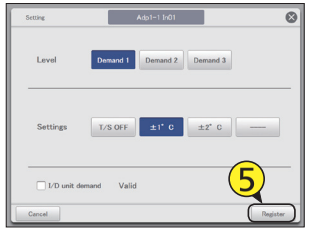


Item	Explanation
Level	Select a setting level.
Settings	Select an operation. No operation is caused if you select [----].
I/D unit demand Valid	The demand setting is enabled for the selected indoor unit if you put a check mark here.

Continued on next page

5 Touch [Register].

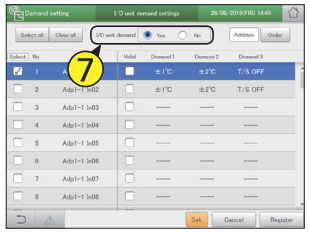
- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].



6 Set other indoor units.

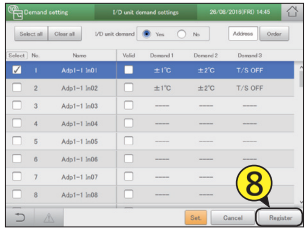
- Repeat steps 3 to 5.

7 Select "Yes" for "I/D unit demand".



8 Touch [Register].

- To cancel the settings, touch [Cancel].



The “I/D unit demand settings” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

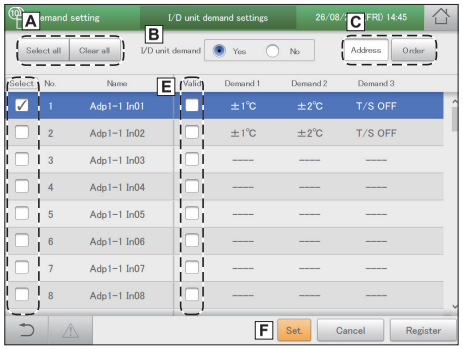
B: Set whether to enable indoor unit demand control across the whole system or not.

Note

- If you select “Yes”, make sure that you set “No” for outdoor unit demand settings.

C: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in “I/D unit settings” (P.141).



D: The indoor units with a check mark next to them will be the subject of the changes to the settings.

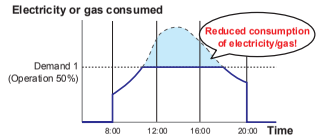
E: The I/D unit demand setting is enabled for the selected indoor unit if you put a check mark here. This is linked with the “I/D unit demand Valid” (“Setting” dialogue) (P.89) setting.

F: The “Setting” dialogue is displayed when you touch this.

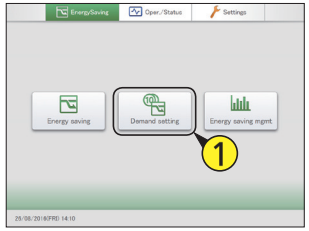
Demand settings on the outdoor unit [O/D unit demand settings]

You can automatically control outdoor units by setting outdoor unit demand control levels to cut the maximum demand for electricity or maximum gas consumption.
Set an operation when the setting levels for the demand point inputs come on.
Refer to P.104 for information on how to register demand point inputs.

- **When “Ope. 50%” is set in the setting level “Demand 1” during warming**
  When the demand signal is received from the external equipment, the demand 1 contact comes on and the operation of the outdoor unit is restricted by 50%.

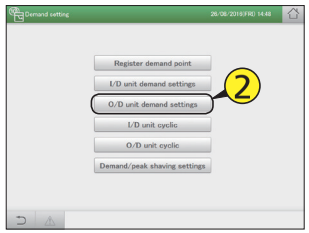


1 Touch [Demand setting] in “EnergySaving”.



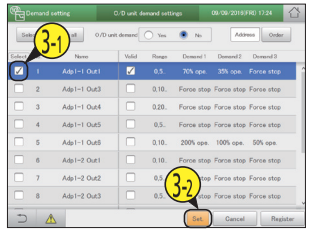
2 Touch [O/D unit demand settings].

- The “O/D unit demand settings” screen is displayed.



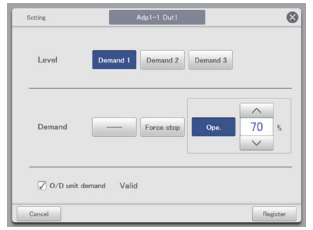
3 Put a check mark in the “Select” column (3-1), and touch [Set.] (3-2).

- The “Setting” dialogue is displayed.



4 Change the settings.

- Set the “Demand” for “Demand 1”, “Demand 2”, and “Demand 3” in “Level”.

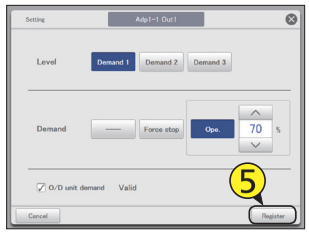


Item	Explanation
Level	Select a setting level.
Demand	Select an operation. No operation is caused if you select [----]. When you have selected [Ope.] in “Demand”, set the control rate with ▲ ▼. The values shown are those values that can be set for the outdoor unit selected.
O/D unit demand Valid	The demand setting is enabled for the selected outdoor unit if you put a check mark here.

Continued on next page

5 Touch [Register].

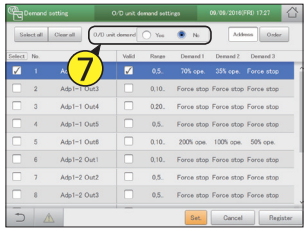
- The “Setting” dialogue closes.
- To cancel the settings, touch [Cancel].



6 Set other outdoor units.

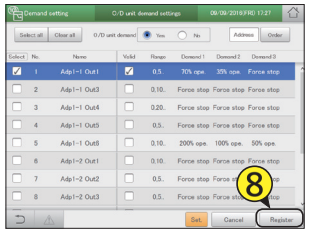
- Repeat steps 3 to 5.

7 Select “Yes” for “O/D unit demand”.



8 Touch [Register].

- To cancel the settings, touch [Cancel].



The “O/D unit demand settings” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all outdoor units.
[Clear all]	Cancel selection of all outdoor units.

B: Set whether to enable outdoor unit demand control or not.

Note

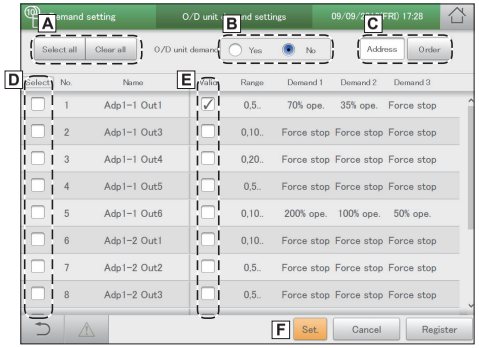
- If you select “Yes”, make sure that you set “No” for indoor unit demand settings.

C: This switches between “Display” and “Address” each time you touch it.

D: The outdoor units with a check mark next to them will be the subject of the changes to the settings.

E: The O/D unit demand setting is enabled for the selected outdoor unit if you put a check mark here. This is linked with the “O/D unit demand Valid” (“Setting” dialogue) (P.92) setting.

F: The “Setting” dialogue is displayed when you touch this.

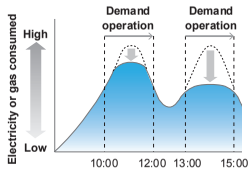


Suppressing the consumption of electricity/gas [Demand/peak shaving settings]/[Peak cut settings*]

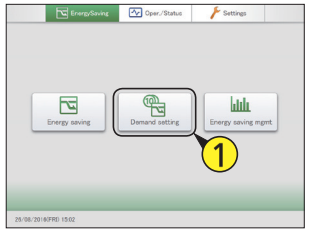
* When using gas heat pump air conditioners

You can limit the electricity or gas consumed by outdoor units during the set time slot.

When set to the 10:00 to 12:00 and 13:00 to 15:00 time slots, the consumption of electricity/gas by the outdoor units is reduced during those time periods.

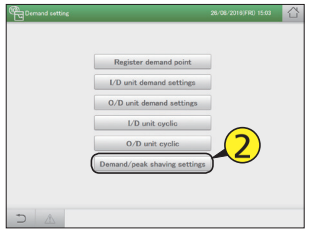


1 Touch [Demand setting] in “EnergySaving”.



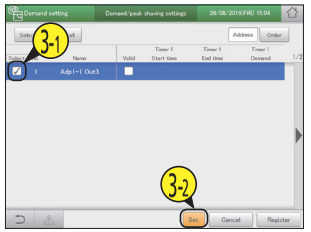
2 Touch [Demand/peak shaving settings].

- The “Demand/peak shaving settings” screen is displayed.

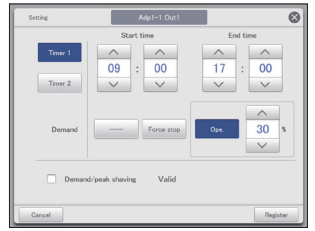


3 Put a check mark in the “Select” column (3-1), and touch [Set.] (3-2).

- The “Setting” dialogue is displayed.



4 Change the settings.



Item	Explanation
Timer 1 Timer 2	First select either “Timer 1” or “Timer 2”, then set the “Start time”, “End time”, and “Demand” for each of them.

Continued on next page

Item	Explanation
Start time End time	Set the start and end times for “Timer 1” and “Timer 2”. Use ▲ ▼ to set the time. The setting ranges are as follows. • Hours: 00 to 23 (1 hour intervals) • Minutes: 00 to 59 (1 minute intervals) **Note** • You can make the settings extend over different dates. For example: 22:00 to 08:00 • If you set the start time and end time as the same time, the setting is taken as being for the entire day.
Demand	Select an operation. No operation is caused if you select [----]. When you have selected [Ope.] in “Demand”, set the control rate with ▲ ▼. The values shown are those values that can be set for the outdoor unit selected.
Demand/peak shaving Valid	The outdoor unit time slot demand control setting is enabled for the selected outdoor unit if you put a check mark here.

5 Touch [Register].

- The “Setting” dialogue closes.
- To cancel the settings, touch [Cancel].

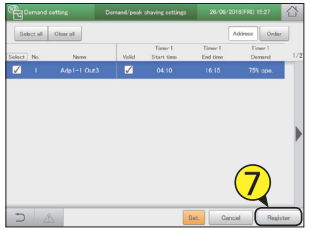


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- The settings for peak cut (when using gas heat pump air conditioners) are made in the same way as outdoor time slot demand settings.

The “Demand/peak shaving settings” screen

A: [Select all]/[Clear all] buttons

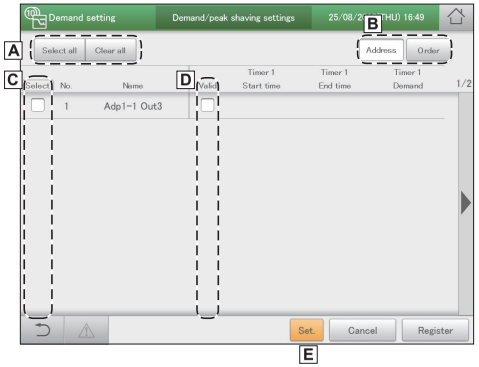
[Select all]	Select all outdoor units.
[Clear all]	Cancel selection of all outdoor units.

B: This switches between “Display” and “Address” each time you touch it.

C: The outdoor units with a check mark next to them will be the subject of the changes to the settings.

D: The outdoor time slot demand setting is enabled for the selected outdoor unit if you put a check mark here. This is linked with the “Demand/peak shaving Valid” (“Setting” dialogue) (P.95) setting.

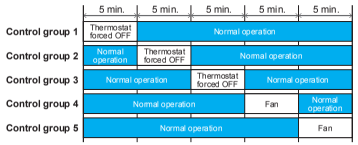
E: The “Setting” dialogue is displayed when you touch this.



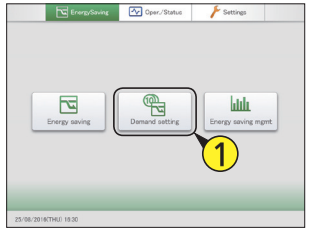
Control operation at regular intervals [I/D unit cyclic]

This type of control rotates through the set times slots at the specified intervals (3 minutes, 4 minutes, 5 minutes), evenly operating the indoor units in the control groups using the settings (OFF, thermostat, mode, set temperature) and recovering.

- **When using cycling control at 5 minute intervals on the indoor units in control groups 1 to 5**
  Control groups 1 to 3 are "T/S OFF" and control groups 4 and 5 are "Fan", and if the interval is "5 min.", the cycling control happens at 5 minute intervals.

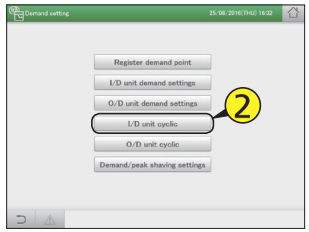


1 Touch [Demand setting] in "EnergySaving".



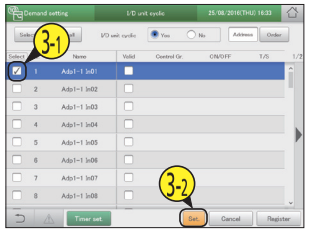
2 Touch [I/D unit cyclic].

- The "I/D unit cyclic" screen is displayed.

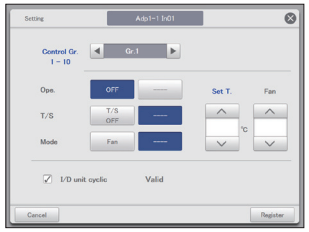


3 Put a check mark in the "Select" column (3-1), and touch [Set.] (3-2).

- The "Setting" dialogue is displayed.



4 Change the settings.



Item	Explanation
Control Gr. 1-10	Press ◀ ▶ to set the control group that the indoor unit is to be allocated to. (Up to 10 groups) Set from "Gr.1" to "Gr.10".
Ope.	Operation of the indoor units is stopped. Set either [OFF] or [----]*.
T/S	The thermostat is set to off forcibly. Select between [T/S OFF] and [----]*.

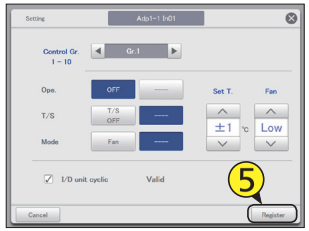
Continued on next page

Item	Explanation
Mode	Set the operating mode to fan. Set either [Fan] or [----]*.
Set T.	Set the temperature with ∧ and ∨. Set "±1" or "±2", at 1 °C steps between 16 °C and 28 °C*.
Fan	Use ∧ ∨ to set the fan speed. Set "Auto", "High", "Mid.", or "Low"*.
I/D unit cyclic Valid	The indoor unit cycling control function is enabled for the selected indoor unit if you put a check mark here.

* When left blank, that item does not cause any operation.

5 Touch [Register].

- The "Setting" dialogue closes.
- To cancel the settings, touch [Cancel].

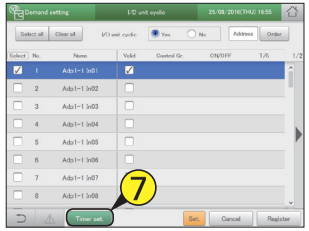


6 Set other indoor units.

- Repeat steps 3 to 5.

7 Touch [Timer set.].

- The "Term setting" dialogue is displayed.



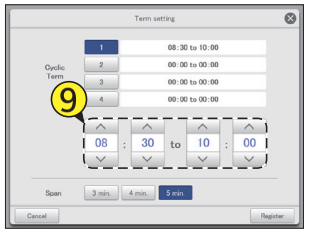
8 Touch the number.

- You can set 4 different time slots.



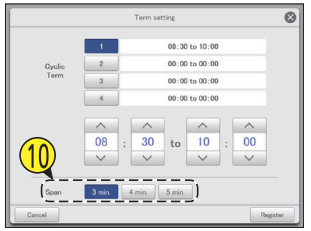
9 Set the times.

- The time on the left is the control start time. The time on the right is the control end time.
- Use ∧ ∨ to set the time. Hours can be set in the range 0 to 23, and minutes may be either "00" or "30".



10 Set the control interval.

- Select "3 min.", "4 min.", or "5 min.".
- Repeat steps 7 to 9 to set for numbers [1] to [4].



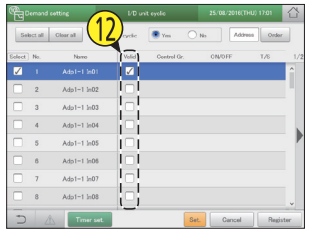
Continued on next page

11 Touch [Register].

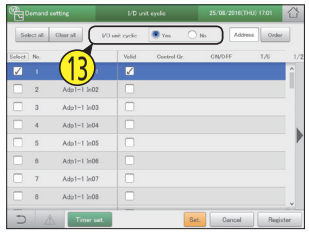
- The “Term setting” dialogue closes.
- To cancel the settings, touch [Cancel].



12 Put a check mark in the “Valid” column.

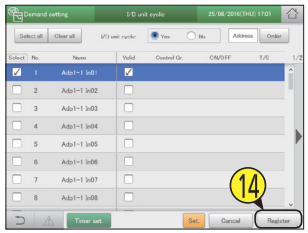


13 Select “Yes” for “I/D unit cyclic”.



14 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- Up to 10 control groups can be created.
- Control groups that have not been set will not be the object of cyclic control.

The “I/D unit cyclic” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all indoor units.
[Clear all]	Cancel selection of all indoor units.

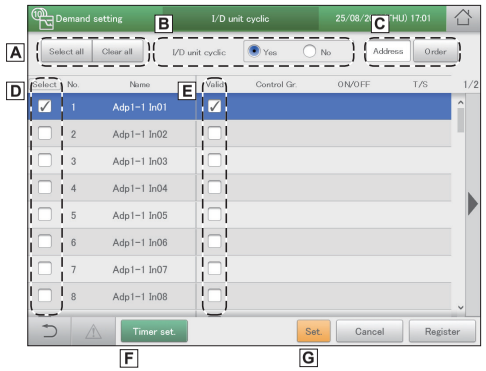
B: Set whether to enable indoor unit cycling control across the whole system or not.

Note

- If you select “Yes”, make sure that you set “No” for outdoor unit cycling control settings.

C: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in “I/D unit settings” (P.141).



D: The indoor units with a check mark next to them will be the subject of the changes to the settings.

E: The I/D unit cyclic is enabled for the selected indoor unit if you put a check mark here. This is linked with the “I/D unit cyclic Valid” (“Setting” dialogue) (P.98) setting.

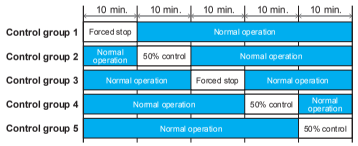
F: The “Term setting” dialogue is displayed when you touch this.

G: The “Setting” dialogue is displayed when you touch this.

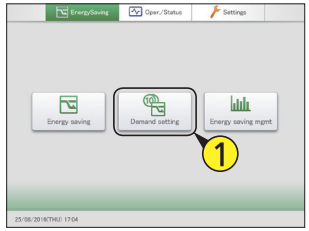
Control operation at regular intervals [O/D unit cyclic]

This type of control rotates through at 10 minute intervals, evenly operating the outdoor units in the control groups either operating (or stopping) and recovering.

- **When using cycling control at 10 minute intervals on the outdoor units in control groups 1 to 5**
  Control groups 1 and 3 are “Force stop” and control groups 2, 4 and 5 are “50%” operation, and the cycling control happens at 10 minute intervals.

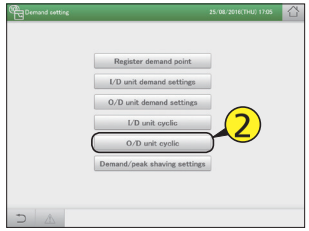


1 Touch [Demand setting] in “EnergySaving”.



2 Touch [O/D unit cyclic].

- The “O/D unit cyclic” screen is displayed.

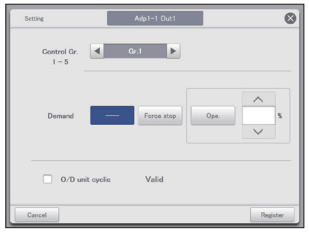


3 Put a check mark in the “Select” column (3-1), and touch [Set.] (3-2).

- The “Setting” dialogue is displayed.



4 Change the settings.



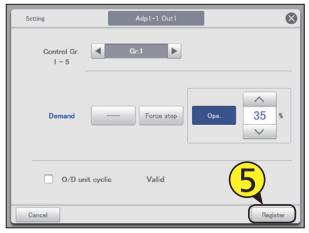
Item	Explanation
Control Gr. 1-5	Press ◀ ▶ to set the control group that the indoor unit is to be allocated to. Set from “Gr.1” to “Gr.5”.
Demand	Select an operation. No operation is caused if you select [----]. When you have selected [Ope.], set the control rate with ▲ ▼. The values shown are those values that can be set for the outdoor unit selected.

Continued on next page

Item	Explanation
O/D unit cyclic Valid	The O/D unit cyclic function is enabled for the selected outdoor unit if you put a check mark here.

5 Touch [Register].

- The “Setting” dialogue closes.
- To cancel the settings, touch [Cancel].



6 Set other indoor units.

- Repeat steps 3 to 5.

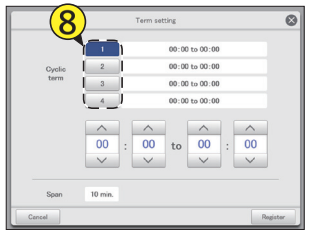
7 Touch [Timer set.].

- The “Term setting” dialogue is displayed.



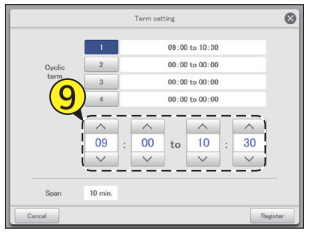
8 Touch the number.

- You can set 4 different time slots.



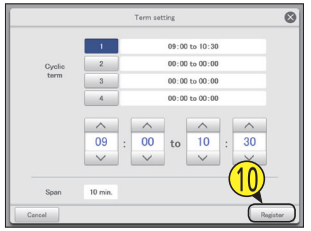
9 Set the times.

- The time on the left is the control start time. The time on the right is the control end time.
- Use ▲ ▼ to set the time. Hours can be set in the range 0 to 23, and minutes may be either “00” or “30”.



10 Touch [Register].

- The “Term setting” dialogue closes.
- To cancel the settings, touch [Cancel].

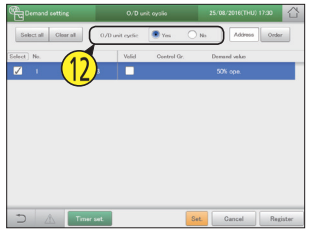


11 Put a check mark in the “Valid” column.



Continued on next page

12 Select “Yes” for “O/D unit cyclic”.



13 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- Up to 5 control groups can be created.
- Control groups that have not been set will not be the object of cyclic control.

The “O/D unit cyclic” screen

A: [Select all]/[Clear all] buttons

[Select all]	Select all outdoor units.
[Clear all]	Cancel selection of all outdoor units.

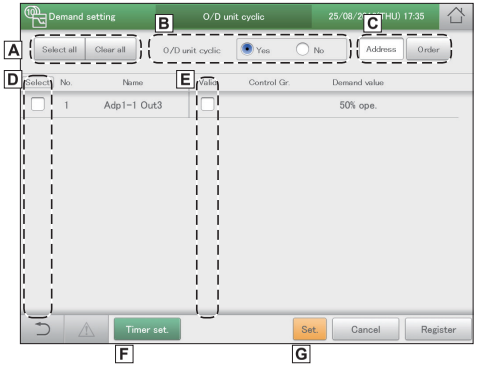
B: Set whether to enable outdoor unit cycling control across the whole system or not.

Note

- If you select “Yes”, make sure that you set “No” for indoor unit cycling control settings.

C: Change list order. The list order changes each time you touch it.

Display	The display follows the order set in “I/D unit settings” (P.141).
O/D unit	The display follows the address order of the outdoor unit systems.
Address	The display follows the address order set in “I/D unit settings” (P.141).



D: The outdoor units with a check mark next to them will be the subject of the changes to the settings.

E: The O/D unit cyclic is enabled for the selected outdoor unit if you put a check mark here. This is linked with the “O/D unit cyclic Valid” (“Setting” dialogue) (P.102) setting.

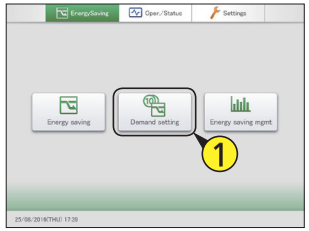
F: The “Term setting” dialogue is displayed when you touch this.

G: The “Setting” dialogue is displayed when you touch this.

Registering demand point input [Register demand point]

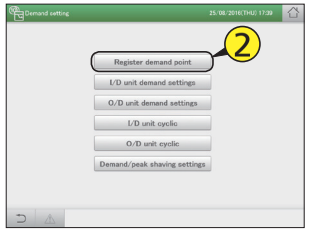
Register the Di terminal of the main unit or the communication adaptor that inputs the demand point when an external equipment is connected.

1 Touch [Demand setting] in “EnergySaving”.



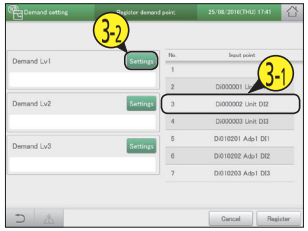
2 Touch [Register demand point].

- The “Register demand point” screen is displayed.



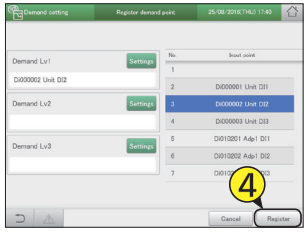
3 Select the communication adaptor from the list at right (3-1) and touch [Settings] (3-2).

- Set the demand points (“Demand 1”, “Demand 2”, and “Demand 3”).
- You can change the name of the adaptor displayed for the demand points. Touch the text box and change with the touchscreen keyboard. (Enter a name up to 16 alphanumeric characters)

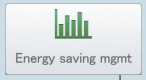


4 Touch [Register].

- To cancel the settings, touch [Cancel].



Displaying data in graphs



This chapter explains how to display graphs.

This unit is equipped with the functionality to collect the data accumulated in the devices and to turn this into graphs.
Making the data visible makes it possible to objectively manage energy saving.

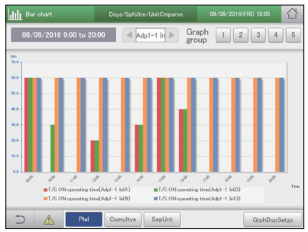
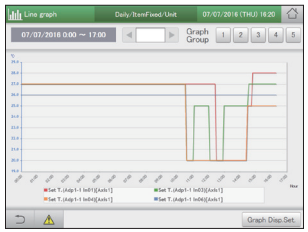
Screen menu	Overview	Page
Bar chart	Quantities of energy usage (electricity, gas), etc., are shown in bar charts.	109
Line graph	Temperature changes, etc., are shown in line graphs.	113

Graph display function

This unit is equipped with a “graph display” function as part of the energy saving functionality. Collect data from devices such as the indoor units, outdoor units, and pulse meters, set the display period (daily, monthly, or yearly) and display the graphs.

Types of graph

There are 2 types of graph that you can display on this unit.

	Bar charts	Line graphs
Display example		
Main uses	Comparing accumulated data (thermostat ON operating times, etc.)	Comparing temperature changes, etc.

Graph settings

The following settings are necessary to display graphs.
(○ are items that can be set)

● **Display period**

Display period	Bar	Line	Explanation
days	○	○	The transition of daily data is displayed in hourly units (1 hour).
Mths	○	○	The transition of monthly data is displayed in daily units (1 day).
Yrs.	○		The transition of yearly data is displayed in monthly units (1 month).

● **Display method**

Display method	Bar	Line	Explanation
Ranking	○		Display the 10 top best or worst units based on collected values for the item.
By unit		○	Data by item is displayed for units. (items are fixed)
UntCmpar	○		Display the data for items by unit (you can select up to 4 devices).
ItemUnts		○	
ChngPrDy	○	○	The three days' worth of data for items and units from the day before the previous day, the previous day, and the same day is displayed.
UserSlct	○	○	You can select items freely.

● **Unit**

Unit	Bar	Line	Explanation
I/D	○	○	Set indoor unit as the display target.
O/D	○	○	Set outdoor unit as the display target.
Pulse	○		Set accumulator (pulse meter) as the display target.
Ar.	○		Set area group as the display target.

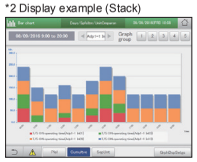
● **Graph type/Data type**

Type		Bar	Line	Explanation
Graph	Plel*1	○		Selected units or data are lined up horizontally, with one unit on the X axis.
	Cumultve*2	○		Data for selected units are stack, with one unit on the X axis.
	SepUnt*3	○		The X axis displays the units (10 units in ascending order of display).
Data	Max.*4		○	The highest value of the selected item is used as the data.
	Min.*4		○	The lowest value of the selected item is used as the data.
	Avge*4		○	The average value of the selected item is used as the data.
	SpcfTime		○	The value of the selected item from the specified time is used as the data.

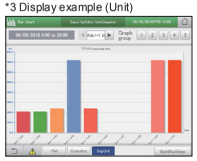
*1 Display example (Parallel)



*2 Display example (Stack)



*3 Display example (Unit)



*4 These can be set when “Mths” is selected as the display period.

● **Item**

The items you can set depend on the unit selected.

● **Bar charts**

Unit	days	Mths	Yrs.
I/D	Ttl opr time (minutes) T/S ON ope. time (minutes)	Ttl opr time (minutes) Elec. usage (kWh) PowerGenratn gas usage (m³) A/C gas cost	T/S ON ope. time (minutes) A/C gas usage (m³) ElectricCost PwrGnGasCost
O/D	O/D Unit opertn count (times) Invertr cuml power genrtn (kWh)	Engine operating time (minutes) PV cumulatve pwr generatn (kWh)	
Pulse	Incr. amount		
Ar.	Ttl opr time (minutes) T/S ON ope. time (minutes)	Ttl opr time (minutes) Elec. usage (kWh) PowerGenratn gas usage (m³) A/C gas cost	T/S ON ope. time (minutes) A/C gas usage (m³) ElectricCost PwrGnGasCost

● **Line graphs**

Unit	days			Mths
I/D un	Set T. (°C)	Room temp. (°C)	DischrgeTemp (°C)	Suction temp (°C)
O/D un	Outdoor temp (°C) PV InstPwGen (kW)	Invertr inst power genrtn (kW)		

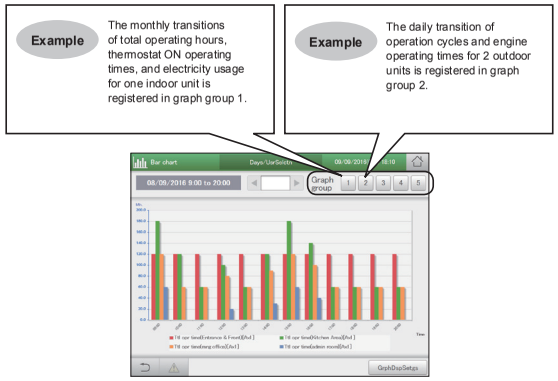
Note

• If you selected [By unit] as the display method, all items are displayed for the relevant units. (You cannot select the items)

[UserSlct]

● “Setting items freely” (P.116)

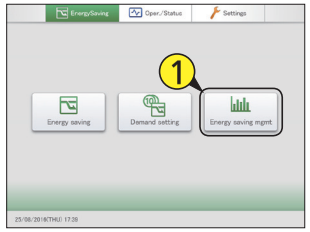
When you select [UserSlct] for both bar charts and line graphs, you can display graphs where you can freely select the units and items. By registering the settings in “Graph group” to suit their use, you can easily display them without having to select the items every time. (You still need to set the display period and other items.)
Up to 5 graph groups can be registered.



Graphing operating times and energy usage

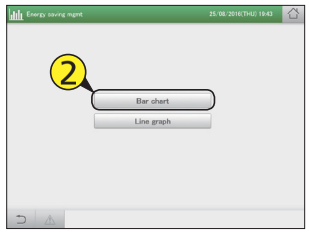
**Specify the display period (daily, monthly, yearly), and display mainly accumulated data, such as energy usage (electricity, gas), total operating hours, and charges (electricity, gas), in bar charts.
You can put target values in graphs (these are displayed as red lines on the graphs). Putting target values in the graphs will help raise awareness about saving energy.**

1 Touch [Energy saving mgmt] in "EnergySaving".



2 Touch [Bar chart].

- The main screen is displayed.

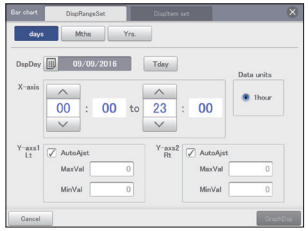


3 Touch [GrphDspSetgs].

- The display settings screen is displayed.



4 Set the display range.



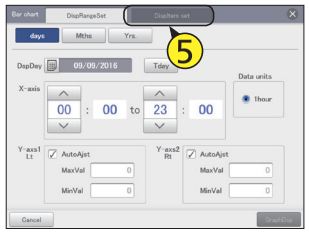
(The screen shown is if "days" is selected)

Item	Explanation
Display period (days/Mths/Yrs.)	Refer to P.106 for information about display periods.
DspDay DspMth Year	Set the dates to be displayed. • When "days" is selected 1) Touch . 2) Select the date to display in the "Calendar" dialogue. The current date is displayed if you touch [Tday]. • When "Mths" or "Yrs." is selected 1) Select the month or year to display with . The current month or year is displayed if you touch [CuMo] or [CuYr].
X-axis	Use to set the first and last time or period. • When "days", 00:00 to 24:00 in 1-hour steps • When "Mths", 1st to 31st in 1-day steps
Data units	Indicates the units for one tick mark on the X axis. days: Fixed at 1 hour Mths : Fixed at 1 day Yrs.: Fixed at 1 month
Y-axs1 Lt Y-axs2 Rt	Set the range of values for the axis. If you put a check mark in "AutoAjst" the values will be set automatically to the maximum value and the minimum value. If you want set the maximum and minimum values manually, remove the check mark and enter the values in the text box.

Continued on next page

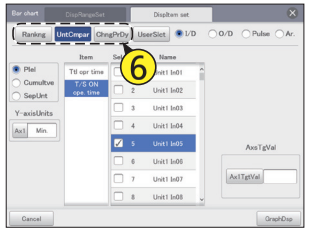
5 Touch [DispItem set].

- The "DispItem set" screen is displayed.



6 Select how to display.

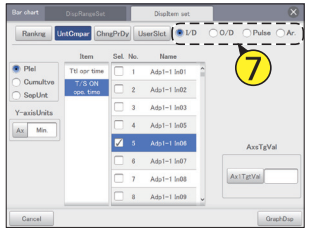
- Refer to P.106 for information about how to display.



(The following explains using examples as if "UntCmpar" was selected)

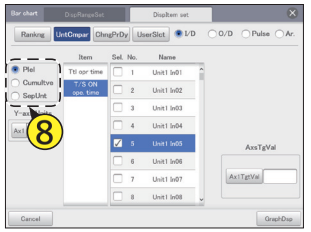
7 Select the unit.

- Refer to P.106 for information about units.



8 Select the type of graph.

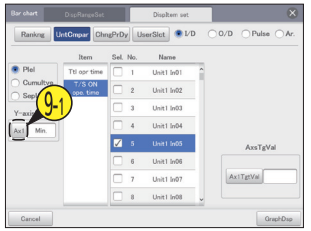
- Refer to P.106 for information about types of graphs.
- If you have selected [Rankng] as the display method, select either "Worst" or "Best".



9 Set the display units for the Y axis.

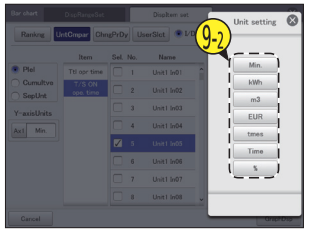
(1) Touch [Ax1].

- The "Unit setting" dialogue is displayed.
- Select the display units for the Y axis.



(2) Touch the unit to display.

- The settings are registered and the "Unit setting" dialogue closes.



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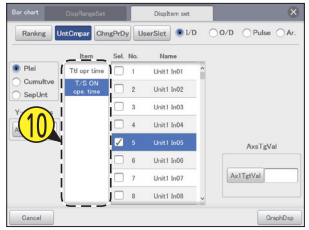
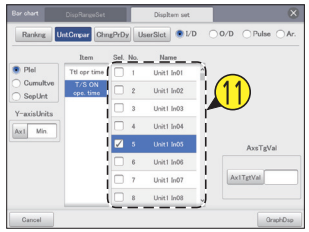
10 Select the item.

- Refer to P.107 for the items you can set.
- You can select one item only.



11 Select the device name.

- Put a check mark in the “Sel.” column.
- If you have selected “Rankng” as the display method and “SepUnt” as the graph type, all devices are the target, so you do not have to select.



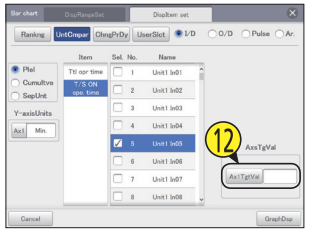
Note

- The number of units you can select depends on the settings for display method and graph type.

Display method	Graph type	
	PleI	Cumultve
UntCmpar	Up to 4	Up to 4
ChngPrDy	1 only	1 only

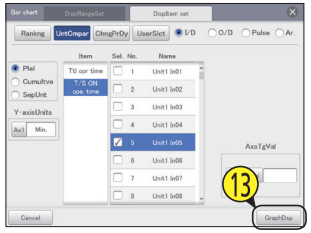
12 Set the goal values for the axis.

- Touch [Ax1TgtVal] and enter the numbers with the touchscreen numeric keypad.
- A red line is inserted to indicate the goal values for the graph.
- You can set any goal.
- This cannot be set if you have selected “Rankng” as the display method.

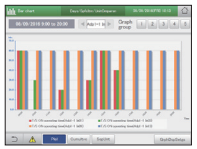
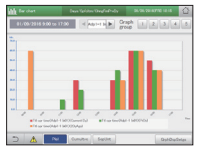


13 Touch [GraphDsp].

- The graph is displayed in the main screen.
- To cancel the settings, touch [Cancel].



Bar chart example

Type	Display method		
	Rankng	UntCmpar	ChngPrDy
Worst/Best	 *1	–	–
PleI	–	 *2	 *2 *3
Cumultve	–	 *2	 *2 *3
SepUnt	–	 *2 *3	 *2 *3

*1 Touch [Worst] or [Best] to switch between rankings.
*2 Touch [PleI], [Cumultve], or [SepUnt] to switch between the type of graph.
*3 You can touch ◀ ▶ to change the units displayed (10 units before or after).

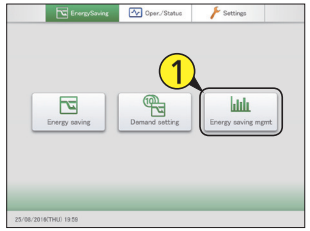
Note

- Touch [GrphDspSetgs] to change the display range and displayed items.

Graphing temperature changes

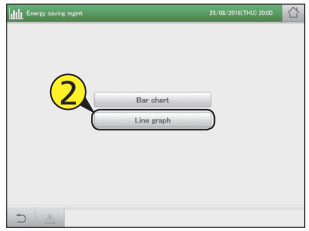
Specify the display period (daily, monthly), and display variable data such as set temperatures and indoor temperatures in line graphs.

1 Touch [Energy saving mgmt] in "EnergySaving".



2 Touch [Line graph].

- The main screen is displayed.

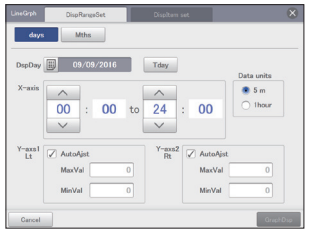


3 Touch [GrphDspSetgs].

- The display settings screen is displayed.



4 Set the display range.



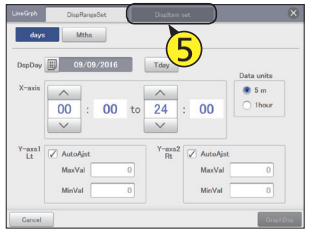
(The screen shown is if "Mths" is selected)

Item	Explanation
Display period (days/Mths)	Refer to P.106 for information about display periods.
DspDay DspMth	Set the dates to be displayed. • When "days" is selected 1) Touch . 2) Select the date to display in the "Calendar" dialogue. The current date is displayed if you touch [Tday]. • When "Mths" is selected 1) Select the month to display with . The current month is displayed if you touch [CuMo].
X-axis	Use to set the first and last time or period. • When "days", 00:00 to 24:00 in 1-hour steps • When "Mths", 1st to 31st in 1-day steps
Data units	Indicates the units for one tick mark on the X axis. days: Select either "5 m" or "1hour". Mths: Fixed at 1 day
Y-axs1 Lt Y-axs2 Rt	Set the range of values for the axis. If you put a check mark in "AutoAjst" the values will be set automatically to the maximum value and the minimum value. If you want set the maximum and minimum values manually, remove the check mark and enter the values in the text box.

Continued on next page

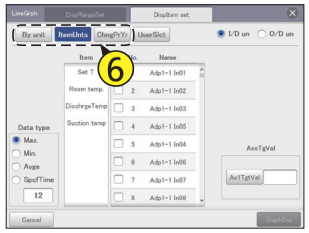
5 Touch [DispItem set].

- The "DispItem set" screen is displayed.



6 Select how to display.

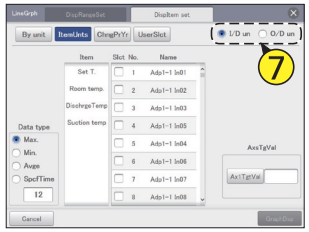
- Refer to P.106 for information about how to display.



(The following explains using examples as if "ItemUnts" was selected)

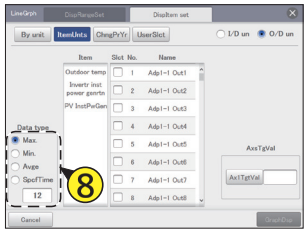
7 Select the unit.

- Refer to P.106 for information about units.



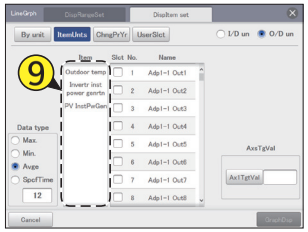
8 Select the type of data.

- Refer to P.107 for information about types of data.
- If you have selected [days] for the display period, this is not set.



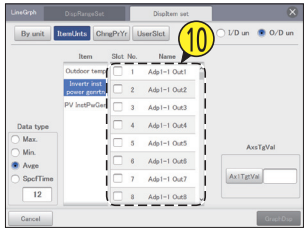
9 Select the item.

- Refer to P.107 for the items you can set.
- You can select one item only.
- If you have selected [By unit] as the display method, the items are fixed so there is no need for you to set them.



10 Select the device name.

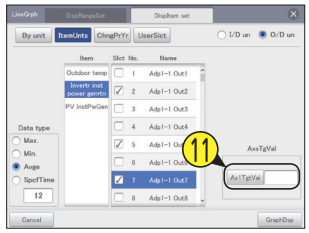
- You can set the device name for only one device.
- If you have selected [ItemUnts] as the display method, you can set up to 4 device names.



Continued on next page

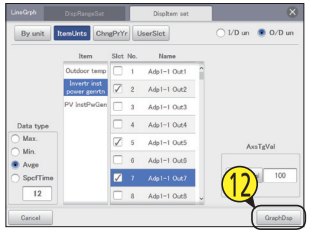
11 Set the goal values for the axis.

- Touch [Ax1TgtVal] and enter the numbers with the touchscreen numeric keypad.
- A red line is inserted to indicate the goal values for the graph.
- You can set any goal.

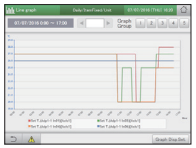
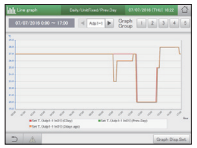


12 Touch [GraphDsp].

- The graph is displayed in the main screen.
- To cancel the settings, touch [Cancel].



Line graph example

Display method		
By unit	ItemUnts	ChngPrDy (ChngPrYr)
 *1	 *1	 *1

*1 You can touch ◀ ▶ to change the units displayed (10 units before or after).

Note

- Touch [Graph Disp.Set.] to change the display range and displayed items.

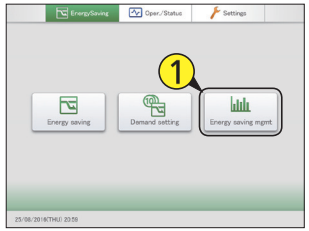
Setting items freely

When you select [UserSlct], you can display graphs where you can freely select the units and items. For example, the following combinations are possible.

- **The monthly transitions of total operating hours, thermostat ON operating times, and electricity usage for indoor unit 01 is displayed in a bar chart.**
- **The daily transitions of set temperatures and indoor temperatures for indoor units 03 and 06 are displayed in a line graph.**

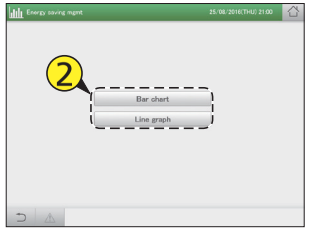
Making the settings

1 Touch [Energy saving mgmt] in “EnergySaving”.



2 Select the type of graph.

- The main screen is displayed.



3 Touch [GrphDspSetgs].

- The display settings screen is displayed.

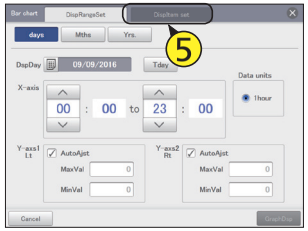


4 Set the display range.

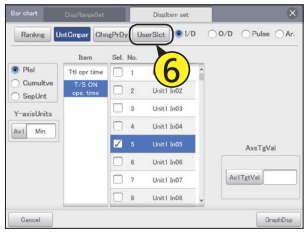
- For details, refer to step 4 in “Graphing operating times and energy usage” (P.109) for bar charts, or step 4 in “Graphing temperature changes” (P.113) for line graphs.

5 Touch [DispItem set].

- The “DispItem set” screen is displayed.

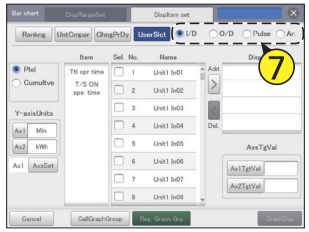


6 Select [UserSlct].



Continued on next page

7 Select the unit.



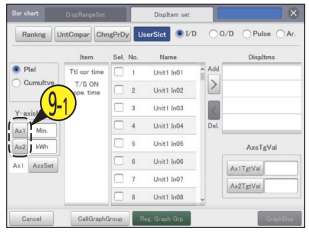
8 Select the type of graph.

- This setting can be selected only for “Bar chart”.
- Refer to P.106 for information about types of graphs.

9 Set the display units for the Y axis.

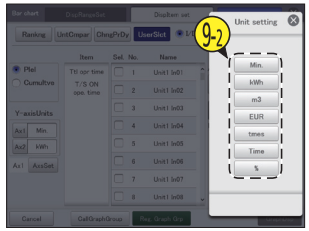
(1) Touch [Ax1] or [Ax2].

- The “Unit setting” dialogue is displayed.



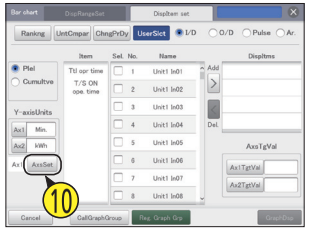
(2) Select the unit of display.

- The settings are registered and the “Unit setting” dialogue closes.



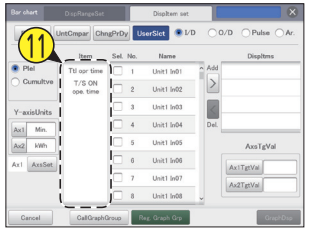
10 Touch [AxsSet] to select the axis to display.

- Select the axis to display the data item.
- The axis switches between “Ax1” and “Ax2” each time you touch it.

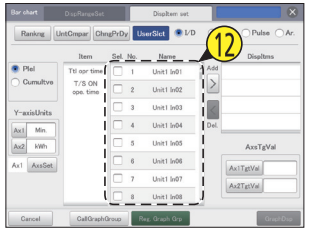


11 Select the item.

- Refer to P.107 for the items you can set.
- You can select one item only.
- If you have selected [Unit] as the display method, the items are fixed so there is no need for you to set them.

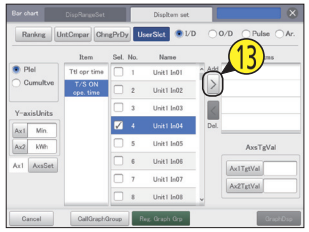


12 Select the device name.



Continued on next page

13 Touch [>] to add to the display item list.

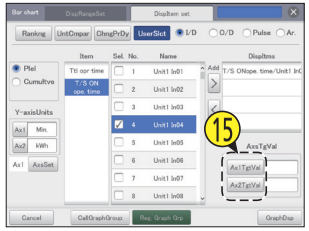


14 Repeat steps 11 to 13 to select the display items.

- You can add up to 4 display items.
- To delete from the display item list, select the display item and touch [<].

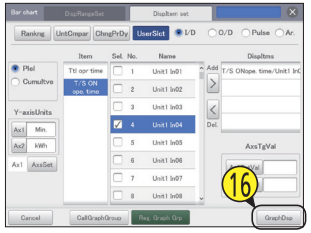
15 Set the goal values for the axis.

- Touch [Ax1TgtVal] or [Ax2TgtVal] and enter the numbers with the touchscreen numeric keypad.
- A red line is inserted to indicate the goal values for the graph.
- You can set any goal.



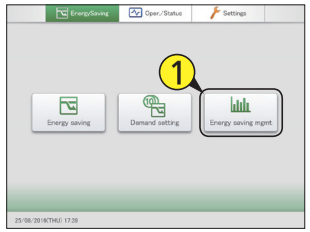
16 Touch [GraphDsp].

- The graph is displayed in the main screen.
- To cancel the settings, touch [Cancel].



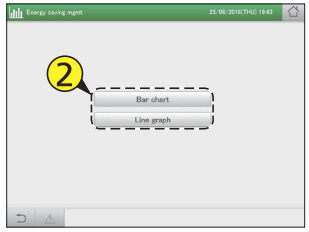
Registering as a graph group

1 Touch [Energy saving mgmt] in “EnergySaving”.



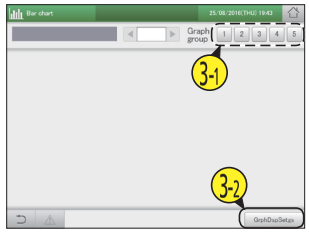
2 Select the type of graph.

- The main screen is displayed.



3 Select the graph group (3-1) and touch [GrphDspSetgs] (3-2).

- The display settings screen is displayed.

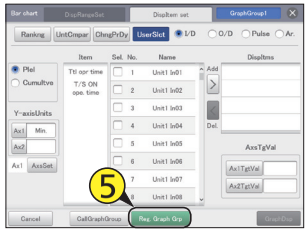


4 Make the graph display settings.

- Follow steps 4 to 14 in “Making the settings” (P.116 to 118) to make the graph display settings.

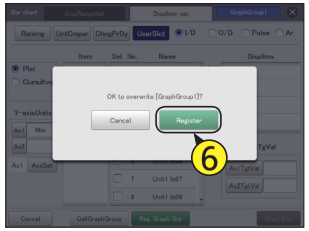
5 Touch [Reg. Graph Grp].

- The message “OK to overwrite [GraphGroupXX]?” (XX is the setting number of the selected graph group) is displayed.



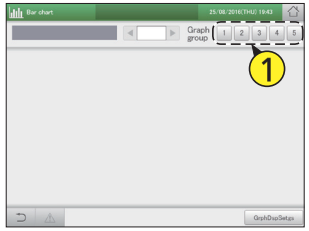
6 Touch [Register].

- The setting is registered.
- To cancel registration, touch [Cancel].



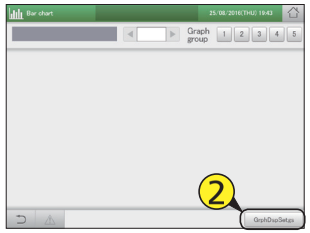
Displaying a registered graph

1 In the main screen, touch the number of the “Graph group” to be displayed.



2 Touch [GrphDspSetgs].

- The display settings screen is displayed.



3 Set the display range.

- For details, refer to step 4 in “Graphing operating times and energy usage” (P.109) for bar charts, or step 4 in “Graphing temperature changes” (P.113) for line graphs.

4 Touch [GraphDsp].

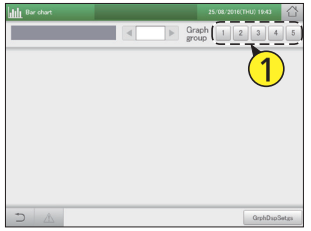
- The graph is displayed in the main screen.
- To cancel the settings, touch [Cancel].

Note

- By touching the graph group numbers displayed in the graphs, you can display other registered graphs.

Modifying a registered graph

1 Touch the number of the “Graph group” to be displayed.



2 Touch [GrphDspSetgs].

- The display settings screen is displayed.



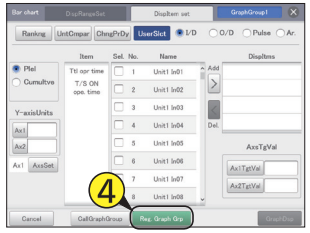
3 Change the settings.

- For advanced settings for changing the range of display, refer to step 4 in “Graphing operating times and energy usage” (P.109) for bar charts, or step 4 in “Graphing temperature changes” (P.113) for line graphs.
- For advanced settings for changing the display items, refer to steps 5 to 12 in “Graphing operating times and energy usage” (P.110 to 111) for bar charts, or steps 5 to 11 in “Graphing temperature changes” (P.114 to 115) for line graphs.

Continued on next page

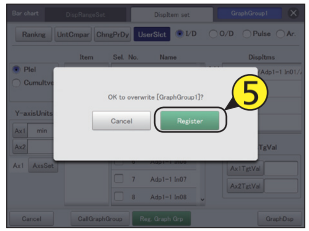
4 Touch [Reg. Graph Grp] in the “DispItem set” screen.

- The message “OK to overwrite [GraphGroupXX]?” (XX is the setting number of the selected graph group) is displayed.



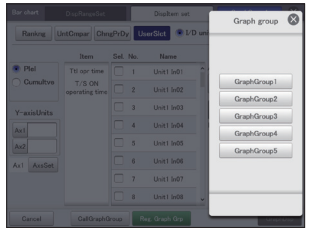
5 Touch [Register].

- The setting is registered.
- To cancel registration, touch [Cancel].



Note

- Touch [CallGraphGroup] and you can also modify the display item settings for other graph groups.



Perform remote operation of the unit over a network

System Settings

This chapter describes the settings and operation screen displays required to remotely control this unit over a network.

You can remotely control this unit from external devices over a network.
Remote control is performed using a browser from a PC, smart phone, or tablet.
Only users registered in this unit can operate. You can also limit the operations that can be performed on the unit using privileges.

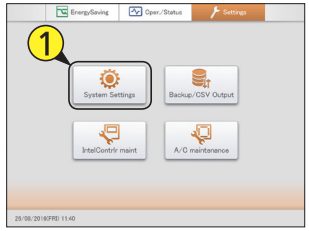
Screen menu	Overview	Page
Network settings	Make settings to enable remote control over a network.	123
Web user settings	Register users that will access the unit over a network.	125

Setting the network

To control remotely over a network, you first need to set up the network.
Consult your network administrator beforehand for the network settings.

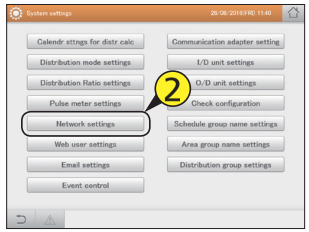
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

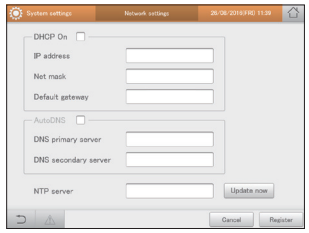


2 Touch [Network settings].

- The “Network settings” screen is displayed.



3 Change the settings.

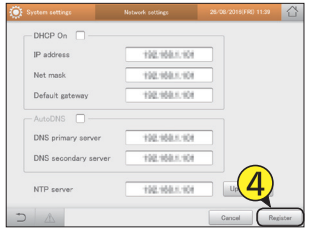


Item	Explanation
DHCP On	If you want to use a DHCP server, put a check mark here. If you enable this, you will be unable to set “IP address”, “Net mask”, or “Default gateway”.
IP address	Set the IP address of this unit. Touch the text box and enter with the touchscreen keyboard. • You cannot set “0.0.0.0” or “255.255.255.255”.
Net mask	Set the net mask of this unit. Touch the text box and enter with the touchscreen keyboard. • You cannot set “0.0.0.0”.
Default gateway	Set the default gateway of this unit if necessary. Touch the text box and enter with the touchscreen keyboard. • You cannot set “0.0.0.0”.
AutoDNS	If you want the IP address of the DNS server acquired automatically, put a check mark here. The “DNS primary server” and “DNS secondary server” will not be able to be set if you choose to acquire automatically.
DNS primary server	Set the IP address of DNS primary server. Touch the text box and enter with the touchscreen keyboard. • You cannot set “0.0.0.0”.
DNS secondary server	Set the IP address of DNS secondary server. Touch the text box and enter with the touchscreen keyboard. • You cannot set “0.0.0.0”.
NTP server	Set the IP address of the NTP server if the clock is to be synchronised with an NTP server. Touch the text box and enter with the touchscreen keyboard. After setting, touch [Update now] to start synchronising the clock. • You cannot set “0.0.0.0”.

Continued on next page

4 Touch [Register].

- To cancel the settings, touch [Cancel].

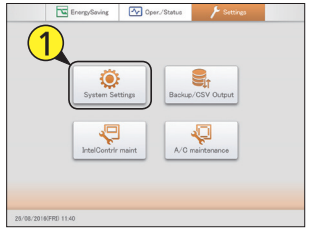


Setting the users

Register users that will access the unit over a network. You can register up to 64 users.
You can restrict operations with privileges (admin, operator, general user).

1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

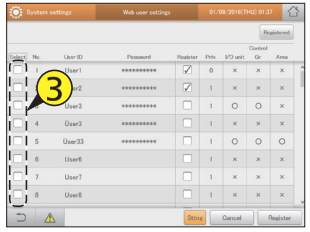


2 Touch [Web user settings].

- The “Web user settings” screen is displayed.

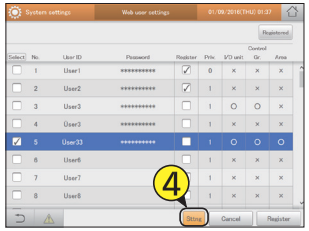


3 Put a check mark in the “Select” column of the user ID to be registered.



4 Touch [Sttng].

- The “Edit user sttngs” dialogue is displayed.



5 Enter a password.

- The touchscreen keyboard appears when you touch the text box. Refer to “Number and letter input” (P.188) for instructions on how to enter text.
- Enter a password of at least 8 numbers (alphanumerics only).



Continued on next page

6 Select the privileges.

- Select “0:Administr.”, “1:Operator”, or “2:GenralUser”.
- Only one person can have the “0:Administr.” setting.



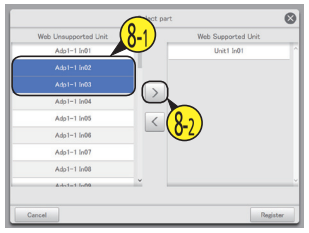
7 Select what is to be operated.

- The “Select part” dialogues are displayed when you touch this.
- Select what is to be operated (“I/D unit”, “Control Gr.”, “Area”).
- When the privileges are set to “0:Administr.”, all operations are available so it is not possible to select what to operate.



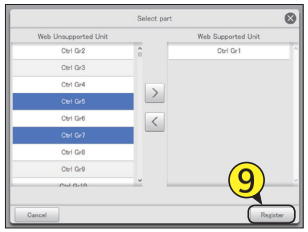
8 Select the devices to be operated (8-1) and touch > (8-2).

- The devices to be operated move to the list on the right (Web Supported Unit). Select the devices to be operated and touch < to restore.
- Multiple devices can be selected to be operated.



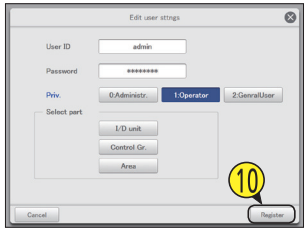
9 Touch [Register].

- The settings are registered and the “Select part” dialogue closes.
- To cancel registration, touch [Cancel].



10 Touch [Register].

- The settings are registered and the “Edit user sttngs” dialogue closes.



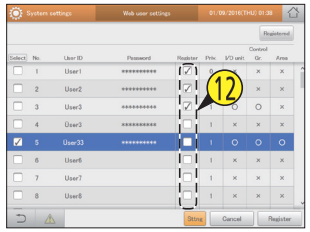
11 Register other users.

- Repeat steps 3 to 10.

Continued on next page

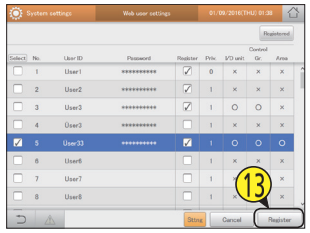
12 Put a check mark in the “Register” column.

- Select the users that can operate over the network.



13 Touch [Register].

- The setting is registered.
- To cancel the settings, touch [Cancel].



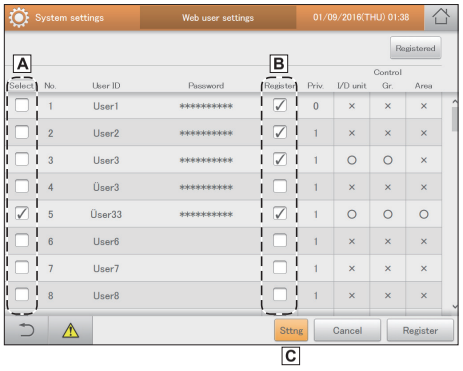
The “Web user settings” screen

A: Users with a check mark next to them will be the subject of the changes to the user settings.

B: The users with the check marks next to them will be allowed to perform operations over the network.

Priv.	This shows the privileges of the user. 0:Administr. 1:Operator 2:GenralUser
I/D unit	Users can use the categories with a “O”.
Control Gr.	
Area	

C: The “Edit user sttngs” dialogue is displayed when you touch this.



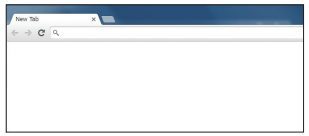
Control remotely

You can remotely control this unit from the browser on a PC or similar device. The example here uses a PC to explain.

1 Start the browser.

2 Enter the IP address.

- Enter the “IP address” set in network settings.
- The login screen is displayed.



3 Enter the “User ID” and “Password”.

- Enter the personal user ID and password set in user settings (P.125).
- The operation screen is displayed.
- The operations are the same as the operations on this unit.



Backing up/restoring data



This chapter explains how to back up and restore data.

This unit has functionality to save the setting data, accumulated/distribution data, and log data to a USB memory device. (Back up function)
It also has the functionality to reload the saved data back into the unit. (Restore function)
By regularly saving data to USB memory devices, you can restore the data in the main unit if it is ever corrupted by power outages caused by lightning strikes, etc.

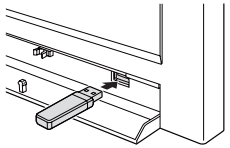
Screen menu	Overview	Page
Backup	Save data (settings, accumulation/distribution, logs) to USB memory devices.	130
Restore	Restore data that has been stored in the unit or saved to a USB memory device.	132
CSV Output	Export (output) the settings for this unit as a CSV file.	134
CSV Input	Import (input) the settings for this unit from a CSV file.	136
Auto-save CSV file	Saves the CSV files (distributions, logs) automatically generated in this unit.	138

Backing up data

You can save the setting data, accumulated/distribution data, and log data to a USB memory device. You can also backup over a network.

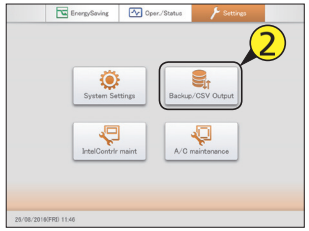
1 Open the storage door and connect a USB memory device to the USB terminal.

- This step is not necessary if you are backing up over a network.



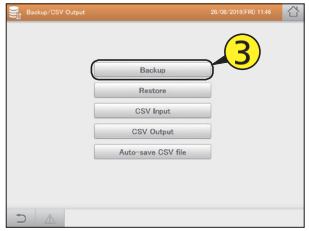
2 Touch [Backup/CSV Output] in “Settings”.

- The “Backup/CSV Output” screen is displayed.



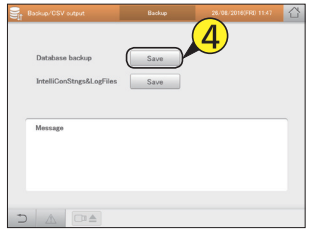
3 Touch [Backup].

- The “Backup” screen is displayed.



4 Touch [Save] for the items to be backed up.

- Saving starts. When saving is complete, a message is displayed.
- When backing up over a network, specify the location to save to.
- To backup other items, repeat the same procedure.



5 Touch when you want to disconnect the USB memory device.

- Remove your USB memory device after the message “USB memory can now be safely removed” is displayed.
- Close the storage door after removing the USB memory device.



Note

- Backup files are generated once per day and saved within this unit. This procedure saves the backup files saved in this unit to a USB memory device.
- The items you can back up are as follows:

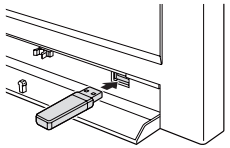
Database backup	Save accumulated/distribution data.
Main unit Set.	Save schedule settings and group settings.
Log	Save alarm logs and operation/status change logs.

- The time required for backup depends on the volume of data.
- The 4 types of backup file are icxsysset.zip, icxsyslog.zip, icxappset.zip, and icxapplog.zip.
- When backing up over a network, this operation is not possible if backing up from another terminal.

Restoring data

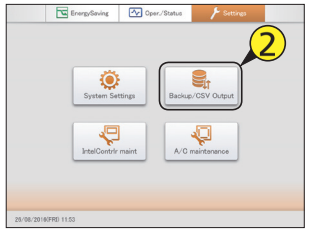
You can restore data that has been backed up in the unit (saved) or to a USB memory device.

1 Open the storage door and connect a USB memory device to the USB terminal.



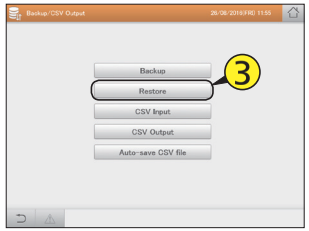
2 Touch [Backup/CSV Output] in “Settings”.

- The “Backup/CSV Output” screen is displayed.



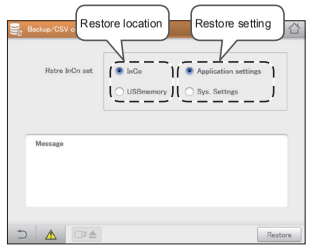
3 Touch [Restore].

- The “Restore” screen is displayed.



4 Select the restore location and restore setting.

- The restore location can be either “InCo” or “USBmemory”.
- The restore setting can be either “Application settings” or “Sys. Settngs”.



5 Touch [Restore].

- Restoring starts. When restoring is complete, the message “Restart” is displayed.
- Restart the unit. The data you restore becomes effective after restart.



Continued on next page

6 Touch when you want to disconnect the USB memory device.

- Remove your USB memory device after the message "USB memory can now be safely removed" is displayed.
- Close the storage door after removing the USB memory device.

Note

- The items you can restore are as follows:

Restore main unit Set.	Restore schedule settings and group settings.

- The time required for restoring depends on the volume of data.
- The data restored is that which was backed up.
- "InitCom..." may be displayed for a long time (up to 1 hour and 30 minutes) when restarting immediately after restoring backed up data. Under no circumstances turn the unit off at this stage. You may corrupt files in the unit and render it unable to start. If you are unable to start the unit, the data in the unit will need to be repaired, so contact the place of purchase or your servicing agent to ask them to restore the data.

Outputting settings as a CSV file

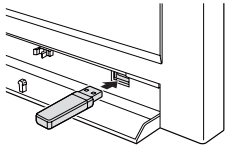
Export (output) the settings for this unit as a CSV file.

The settings that are exported are as follows:

- Indoor unit settings
- Outdoor unit settings
- Distribution group settings
- Schedule group settings
- Pulse meter settings
- Communication adaptor settings
- Area settings
- Schedule
- Events

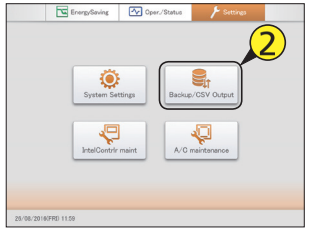
1 Open the storage door and connect a USB memory device to the USB terminal.

- This step is not necessary if you are backing up over a network.



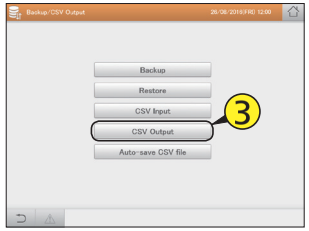
2 Touch [Backup/CSV Output] in "Settings".

- The "Backup/CSV Output" screen is displayed.



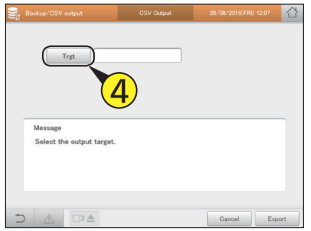
3 Touch [CSV Output].

- The "CSV Output" screen is displayed.



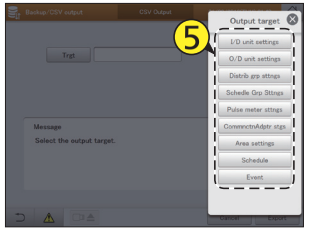
4 Touch [Trgt].

- The "Output target" dialogue is displayed.



5 Touch setting name to be exported.

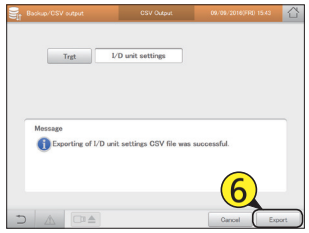
- The settings are registered and the "Output target" dialogue closes.



Continued on next page

6 Touch [Export].

- Exporting starts. The message “Exporting of XXX CSV file was successful.” is displayed when the export finishes.
- To export other settings, repeat steps 4 to 6.
- To cancel the export, touch [Cancel].



Note

- The time required for export depends on the volume of data.

7 Touch when you want to disconnect the USB memory device.

- Remove your USB memory device after the message “USB memory can now be safely removed” is displayed.
- Close the storage door after removing the USB memory device.

Inputting settings as a CSV file

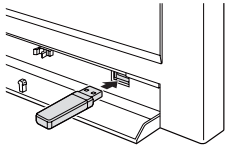
Import (input) the settings for this unit in CSV format.

The settings that are imported are as follows:

- Indoor unit settings
- Schedule group settings
- Area settings
- Outdoor unit settings
- Pulse meter settings
- Distribution group settings
- Communication adaptor settings

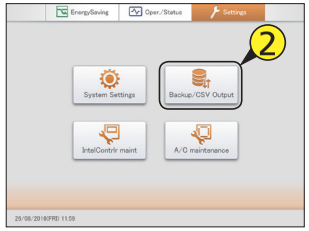
1 Open the storage door and connect a USB memory device to the USB terminal.

- This step is not necessary if you are importing over a network.



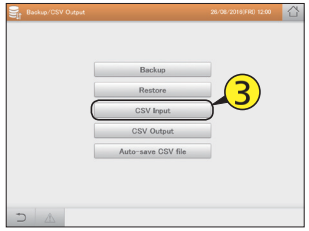
2 Touch [Backup/CSV Output] in “Settings”.

- The “Backup/CSV Output” screen is displayed.



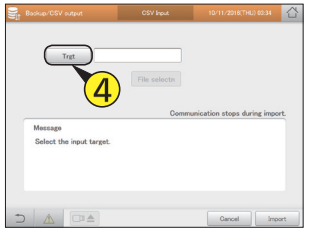
3 Touch [CSV Input].

- The “CSV Input” screen is displayed.



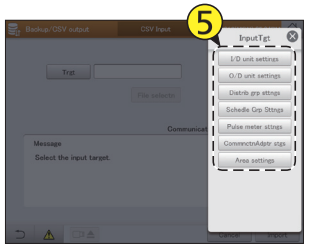
4 Touch [Trgt].

- The “InputTgt” dialogue is displayed.



5 Touch setting name to be imported.

- The settings are registered and the “InputTgt” dialogue closes.



Continued on next page

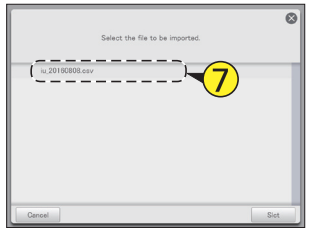
6 Touch [File selectn].

- The file selection screen is displayed.
- If you are selecting across a network, the file selection dialogue is displayed.



7 Select the file to import and touch [Slct].

- The file selection screen is closed.
- To cancel file selection, touch [Cancel].
- If you are selecting across a network, select the file in the file selection dialogue and click [Slct].

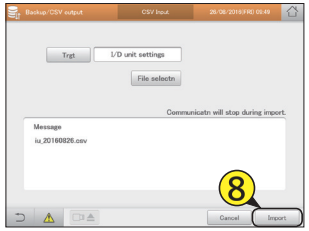


Note

- The time required for import depends on the volume of data.

8 Touch [Import].

- Importing starts.
- To cancel the import, touch [Cancel].



9 Touch when you want to disconnect the USB memory device.

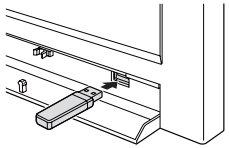
- Remove your USB memory device after the message "USB memory can now be safely removed" is displayed.
- Close the storage door after removing the USB memory device.

Saving automatically generated files

Save the CSV files (distributions, logs) automatically generated in this unit as ZIP format to a USB memory device.

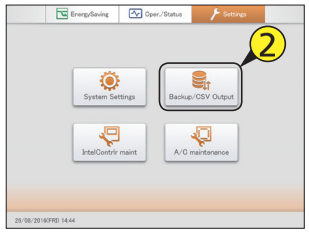
1 Open the storage door and connect a USB memory device to the USB terminal.

- This step is not necessary if you are downloading over a network.



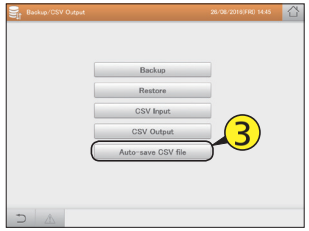
2 Touch [Backup/CSV Output] in "Settings".

- The "Backup/CSV Output" screen is displayed.

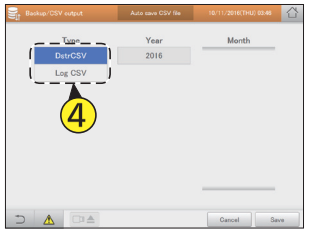


3 Touch [Auto-save CSV file].

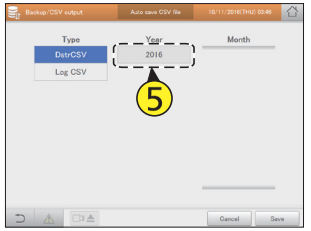
- The "Auto save CSV file" screen is displayed.



4 Select the CSV file type to save.

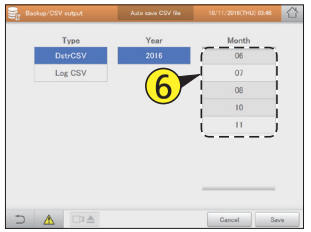


5 Select the "Year" to save.



6 Select the "Month" to save.

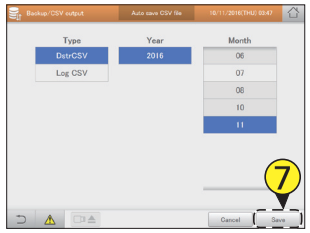
- You can select multiple "Month".
- Touch to scroll the "Month" display up or down.



Continued on next page

7 Touch [Save].

- A confirmation message appears.
- Specify the location to save to when doing so over a network.
- To cancel saving the file, touch [Cancel].



8 Touch [OK].

- Saving starts. When saving is complete, a completion message is displayed.

9 Touch when you want to disconnect the USB memory device.

- Remove your USB memory device after the message "USB memory can now be safely removed" is displayed.
- Close the storage door after removing the USB memory device.

Note

- Distribution data and log data is automatically saved in the unit as CSV files once per day. CSV files are automatically generated every month.
- This procedure saves the CSV files specified by year and month to a USB memory device. You can also download over a network.

Configuring the system

System Settings

This chapter describes how to make settings required to run the system.

The main settings are as follows:

- Group settings (schedule, area, distribution)
- Pulse meter settings, distribution mode settings, distribution ratio settings
- Email settings

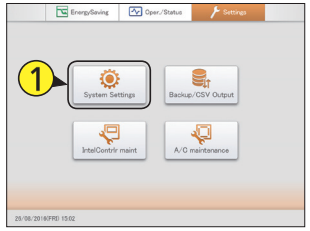
Screen menu	Overview	Page
Calendr sttngs for distr calc	Set specified days, cut-off days, particular time slots (regular hour ranges) and days of the week for calculating distributions.	148
I/D unit settings	Change the settings on the indoor units.	141
Schedule group name settings	Edit the name of the schedule group.	151
Area group name settings	Edit the name of the area group.	153
Pulse meter settings	Make allocations between pulse meters and distribution groups.	158
Distribution mode settings	Set the mode used for distributing when calculating charges.	160
Distribution Ratio settings	Set the units for calculating electricity and gas usage charges.	161
Event control	Set the conditions for input points and output points to perform linked control.	162
Email settings	Configure the outgoing mail server.	168
O/D unit settings	Change the settings on the outdoor units.	145
Distribution group settings	Edit the name of the distribution group.	155
Communication adapter setting	Register the communication adaptor connected to this unit.	170

Basic settings on the indoor unit

Display details about indoor units (indoor unit addresses, groups belonged to, etc.). Settings can also be changed.

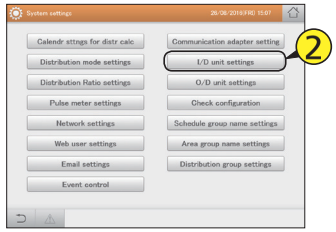
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

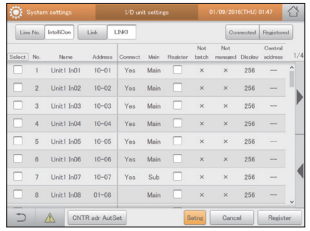


2 Touch [I/D unit settings].

- The “I/D unit settings” screen is displayed.

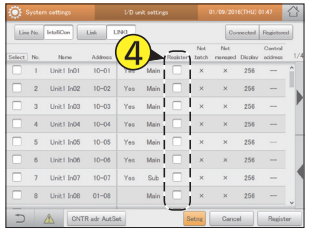


3 Check the setting details (P.142).



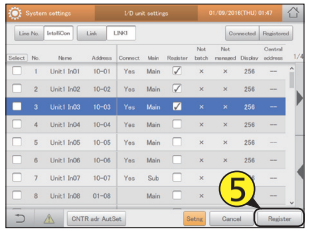
4 Put a check mark in the “Register” column.

- Select the indoor units you want to manage.
- This procedure is not necessary if central addresses have been automatically set. (→ “Automatically setting central addresses” (P.144))

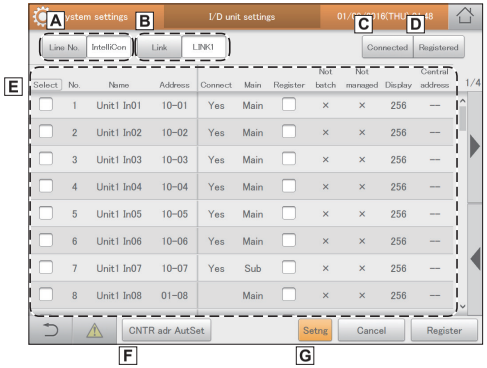


5 Touch [Register].

- To cancel the settings, touch [Cancel].



The “I/D unit settings” screen



A: Select the adaptor (this unit, communication adaptor) that the indoor unit is connected to.

B: Select the linked system that the indoor unit is connected to.

C: A list of indoor units with “Yes” in the “Connect” column is displayed when you touch this (turn the setting on). Touch again and all indoor units are displayed in a list. (turn the setting off)

D: A list of indoor units with a check mark in the “Register” column is displayed when you touch this (turn the setting on). Touch again and all indoor units are displayed in a list. (turn the setting off)

E: Details about indoor units are displayed in a list.

Item	Explanation
[Select]	Select the indoor units whose settings you want to change.
Name	The names of the indoor units are displayed.
Address	The addresses of the indoor units are displayed.
Connect	If connected to this unit, “Yes” is displayed.
Main	If the parent device, “Main” is displayed.
Register	If you want it to be managed by this unit, put a check mark here.
Not batch	“○” is displayed if the device is not subject to batch operations, and “×” is displayed if it is subject to batch operations.
Not managed	“○” is displayed if the device is not subject to management, and “×” is displayed if it is subject to management.
Display	This indicates the display order.
Central address	This shows the central address.
Control Gr.	This shows the control group name it belongs to.
SchedleGroup	This shows the schedule group name it belongs to.
Area	This shows the area group name it belongs to.
Distrib. Grp.*	This shows the distribution group name it belongs to.
Cap	This shows the operational capacity values for the indoor unit.
Fix cap	The fixed capacity values of the indoor unit.
I/D type	This shows the model name of the indoor unit.
PrdctTyp	This shows the product type (PAC or GHP).
ElcHeatr	This shows the capacity values of the electric heater.

* If the distribution mode (P.160) is set to “Time”, do not allocate PAC and GHP to the same distribution groups.

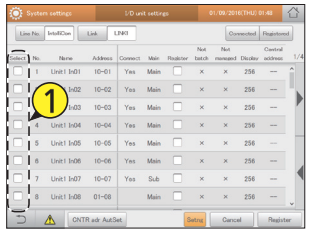
F: Central addresses are automatically set for indoor units with a check mark in the “Register” column. (→ “Automatically setting central addresses” (P.144))

G: When you touch this, the “Edit unit settings” dialogue is displayed for indoor units with a check mark in the “Select” column.

Editing settings

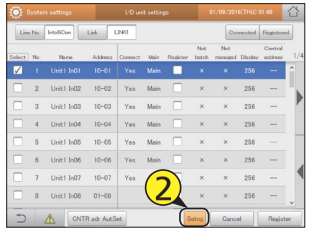
1 Put a check mark in the “Select” column.

- You can select more than one.

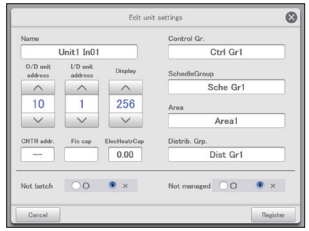


2 Touch [Setng].

- The “Edit unit settings” dialogue is displayed.



3 Change the settings.



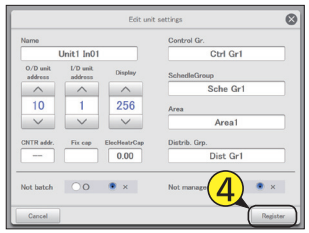
Item	Explanation
Name	Change the name of the indoor unit. Touch the text box and enter with the touchscreen keyboard. You can enter up to 16 letters or numbers.

Item	Explanation
O/D unit address	Use ▲ ▼ to set the addresses of the outdoor units (1 to 31). (“31” is set for interface adaptors)
I/D unit address	Use ▲ ▼ to set the addresses of the indoor units (1 to 64).
Display	Use ▲ ▼ to set the order when displayed in a list (0 to 256).
CNTR addr.	Set the central addresses (1 to 64). Touch the text box and enter with the touchscreen numeric keypad. **Note** • The central address is shared with other centralised controllers (system controllers, etc.). Do not change unless necessary. • An error message is displayed if you set an address that is already in use. • This cannot be set if multiple indoor units are selected.
Fix cap	Set the fixed capacity values of the indoor unit. (When interface adaptors are installed) Touch the text box and enter with the touchscreen numeric keypad.
ElecHeatrCap	Set the capacity of the electric heater if the model has an electric heater. (when calculating load distribution) Touch the text box and enter with the touchscreen numeric keypad.
Group registration • Control Gr. • SchedleGroup • Area • Distrib. Grp.	Register the group the unit belongs to. The group names are displayed when you touch the text boxes. **Note** • By putting a check mark in the “Select” column of the indoor units belonging to the same group, you can edit the settings at the same time and register them all together.
Not batch	Select “○” if the device is not to be subject to operations and select “×” if it is to be subject to operations.
Not managed	Select “○” if the device is to be remove as a subject of management by this unit, and select “×” if it is to be subject of management by this unit.

Continued on next page

4 Touch [Register].

- To cancel the settings, touch [Cancel].



5 Touch [Register].

- To cancel the settings, touch [Cancel].



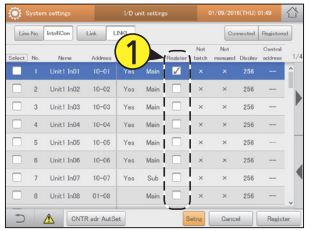
Note

- Do not allocate PAC and GHP to the same area or distribution groups when using time distribution.

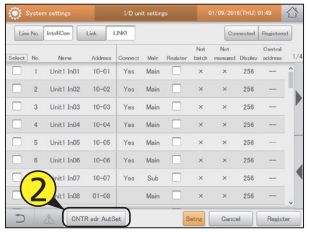
Automatically setting central addresses

1 Put a check mark in the “Register” column.

- Select the indoor units you want to manage.



2 Touch [CNTR adr AutSet].



Note

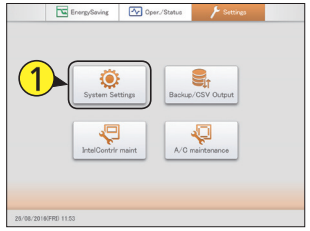
- The central address is shared with other centralised controllers (system controllers, etc.). Do not change unless necessary.
- After setting the central address in the “Edit unit settings” dialogue, and then enable [CNTR adr AutSet], the central addresses will be overwritten.

Basic settings on the outdoor unit

Display details about outdoor units (outdoor unit addresses, etc.). Settings such as the names can also be changed.

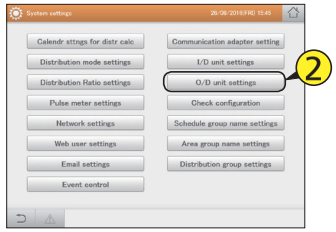
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

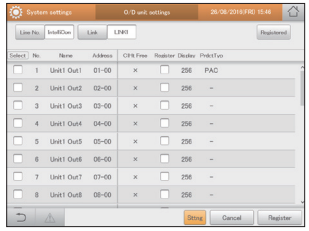


2 Touch [O/D unit settings].

- The “O/D unit settings” screen is displayed.

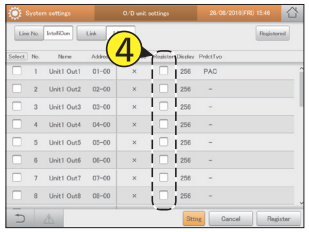


3 Check the setting details (P.146).



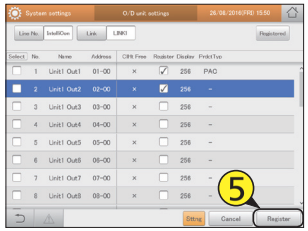
4 Put a check mark in the “Register” column.

- Select the outdoor units you want to manage.

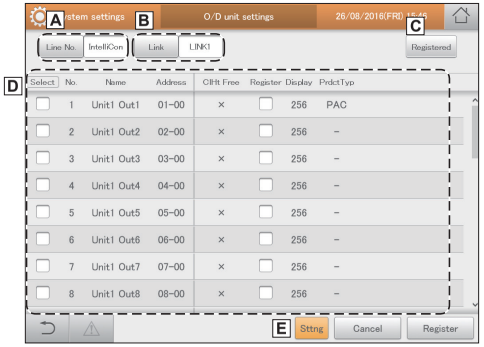


5 Touch [Register].

- To cancel the settings, touch [Cancel].



The “O/D unit settings” screen



A: Select the adaptor (this unit, communication adaptor) that the outdoor unit is connected to.

B: Select the linked system that the outdoor unit is connected to.

C: A list of outdoor units with a check mark in the “Register” column is displayed when you touch this (turn the setting on). Touch again and all outdoor units are displayed in a list. (turn the setting off)

D: Details about outdoor units are displayed in a list.

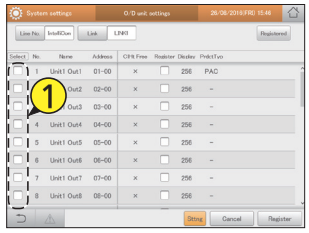
Item	Explanation
[Select]	Select the outdoor units whose settings you want to change.
No.	The serial number is displayed.
Name	The names of the outdoor units are displayed.
Address	The addresses of the outdoor units are displayed.
CllHt Free	“○” is displayed if the outdoor unit is the type that can both cool and heat, “×” is displayed if it is the specialised type.
Register	If you want it to be managed by this unit, put a check mark here.
Display	This indicates the display order.
Prdct Typ	This shows the product type (PAC or GHP).

E: When you touch this, the “Edit O/D unit sttngs” dialogue is displayed for outdoor units with a check mark in the “Select” column.

Editing settings

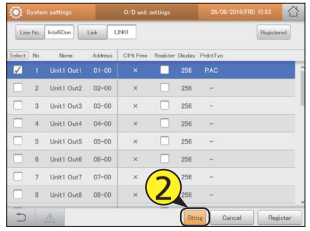
1 Put a check mark in the “Select” column.

- You can select more than one.

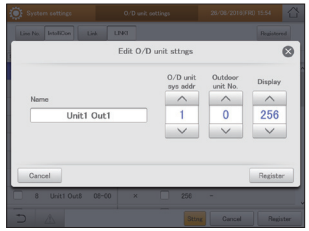


2 Touch [Sttng].

- The “Edit O/D unit sttngs” dialogue is displayed.



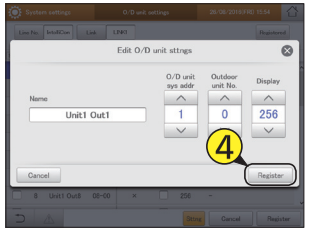
3 Change the settings.



Item	Explanation
Name	Change the name of the outdoor unit. You can enter up to 16 letters or numbers.
O/D unit sys addr	Use ▲ ▼ to set the system addresses of the outdoor units (1 to 30).
Outdoor unit No.	Use ▲ ▼ to set an individual number (1 to 30) within the system.
Display	Use ▲ ▼ to set the order when displayed in a list.

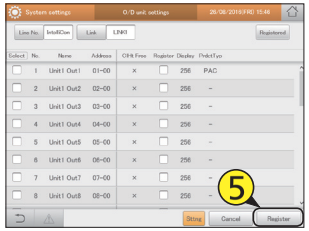
4 Touch [Register].

- To cancel the settings, touch [Cancel].



5 Touch [Register].

- To cancel the settings, touch [Cancel].

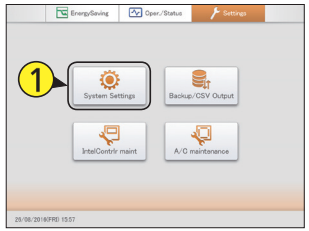


Basic settings for distribution calculation

Set specified days, cut-off days, particular time slots (regular hour ranges) and days of the week for calculating distributions.

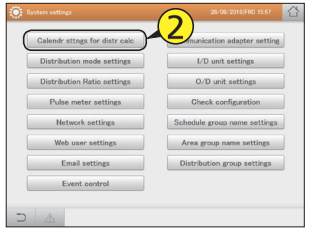
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

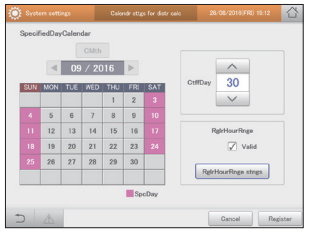


2 Touch [Calendr sttngs for distr calc].

- The “Calendr sttgs for distr calc” screen is displayed.



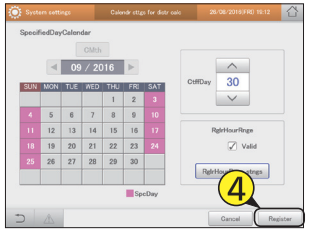
3 Change the settings.



Item	Explanation
SpecifiedDay-Calendar	Set specified days (days where the whole day will have a special distribution setting, such as holidays, when the time slot doesn’t matter). These can be set starting with the current month and up to 2 years in the future. (→ “Registering specified days” (P.149))
CtffDay	Set the monthly cut-off days (“1” to “28”, “End”). (→ “Registering cut-off days” (P.149))
RglrHourRnge	Set the distribution time slots for each day of the week. Regular hour range settings possible if you put a check mark in “Valid”. The “Regular hour range settings” dialogue is displayed when you touch [RglrHourRnge stngs]. (→ “Set the target time slots for distribution calculation” (P.150))

4 Touch [Register].

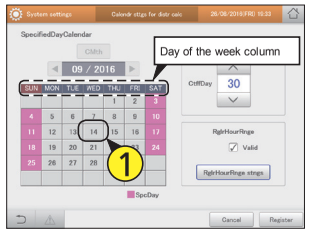
- To cancel the settings, touch [Cancel].



Registering specified days

1 Touch the date for the specified day.

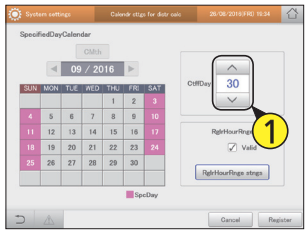
- Use ◀ ▶ to select the registered month. Touch [CMth] to return to the current month.
- The colour of the date column changes when you touch this. Touch again to return to the original. You cannot set a date in the past, however.
- Touch the day of the week column to set the specified day by day of the week.



Registering cut-off days

1 Touch [▲] [▼].

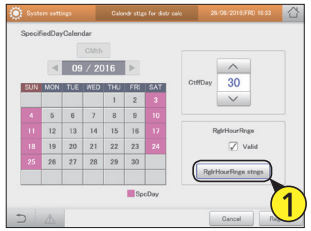
- Touch [▲] to move the days forward, touch [▼] to move the days back.



Set the target time slots for distribution calculation

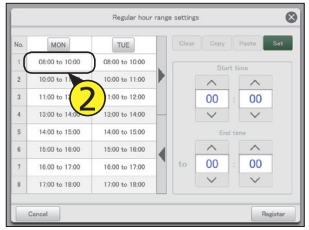
1 Touch [RglrHourRnge stngs].

- The “Regular hour range settings” dialogue is displayed.



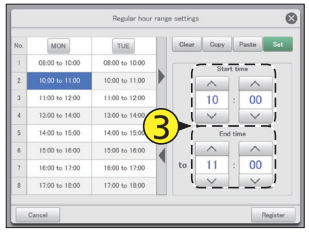
2 Touch the cell to be entered.

- You can select all of the time slots for a day of the week by touching the day of the week column.



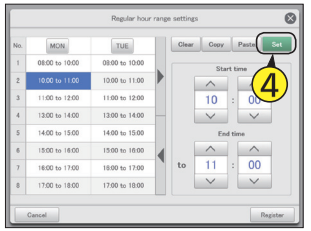
3 Set the start and end times.

- Use [▲] [▼] to set “Hours” and “Minutes”.



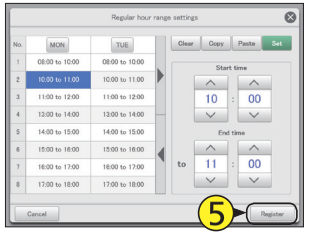
4 Touch [Set].

- The set time is displayed in the cell.
- To delete the set time slot, select the time slot to delete and touch [Clear].
- To copy the set time slot, select the time slot to copy and touch [Copy]. Next select the place you want to paste to and touch [Paste].

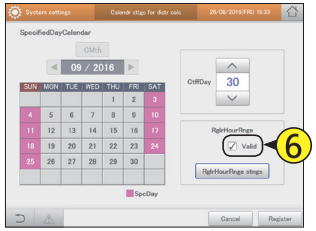


5 Touch [Register].

- The “Regular hour range settings” dialogue closes.
- To cancel the settings, touch [Cancel].



6 Put a check mark next to “Valid”.

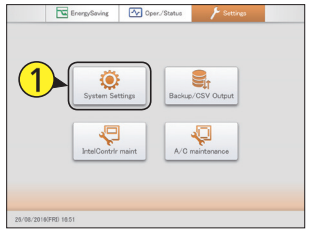


Changing the name of the schedule group

Edit the name of the operating schedule group.

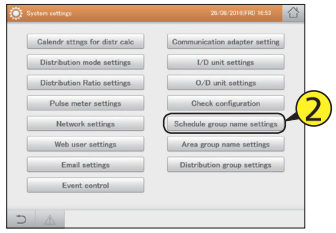
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



2 Touch [Schedule group name settings].

- The “Set schedule group name” screen is displayed.



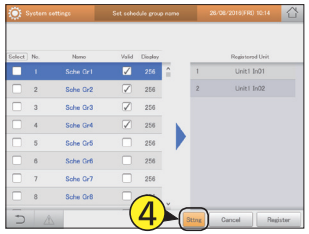
3 Put a check mark in the “Select” column.

- Select the schedule group name to be edited.

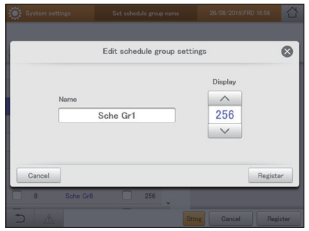


4 Touch [Sttng].

- The “Edit schedule group settings” dialogue is displayed.



5 Change the settings.

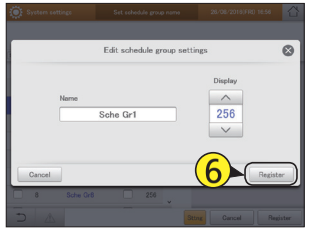


Item	Explanation
Name	Edit the name of the schedule group. You can enter up to 16 letters or numbers.
Display	Use ▲ ▼ to set the order when displayed in a list.

Continued on next page

6 Touch [Register].

- The “Edit schedule group settings” dialogue closes.
- To cancel the settings, touch [Cancel].



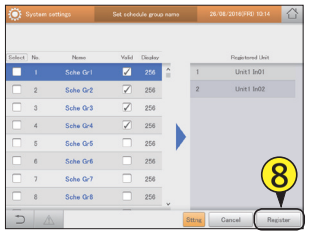
7 Put a check mark in the “Valid” column.

- Put a check mark in the schedule group to be used for the operating schedule.



8 Touch [Register].

- To cancel the settings, touch [Cancel].



The “Set schedule group name” screen

A: Put a check mark in the group to be edited.

B: Put a check mark here if schedule group is to be used.

C: The indoor units belonging to the selected schedule group are displayed.

D: The “Edit schedule group settings” dialogue is displayed when you touch this.

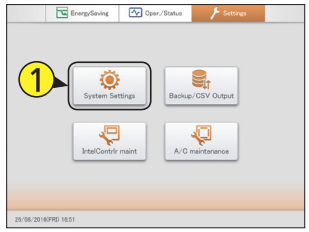


Changing the name of the area group

Edit the name of the area group.

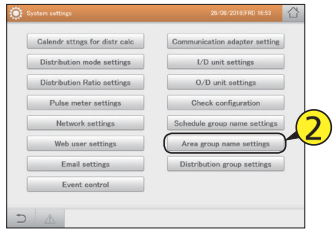
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



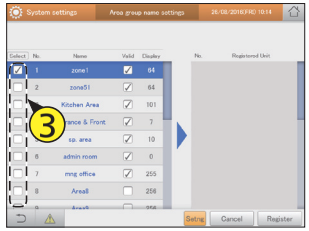
2 Touch [Area group name settings].

- The “Area group name settings” screen is displayed.



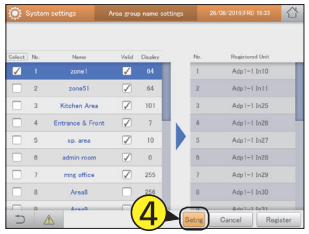
3 Put a check mark in the “Select” column.

- Select the area group name to be edited.

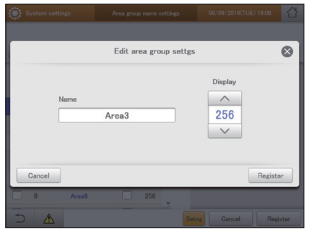


4 Touch [Setng].

- The “Edit area group settgs” dialogue is displayed.



5 Change the settings.

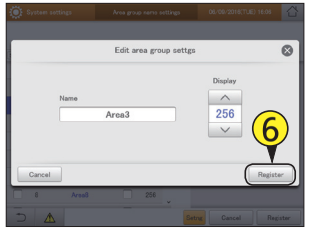


Item	Explanation
Name	Change the name of the area group. You can enter up to 16 letters or numbers.
Display	Use ▲ ▼ to set the order when displayed in a list.

Continued on next page

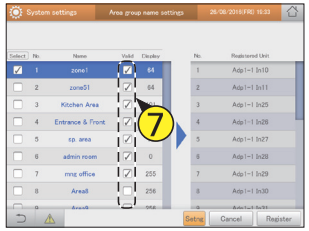
6 Touch [Register].

- The “Edit area group settgs” dialogue closes.
- To cancel the settings, touch [Cancel].



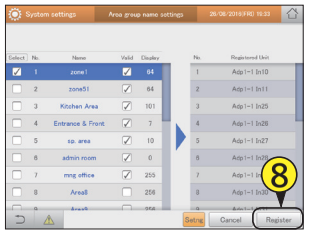
7 Put a check mark in the “Valid” column.

- Put a check mark in the area group to use.



8 Touch [Register].

- To cancel the settings, touch [Cancel].



The “Area group name settings” screen

A: Put a check mark in the group to be edited.

B: Put a check mark in the group name use the area group.

C: The names of the indoor units belonging to the selected area group are displayed.

D: The “Edit area group settgs” dialogue is displayed when you touch this.

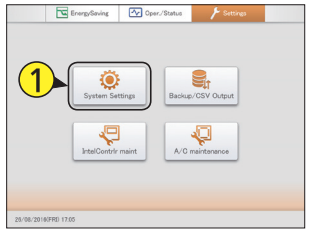


Changing the name of the distribution group

Edit the name of the distribution group.

1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



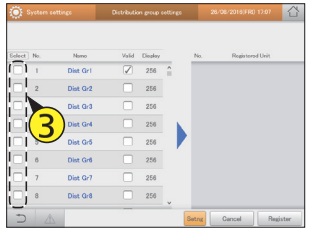
2 Touch [Distribution group settings].

- The “Distribution group settings” screen is displayed.



3 Put a check mark in the “Select” column.

- Select the distribution group name to be edited.

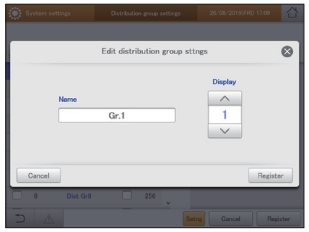


4 Touch [Setng].

- The “Edit distribution group sttngs” dialogue is displayed.



5 Change the settings.



Item	Explanation
Name	Change the name of the distribution group. You can enter up to 16 letters or numbers.
Display	Use ▲ ▼ to set the order when displayed in a list.

Continued on next page

6 Touch [Register].

- The “Edit distribution group sttngs” dialogue closes.
- To cancel the settings, touch [Cancel].



7 Put a check mark in the “Valid” column.

- Put a check mark in the distribution group to use in distribution calculations.



8 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- Do not put both “PAC” and “GHP” in a single distribution group with time distribution. Put each of them in separate groups.

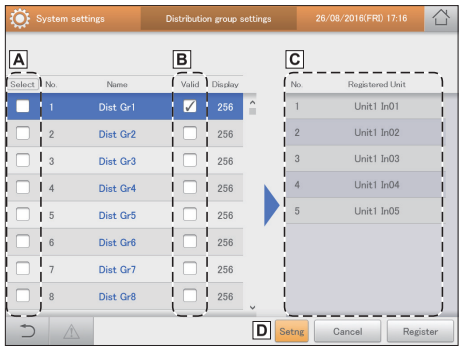
The “Distribution group settings” screen

A: Put a check mark in the group to be edited.

B: Put a check mark here if distribution group is to be used.

C: The indoor units belonging to the selected distribution group are displayed.

D: The “Edit distribution group sttngs” dialogue is displayed when you touch this.

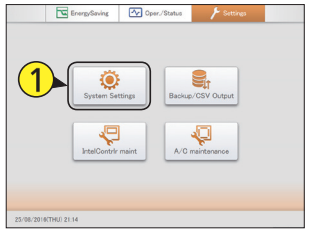


Basic settings for the pulse meter

Make allocations between pulse meters and distribution groups.

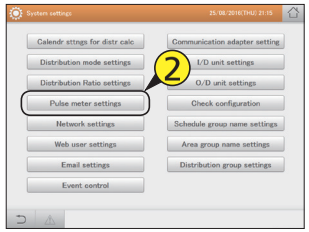
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



2 Touch [Pulse meter settings].

- The “Pulse meter settings” screen is displayed.



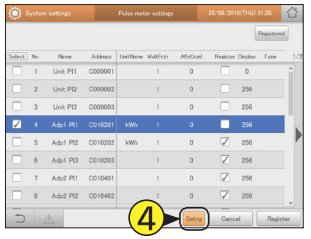
3 Put a check mark in the “Select” column.

- Select the pulse meter to be edited.

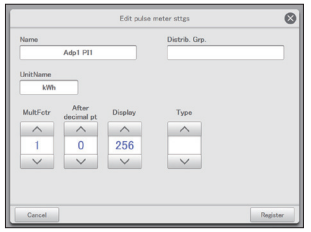


4 Touch [Setng].

- The “Edit pulse meter sttgs” dialogue is displayed.



5 Change the settings.



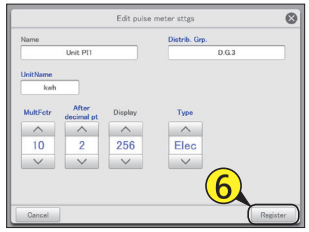
Item	Explanation
Name	Change the pulse meter name. You can enter up to 16 letters or numbers.
UnitName	Enter the units to be displayed for the pulse meter.
MultFctr	Use ▲ ▼ to set the multiplying factor to be displayed for the pulse meter.
After decimal pt	Use ▲ ▼ to set the number of decimal places to be displayed for the pulse meter. (0 to 3)
Display	Use ▲ ▼ to set the order when displayed in a list.
Type	Use ▲ ▼ to set the pulse meter type. Select from “Elec”, “Gas”, “PwGn”, “TpWt”, and “Ice”.

Continued on next page

Item	Explanation
Distrib. Grp.	Configure a distribution group to be measured. The “Distrib. Grp.” dialogue is displayed when you touch this. Select the distribution group to be measured and touch [Select].

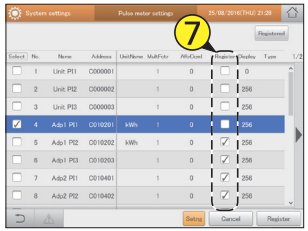
6 Touch [Register].

- The “Edit pulse meter sttgs” dialogue closes.
- To cancel the settings, touch [Cancel].



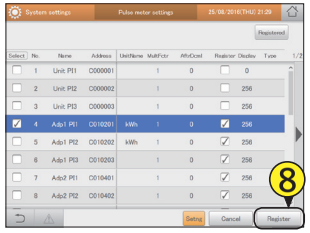
7 Put a check mark in the “Register” column.

- Put a check mark next to the pulse meters you want to enable.



8 Touch [Register].

- To cancel the settings, touch [Cancel].



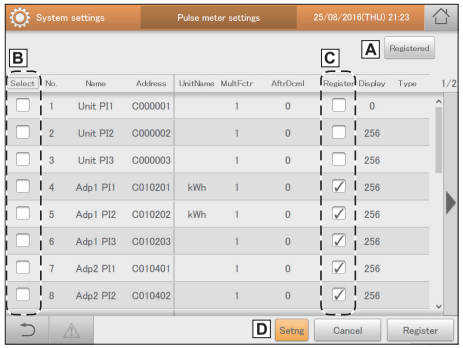
The “Pulse meter settings” screen

A: A list of pulse meters with a check mark in the “Register” column is displayed.

B: Put a check mark next to the pulse meters you want to edit.

C: Put a check mark next to the pulse meters you want to enable.

D: The “Edit pulse meter sttgs” dialogue is displayed when you touch this.

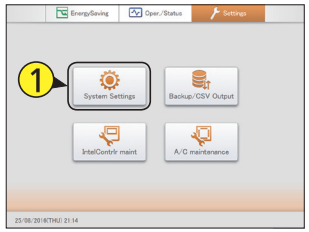


Set the distribution mode

Set the mode used for distributing when calculating charges.
There are two methods for distribution.
Time distribution: This method calculates distribution ratios based on the operating times of the indoor units (thermostat ON cumulative time and thermostat OFF cumulative time).
Load distribution: This method calculates distribution ratios based on the electricity/gas usage (including standby power) of the indoor units and outdoor units.

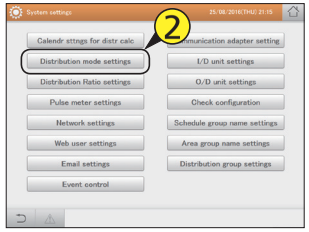
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.

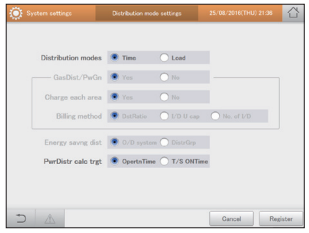


2 Touch [Distribution mode settings].

- The “Distribution mode settings” screen is displayed.



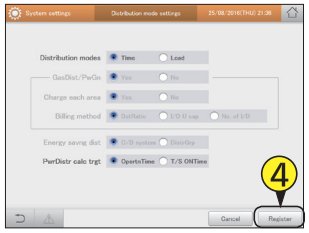
3 Change the settings.



Item	Explanation
Distribution modes	Set the distribution mode (time distribution or load distribution).
GasDist/PwGn	Select whether to calculate distributions when using gas for power generation. • When set to “No”, you cannot set charge each area and billing method.
Charge each area	Select whether to use charge each area for gas power generation. • When set to “No”, you cannot set billing method.
Billing method	Set the billing method for gas power generation.
Energy savng dist	Set the range of energy savings effects for multi-function air conditioners or ice thermal storage models in calculations for distribution. (when load distribution only) • With “O/D system”, only the air conditioning distribution of the area of the outdoor system is reflected. • With “DistrGrp”, the air conditioning distribution of all areas in the entire distribution group is reflected.
PwrDistr calc trgt	Set the target of electricity distribution calculation. • “OpertnTime” is distributed between the electricity for both outdoor units and indoor units. • “T/S ONTime” is distributed to the electricity for only indoor units.

4 Touch [Register].

- To cancel the settings, touch [Cancel].

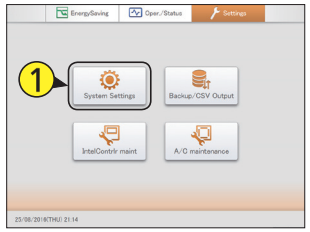


Set the units for electricity/gas charges

Set the units for electricity and gas charges.

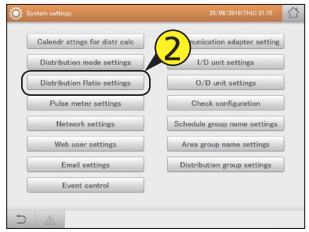
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



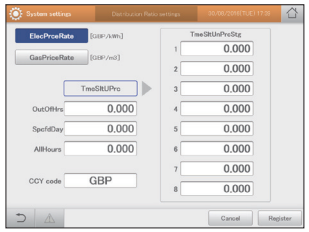
2 Touch [Distribution Ratio settings].

- The “Distribution Ratio settings” screen is displayed.



3 Change the settings.

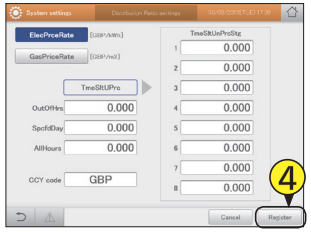
- The touchscreen numeric keypad appears when you touch the text box.



Item	Explanation
ElecPrceRate GasPriceRate	The screen switches to the one for setting the prices for electricity or gas charges. The highlighted item after touching is the one that will be set.
TmeSltUPrc	Set the regular hour range 1 to 8 price. • The time slot for the regular hour range is the one set in “Regular hour range settings” in “Calendr sttgs for distr calc” (P.150).
OutOfHrs	Set the out of hours price.
SpcfdDay	Set the specified days price. • The specified day is the one set in “SpecifiedDayCalendar” in “Calendr sttgs for distr calc” (P.149).
AllHours	Set prices for times that are not covered by regular hour ranges, out of hours, or specified days.
CCY code	Enter the currency unit.

4 Touch [Register].

- To cancel the settings, touch [Cancel].

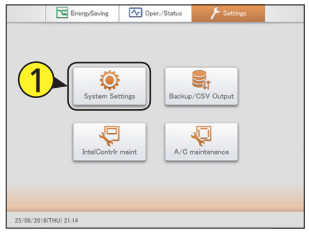


Linked control of air conditioning units

By setting conditions for input points and output points, you can perform linked control of air conditioning units (indoor units and outdoor units).
For example, you can make a setting so that all indoor units stop operating at the same time (output point) in response to a fire alarm going off (input point).

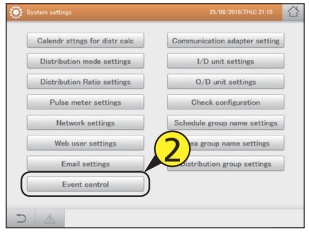
1 Touch [System Settings] in “Settings”.

- The “System settings” screen is displayed.



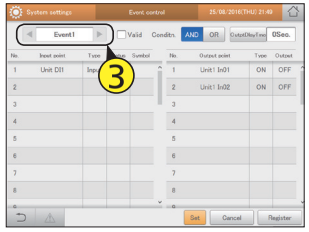
2 Touch [Event control].

- The “Event control” screen is displayed.



3 Select an event name.

- Use ◀ ▶ to select the name to register the event.
- You can change the event names. (→ “Changing an event name” (P.167))



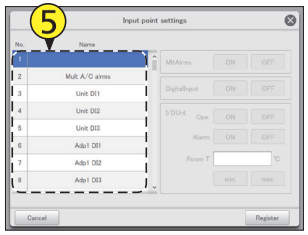
4 Select the input point border (4-1) and touch [Set] (4-2).

- The “Input point settings” dialogue is displayed.



5 Select the input target from the list.

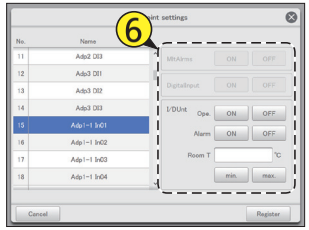
- Input targets include air conditioner alarms, digital input/output devices, indoor units (individual and control groups).



Continued on next page

6 Setting the input conditions.

- The items you can set depend on the input target selected.



- When air conditioning unit alarm batch is selected

Item	Explanation
MltAlrms	Select either “ON” or “OFF”. • “ON” indicates that an error alarm has been transmitted. • “OFF” indicates that a unit has recovered from an error.

- When a digital input/output device is selected

DigitalInput	Select either “ON” or “OFF”. • “ON” is displayed when digital input signals are on. • “OFF” is displayed when digital input signals are off.

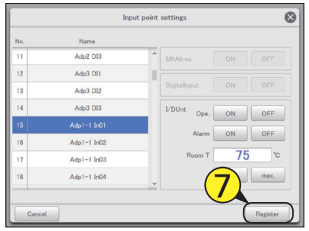
- When an indoor unit has been selected

I/DUnt*	Ope.	Select either “ON” or “OFF”. • “ON” is displayed when operation of the indoor units has been started. • “OFF” is displayed when operation of the indoor units is stopped.
	Alarm	Select either “ON” or “OFF”. • “ON” indicates that an error alarm has been transmitted. • “OFF” indicates that a unit has recovered from an error.
	Room T	Set the room temperature. The touchscreen numeric keypad appears when you touch the text box. Select either “min.” or “max.”. • “min.” indicates when the temperature is above the set temperature. • “max.” indicates when the temperature is below the set temperature.

* Set one of the condition items on the right.

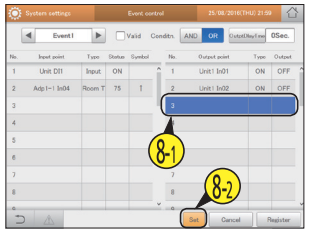
7 Touch [Register].

- The “Input point settings” dialogue closes.
- To cancel the settings, touch [Cancel].



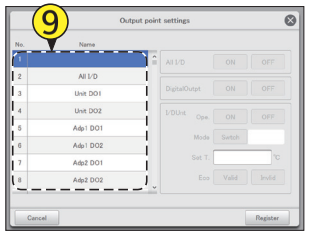
8 Select the output point border (8-1) and touch [Set] (8-2).

- The “Output point settings” dialogue is displayed.



9 Select the output target from the list.

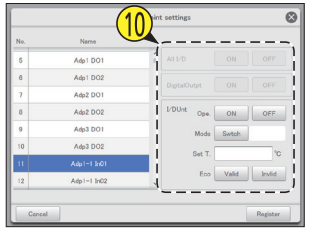
- Output targets include digital input/output devices, indoor units (all at once, individual, and control groups).



Continued on next page

10 Setting the output conditions.

- The items you can set depend on the output target selected.



- When indoor units all at once is selected

Item	Explanation
All I/D	Select either “ON” or “OFF”. • “ON” indicates that all indoor units start operation. • “OFF” indicates that all indoor units stop operation.

- When a digital input/output device is selected

DigitalOutpt	Select either “ON” or “OFF”. • “ON” indicates that the digital output signal is on. • “OFF” indicates that the digital output signal is off.

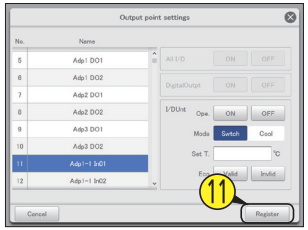
- When an indoor unit has been selected

I/DUnt*	Ope.	Select either “ON” or “OFF”. • “ON” indicates that the indoor unit starts operation. • “OFF” indicates that indoor unit stops operation.
	Mode	Select the operation mode to switch to. (→ “Setting the operation mode” (P.167))
	Set T.	Set the temperature.
	Eco	Select either “Valid” or “Invlid”.

* Set one of the items on the right as the output.

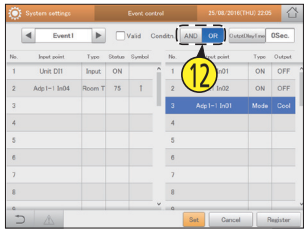
11 Touch [Register].

- The “Output point settings” dialogue closes.
- To cancel the settings, touch [Cancel].



12 Select the “Conditn.”.

- Select either [AND] or [OR]. (P.166)

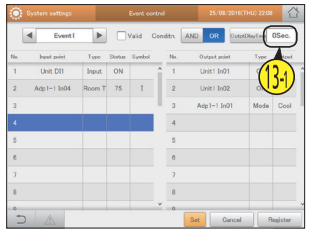


Continued on next page

13 Set the output delay time.

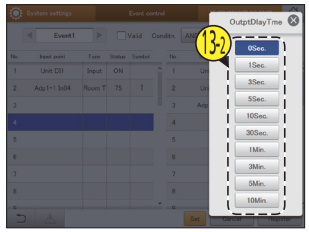
(1) Touch [OutptDlayTme].

- The "OutptDlayTme" settings dialogue is displayed.



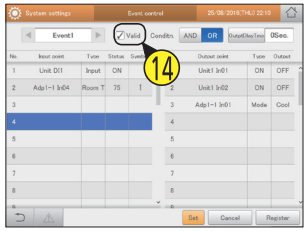
(2) Select the output delay time.

- Set the initiating time for the output point when the input point conditions have been met.



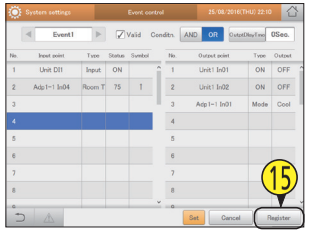
14 Put a check mark next to "Valid".

- The set event control works if you put a check mark here.



15 Touch [Register].

- To cancel the settings, touch [Cancel].



Note

- You can register a maximum of 50 event controls.
- You can register a maximum of 32 conditions each for input points and output points for each individual event.

The "Event control" screen

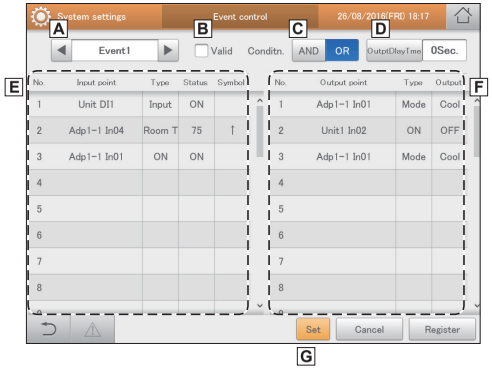
A: Set the event name with ◀ ▶. You can change the event names. (→"Changing an event name" (P.167))

B: The settings for the selected event name are enabled if you put a check mark here.

C: Select the conditions.

AND	The event at the output point is executed when the conditions set for the input point are all met.
OR	The event at the output point is executed when at least one of the conditions set for the input point are met.

D: Set the output point event execution timing (time).
The "OutptDlayTme" setting dialogue is displayed when you touch this. Setting values are "0Sec.", "1Sec.", "3Sec.", "5Sec.", "10Sec.", "30Sec.", "1Min.", "3Min.", "5Min.", and "10Min.".



E: The list of input points that are set is displayed.

Input point	This displays the input targets for which conditions are set.
Type	The input target type is displayed.
Status	The input target status is displayed.
Symbol	A symbol is displayed when temperature is set as a condition for indoor units. The symbols displayed are as follows: ↑: When the temperature is set to "min." ↓: When the temperature is set to "max."

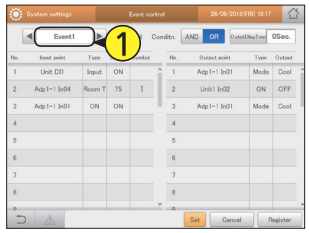
F: The list of output points that are set is displayed.

Output point	This displays the output targets for which conditions are set.
Type	The output target type is displayed.
Output	The output target status is displayed.

G: When an input point border or output point border is selected and you touch it, the dialogue for setting each of them is displayed.

Changing an event name

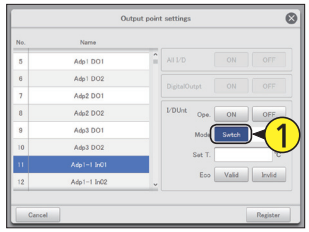
1 Touch the text box.
- The touchscreen keyboard is displayed.



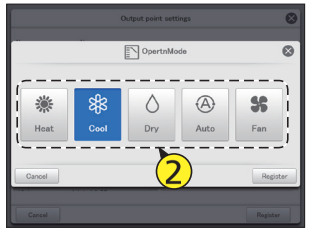
2 Enter the text.

Setting the operation mode

1 Touch [Swtch] in the “Output point settings” dialogue.
- The “OpertnMode” dialogue is displayed.



2 Select the mode to switch.
- The settings are registered and the “OpertnMode” dialogue closes.

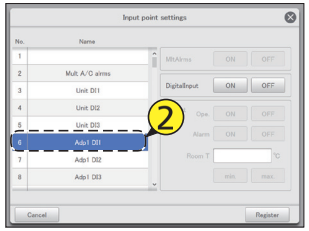


Deleting the settings for input/output points

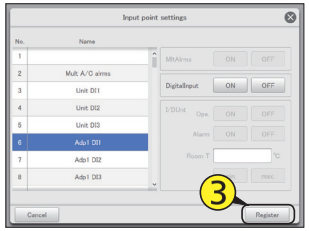
1 Select the input/output point to delete (1-1) and touch [Set] (1-2).
- The settings dialogue is displayed.



2 Touch the highlighted input/output target.
- The setting is deleted.



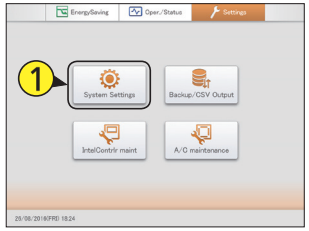
3 Touch [Register].
- The setting dialogue closes, and the selected input/output point is deleted from the list.



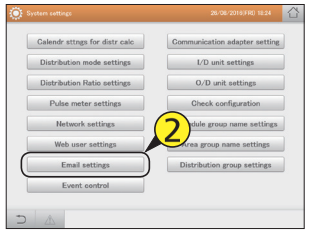
Configuring outgoing mail

When an alarm occurs, this unit can automatically send alarm mails.
Set the outgoing mail server and the mail destination.

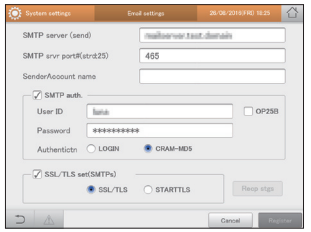
1 Touch [System Settings] in “Settings”.
- The “System settings” screen is displayed.



2 Touch [Email settings].
- The “Email settings” screen is displayed.



3 Change the settings.



Item	Explanation	
SMTP server (send)	Set the IP address or host name of the SMTP server.	
SMTP srvr port#(strd:25)	Set the port number (0 to 65535) for the SMTP server. (Factory setting: 25)	
SenderAccount name	Set the mail address to be put in the sender section of the outgoing mail.	
SMTP auth.*1	User ID	Set the user ID to use for SMTP authentication.
	OP25B	The SMTP server port setting is automatically set to “587” if you put a check mark here.
	Password	Set the password to use for SMTP authentication.
	Authentictn	Select either “LOGIN” or “CRAM-MD5” as the authentication method.
SSL/TLS set(SMTPs)*2	Select either “SSL/TLS” or “STARTTLS” as the encryption method.	
Recp stgs	The “Email Alarm recipient settings” dialogue is displayed when you touch this. (→ “Setting the destination” (P.169))	

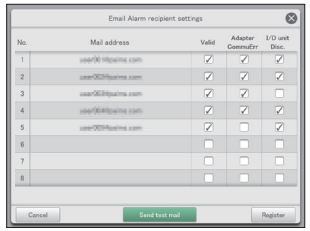
*1 The settings at the left are enabled if you put a check mark here.
*2 The SMTP server port setting is automatically set to “465” if you put a check mark here.

Note
- The SMTP server port number automatically changes if “OP25B” and “SSL/TLS set(SMTPs)” are set. The priority of setting is “OP25B”>“SSL/TLS set(SMTPs)”.
- The SMTP server port number cannot be changed if you make the above settings. When the settings are cancelled, the SMTP port number returns to the factory setting (25), and you can enter any value again.

Setting the destination

Set the destination in the “Email Alarm recipient settings” dialogue.

1 Change the settings.



Item	Explanation
Mail address	Set the mail address to send alarms emails. The touchscreen keyboard appears when you touch this and you can change the mail address.
Valid	Users with a check mark in this column will be sent alarm mails.
Adapter CommuErr	Users with a check mark in this column will be sent alarm mails when there is a communications error with the communication adaptor.
I/D unit Disc.	Users with a check mark in this column will be sent alarm mails when there is a disconnected alarm with an indoor unit.
Send test mail	A test mail is sent to the set mail address. Test mails are not sent if there is a check mark in “Valid”, “Adapter CommuErr”, or “I/D unit Disc.”, however.

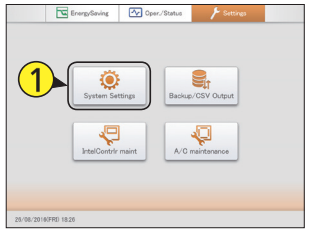
2 Touch [Register].

- To cancel the settings, touch [Cancel].

Registering a communication adaptor

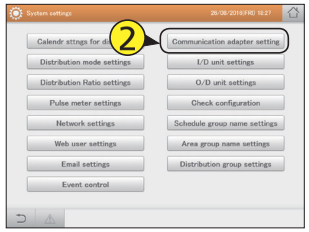
Register communication adaptors connected to this unit to enable communications with the air conditioning units.

1 Touch [System Settings] in “Settings”.



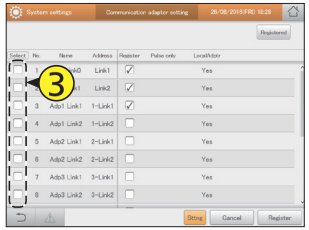
2 Touch [Communication adapter setting].

- The “Communication adapter setting” screen is displayed.



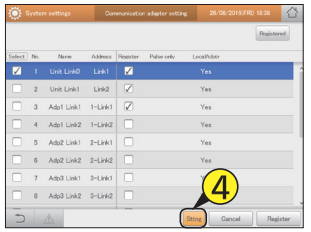
3 Put a check mark in the “Select” column.

- Select the communication adaptor to be edited.

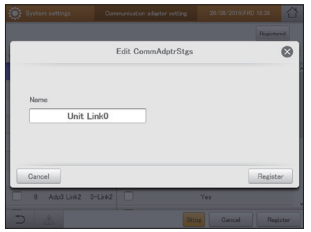


4 Touch [Sttng].

- The “Edit CommAdptrStgs” dialogue is displayed.



5 Change the settings.



Item	Explanation
Name	Change the name of the communication adaptor. You can enter up to 16 letters or numbers.

6 Touch [Register].

- The “Edit CommAdptrStgs” dialogue closes.
- To cancel the settings, touch [Cancel].



Continued on next page

7 Repeat steps 3 to 6 to edit other communication adaptors.

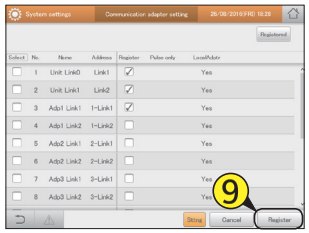
8 Put a check mark in the “Register” column.

- Put a check mark next to the communication adaptors you want to enable.



9 Touch [Register].

- To cancel the settings, touch [Cancel].



The “Communication adapter setting” screen

A: A list of communication adaptors with a check mark in the “Register” column is displayed when you touch this. Touch again to return to the previous display.

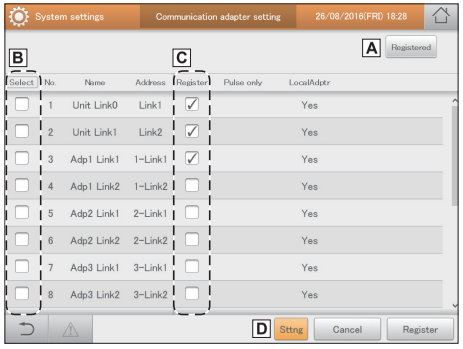
B: Put a check mark next to the communication adaptor you want to edit.

C: Put a check mark next to the communication adaptors you want to enable.

D: The “Edit CommAdptrStgs” dialogue is displayed when you touch this.

Note

- In the “Address” column, “Link1” and “Link2” are in this unit, and addresses such as “1-Link1” and “1-Link2” are the addresses of added communication adaptors.



Maintenance settings

IntelContrlr maint

This chapter explains how to set the date and time, and other adjustments such as the volume and the brightness of the screen.

Screen menu	Overview	Page
Display/Volume settings	Adjust the brightness of the unit’s screen and the sound of the buzzer.	173
Intelligent Controller info	Register the contacts for servicing (telephone numbers) for this unit.	174
Software update	Update the software for this unit.	175
Initialize	Initialise the settings for this unit. The user not initialise under any circumstances.	176
Language&TimeZone sttngs	Set the language to be used when setting and operating this unit.	179
Date settings	Manually set the date and time.	178

A/C maintenance

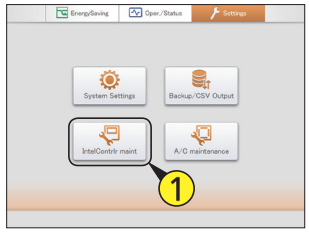
Screen menu	Overview	Page
Test run	Perform a test operation of the indoor unit after installing this unit.	181
A/C communication settings	Make settings such as the communications protocol between this unit and the air conditioning units.	184
Maintenance information	Register the units that will require maintenance.	186

Setting the screen display and volume for this unit

You can adjust the brightness of the screen or adjust the buzzer sound.

1 Touch [IntelContrlr maint] in “Settings”.

- The “IntelContrlr maint” screen is displayed.

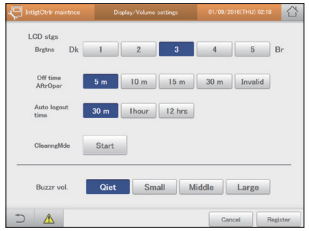


2 Touch [Display/Volume settings].

- The “Display/Volume settings” screen is displayed.



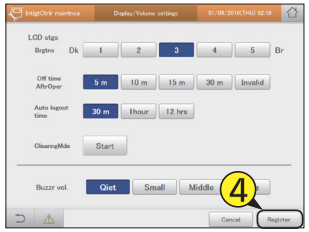
3 Change the settings.



Item	Explanation
Brgtns	Adjust the brightness of the back light in 5 steps (1 to 5).
Off time AftrOper	The back light automatically turns off after the specified time* if the unit is not operated. The back light does not turn off if you touch [Invalid]. * The actual time can differ by about a minute.
CleanngMde	All operations are disabled on the liquid crystal display when you touch this [Start] so that you can clean it. This is cancelled when you touch [END].
Auto logout time	Log out automatically after the specified time. (“30 m”, “1hour”, or “12 hrs”)
Buzzr vol.	You can adjust the volume of the buzzer. No sound is output if you touch [Qiet].

4 Touch [Register].

- To cancel the settings, touch [Cancel].

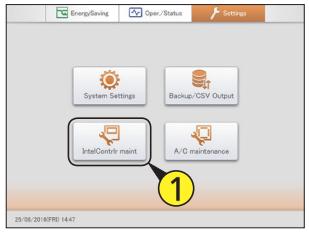


Register the contacts for servicing for this unit

Register the contacts for servicing (telephone numbers) for this unit.

1 Touch [IntelContrlr maint] in “Settings”.

- The “IntelContrlr maint” screen is displayed.



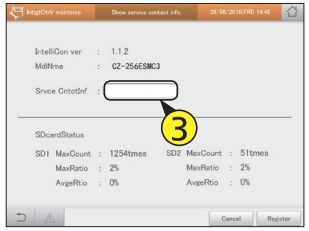
2 Touch [Intelligent Controller info].

- The “Show service contact info.” screen is displayed.



3 Touch the text box.

- The touchscreen keyboard is displayed.



4 Enter the telephone number.

5 Touch [Register].

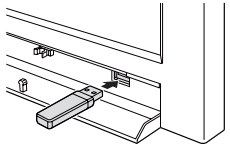
- To cancel the settings, touch [Cancel].



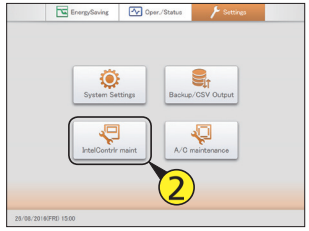
Update the software

Update the software for this unit from a USB memory device.
A service person should perform this operation.

1 Open the storage door and connect a USB memory device to the USB terminal.



2 Touch [IntelContrlr maint] in “Settings”.



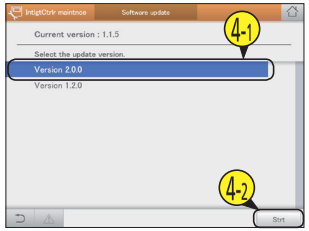
3 Touch [Software update].

- The “Software update” screen is displayed.



4 Select the version to update (4-1) and touch [Strt] (4-2).

- The software update confirmation message is displayed.



5 Touch [Strt].

- A confirmation message appears again.
- To cancel the update, touch [Cancel].

6 Touch [Update].

- The update starts. The progress of the update is shown as a percentage.
- The unit automatically restarts when updating is complete.

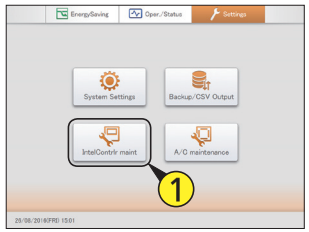
Initialising the unit and setting log levels

Initialise the unit and set and admin number (password) and log output levels.

All data is deleted when you initialise.
Unless you are the administrator, do not initialise under any circumstances.

1 Touch [IntelContrlr maint] in “Settings”.

- The “IntelContrlr maint” screen is displayed.



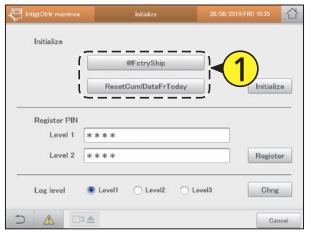
2 Touch [Initialize].

- The “Initialize” screen is displayed.



Initialising

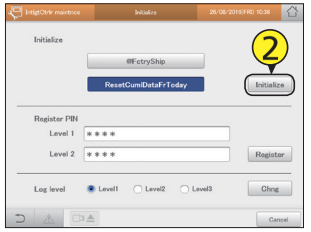
1 Select the type of initialisation.



Item	Explanation
@FctryShip	All data (settings, accumulated data, distribution data) is deleted.
ResetCumlDataFrToday	The accumulated data for the day is deleted. Use this after performing a test operation of the air conditioning units, for example.

2 Touch [Initialize].

- Several confirmation messages will be displayed, so touch [Yes] each time.
- Initialisation starts.
- When initialising is complete, the message “Settings were reset. IntelligntCtrlr is restarting...” is displayed.

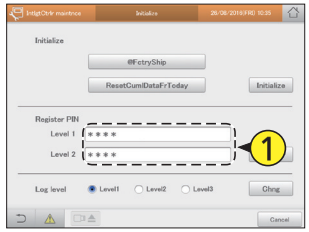


Setting admin numbers

Some menus require you to enter an admin number (password) to perform settings and operations. There are two levels of admin number (level 1 and level 2).

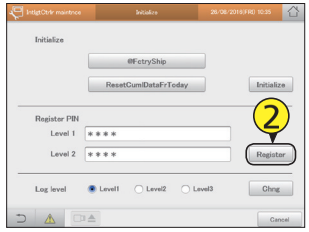
1 Enter an identification number for each level.

- The touchscreen keyboard appears when you touch the text box.
- Use an identification number of at least 8 numbers (alphanumeric only).



2 Touch [Register].

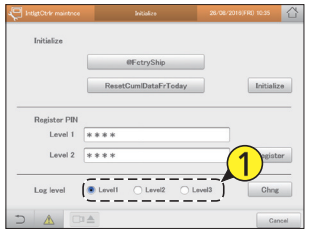
- The setting is registered.



Set the log output level

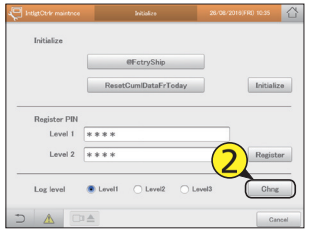
Set a level for outputting the log data recorded in this unit.
The content of the log data output differs according to the log level that is set.

1 Select the log level.



2 Touch [Chng].

- The setting is registered.

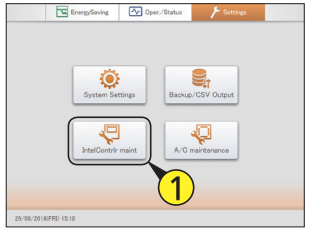


Setting the date and time

Manually set the date and time. This setting is not necessary of you are using the NTP server (P.123).

1 Touch [IntelContrlr maint] in “Settings”.

- The “IntelContrlr maint” screen is displayed.

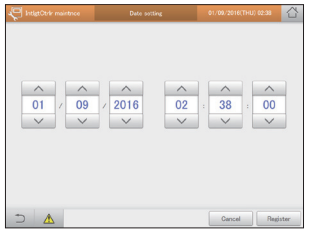


2 Touch [Date settings].

- The “Date setting” screen is displayed.



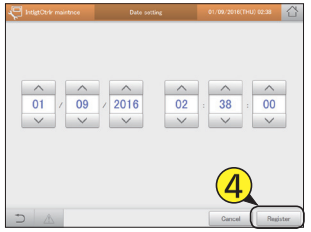
3 Setting the date and time.



Item	Explanation
Day Month Year	Set the date. Use ▲ ▼ to set “Day”, “Month”, and “Year”.
Hours* Minutes Seconds	Set the time. Use ▲ ▼ to set “Hours”, “Minutes”, and “Seconds”. * The time system for “Hours” is 24 hours.

4 Touch [Register].

- To cancel the settings, touch [Cancel].

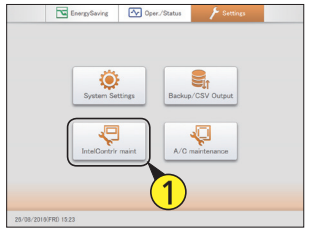


Setting the language and time zone

Set the language to be used when setting and operating this unit. The languages available on this unit are English (US), English (UK), German, Italian, French, Spanish, and Portuguese.
Set the time zone to suit the language to be used.

1 Touch [IntelContrlr maint] in “Settings”.

- The “IntelContrlr maint” screen is displayed.



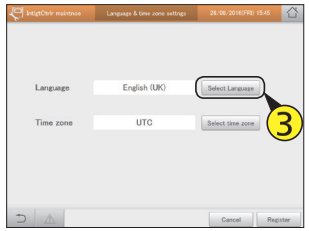
2 Touch [Language&TimeZone sttngs].

- The “Language & time zone settngs” screen is displayed.



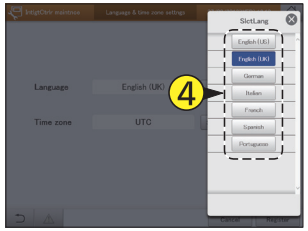
3 Touch [Select Language].

- The “SlctLang” dialogue is displayed.



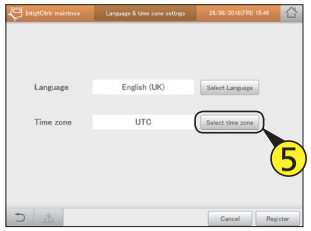
4 Select the language to display.

- You can set [English (US)], [English (UK)], [German], [Italian], [French], [Spanish], and [Portuguese].
- The settings are registered and the “SlctLang” dialogue closes.



5 Touch [Select time zone].

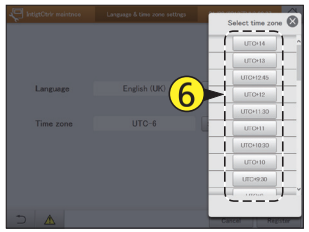
- The “Select time zone” dialogue is displayed.



Continued on next page

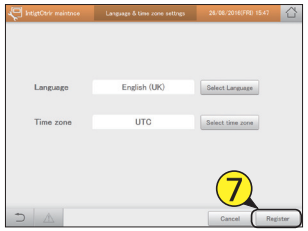
6 Select the time zone to display.

- You can select [UTC-12] to [UTC-1], [UTC], and [UTC+1] to [UTC+14]. Find the difference between the time in the installation location of the intelligent controller and Coordinated Universal Time (UTC). If the former is 1 hour ahead of the latter, for example, select [UTC+1].
- The settings are registered and the “Select time zone” dialogue closes.



7 Touch [Register].

- The settings are registered and the unit automatically restarts.
- To cancel the settings, touch [Cancel].

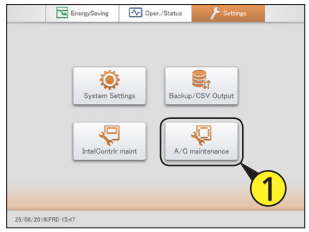


Running a test operation

You can run test operations for indoor units for each outdoor unit system address.

1 Touch [A/C maintenance] in “Settings”.

- The “A/C maintenance” screen is displayed.



2 Touch [Test run].

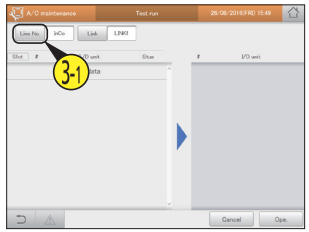
- The “Test run” screen is displayed.



3 Select the line number.

(1) Touch [Line No.].

- The “Line No.” dialogue is displayed.



(2) Select the line number.

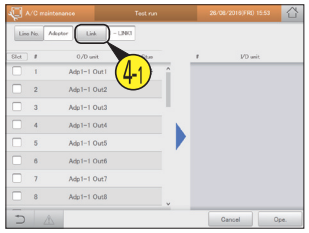
- The settings are registered and the “Line No.” dialogue closes.



4 Select the link.

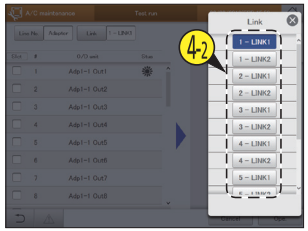
(1) Touch [Link].

- The “Link” dialogue is displayed.



(2) Select the linked system you want to run the test operation for.

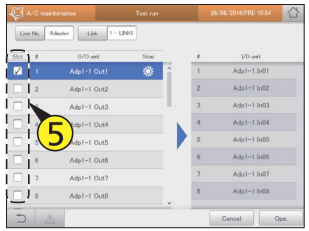
- The settings are registered and the “Link” dialogue closes.
- The outdoor units in the selected linked system are displayed in a list.



Continued on next page

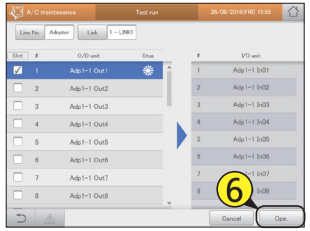
5 Put a check mark in the “Select” column.

- Select the outdoor units you want to run a test operation for.
- You can select multiple outdoor units.



6 Touch [Ope.].

- The operation dialogue is displayed.



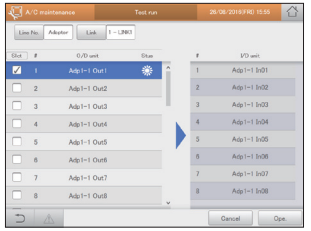
7 Select the operation mode ([Cool] or [Heat]) (7-1) and touch [ON] (7-2).

- The settings are registered and the operation dialogue closes.
- The test operation starts.



8 Check the “Stus” column.

- During the test operation, the operation mode is shown in the “Stus” column (for cooling and for heating).



9 To stop the test operation, touch [Ope.], then touch [OFF] in the operation dialogue.

The “Test run” screen

A: Select the line numbers of the outdoor units you want to run a test operation for. The “Line No.” dialogue is displayed when you touch this.

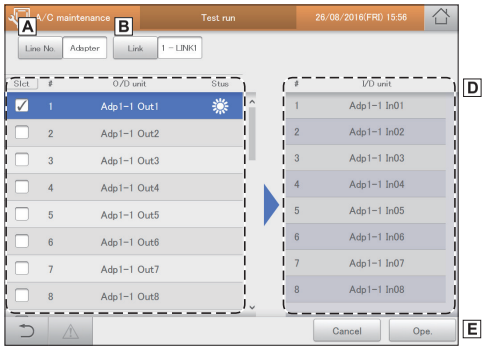
B: Set the link system of the outdoor units you want to run a test operation for. The “Link” dialogue is displayed when you touch this.

C: Outdoor units are displayed in a list.

Item	Explanation
Slct	Select the outdoor units you want to run a test operation for.
O/D unit	The outdoor units in the linked system selected at B are displayed.
Stus	The operation mode while testing operation is displayed.

D: The indoor units that are connected to outdoor units with a check mark in C are displayed.

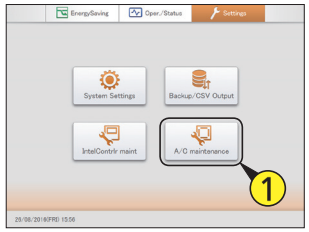
E: Test operation is performed. The operation dialogue is displayed when you touch this.



Setting communications with air conditioning units

Make settings such as the communications protocol between this unit and the air conditioning units. There are three stages to these settings.

1 Touch [A/C maintenance] in “Settings”.



2 Touch [A/C communication settings].

- The “Settngs for communictn w A/C(1)” screen is displayed.



3 Change the settings.

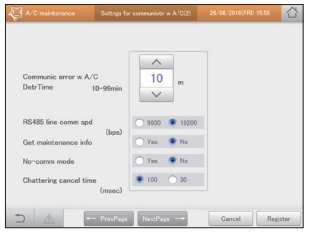


Item	Explanation
IntvlFrRegComm2	Set the communications interval between this unit and the air conditioning units (10 to 99). Use ▲ ▼ to set a value for each linked system.
A/C conctn	Set whether air conditioning units are connected for each linked system.
IntlCtrlr#inLnk	Set the number of this unit within the link for each linked system.
LocalAdptrDtctn	If you have interface adaptors connected in the system, set to “ON” so that this unit recognises interface adaptors.
PwrOn config ChkCommunctn	When you have added indoor units or otherwise changed the configuration of the system, set to “ON” so that the unit checks the configuration.

4 Touch [NextPage →].

- The “Settngs for communictn w A/C(2)” screen is displayed.
- To cancel the settings, touch [Cancel].

5 Change the settings.



Item	Explanation
Communic error w A/C DetrTime	Set the judgement time (10 to 99) when an error occurs between this unit and the air conditioning units. Use ▲ ▼ to set the value.
RS485 line comm spd (bps)	Set the communications speed between this unit and the air conditioning units (9600 or 19200). • Set “19200” under normal circumstances.
No-comm mode	There is no communication with the air conditioning units if you set this to “No”. Set this when communication with the air conditioning units is incomplete (not set up, no power, etc.) and you just want to confirm items such as registered names, etc.

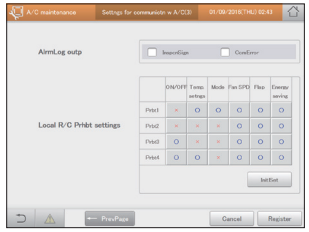
Continued on next page

Item	Explanation
Chattering cancel time (msec)	Set the time until cancelling when chattering occurs.

6 Touch [NextPage →].

- The “Settngs for communictn w A/C(3)” screen is displayed.
- To return to the “Settngs for communictn w A/C(1)” screen, touch [← PrevPage].
- If you touch [Cancel], all the settings up to that point are cancelled and you return to the “Settngs for communictn w A/C(1)” screen.

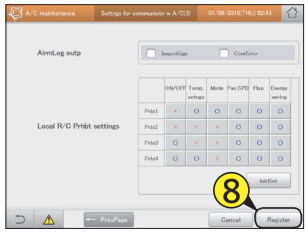
7 Change the settings.



Item	Explanation
AlrmLog outp	Select whether to output alarm logs. Alarm mails are not sent if the check mark is removed. You can select only the following checks and alarms. Others are executed irrespective of the setting. • InspcnSign: Filter sign Engine oil check Remote controller display check • ComError: C17 alarm (communication error between the unit and the air conditioning unit) C06 alarm (communication error between the unit and the communication adaptor)
Local R/C Prhbt settings	Set “Prbt1” to “Prbt4” for each item (“ON/OFF”, “Temp. settngs”, “Mode”, “Fan SPD”, “Flap”, or “Energy saving”) to set whether to permit or prohibit operations and settings with the local remote controller. Each time you touch either “○” or “×” is displayed. • “○”: Operation and setting with the local remote controller is enabled • “×”: Operation and setting with the local remote controller is prohibited Touch [InitlSet] to restore the default factory settings.

8 Touch [Register].

- All of the settings are registered.
- If you touch [Cancel], all the settings up to that point are cancelled and you return to the “Settngs for communictn w A/C(1)” screen.

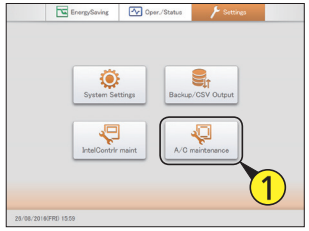


Ignoring alarms from the units

Register the units that will require maintenance. By registering them, this unit will ignore the alarms, etc., transmitted by the units.

1 Touch [A/C maintenance] in “Settings”.

- The “A/C maintenance” screen is displayed.

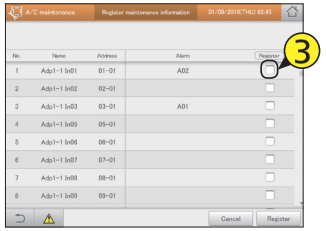


2 Touch [Maintenance information].

- The “Register maintenance information” screen is displayed.

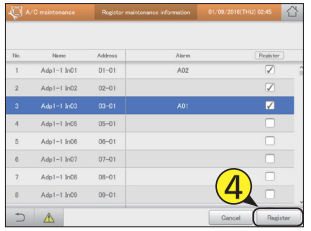


3 Put a check mark in the “Register” column of the target unit.



4 Touch [Register].

- To cancel the settings, touch [Cancel].



Appendix

This chapter provides information you will require to use the unit (input of numbers and letters, terminology, etc.) and maintenance information.

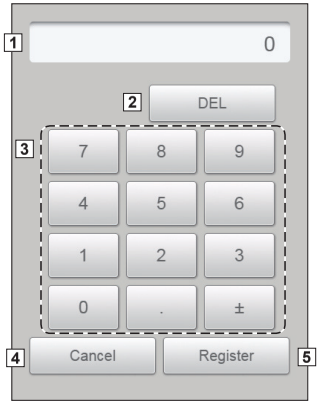
Appendix

Number and letter input

This section explains the keyboard that is displayed on the screen that enables input of numbers and text. A touchscreen numeric keypad is displayed for number input and a touchscreen keyboard is displayed for text input.

Number input

Use the touchscreen numeric keypad that is displayed on the screen when entering numbers such as times and temperatures.
A touchscreen numeric keypad such as the following appears on the screen when you touch the text box.

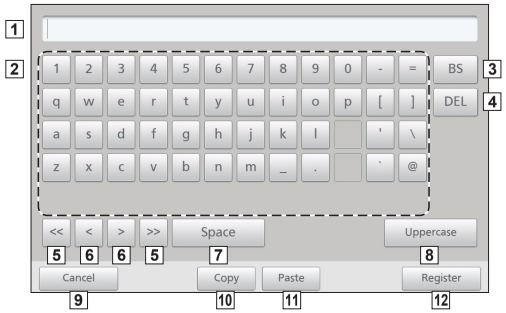


	Name	Explanation
1	Input field	The number you touch appears.
2	[DEL] key	This deletes all of the numbers displayed in the input field.
3	Numbered keys (0 to 9) [.] (dot) key [±] key	Touch the number. The number you touch is displayed in the input field and are added to the right. Each time you touch the [±] key, a "-" (minus sign) is displayed or cleared.
4	[Cancel] key	The touchscreen numeric keypad closes when you touch this.
5	[Register] key	The numbers displayed in the input field are displayed as the setting values in the text box.

Appendix

Character input

Use the touchscreen keyboard that is displayed on the screen when entering text such as when changing names and passwords.
A touchscreen keyboard such as the following appears on the screen when you touch the text box.



	Name	Explanation
1	Input field	The letter you touch appears.
2	Letter keys	Touch the letter. The letter you touch is displayed in the input field and is added to the right.
3	[BS] key	Each time you touch it, the characters displayed are deleted one at a time from the left of the cursor.
4	[DEL] key	Each time you touch it, the characters displayed are deleted one at a time from the right of the cursor.
5	[<<][>>] keys	Touch [<<] to move the cursor to the beginning of the text. Touch [>>] to move the cursor to the end of the text.
6	[<][>] (move cursor) keys	Each time you touch one of these, the cursor in the input field moves one character left or right.
7	[Space] key	Each time to touch this key, 1 space is added to the input field.
8	[Uppercase] key	The keyboard layout is changed to capitals.
9	[Cancel] key	The touchscreen keyboard closes when you touch this.
10	[Copy] key	Copy the text in the input field you selected by dragging.
11	[Paste] key	Paste the text you copied with the [Copy] key in the cursor position in the input field.
12	[Register] key	The text displayed in the input field is displayed as the setting text in the text box.

Connections with external signals

You can measure the gas and electricity consumed by the unit and control all of the units by input or outputting signals to and from external equipments.
Refer to the installation instructions for details about the electronics for external signals.

Pulse meter input

You can measure the gas and electricity consumed by connecting a pulse meter (gas and/or fuel flow meter, electricity meter).

Operation

A count is made for each pulse.
You will need to set the consumption units (m^3, kWh, or litres) per pulse in “Pulse meter settings” (P.158).

Batch stop input

You can automatically stop all connected units with an external signal (a fire alarm, for example). (Excluding those indoor units set to be excluded from the operation.)

Operation

When input is ON, the stop signal is sent to all indoor units.

Note

- If batch stop input and batch startup input are ON simultaneously, on the batch stop input is valid.

Batch startup input

You can automatically startup all units with an external signal. (Excluding those indoor units set to be excluded from the operation.)

Operation

When the input signal switches from OFF to ON, the startup signal is sent to all indoor units.

Batch alarm output

When an alarm or error occurs on any of the connected units, this unit sends a signal externally. This signal can be used by an alarm monitor or similar device.

Operation

When an alarm or error occurs on any of the connected units, the intelligent controller signal to the external device is shorted. When the system is restored, the intelligent controller signal is opened.

Batch startup output

When any of the connected units are running, this unit sends a signal externally.

Operation

When any of the connected units (including interface adaptors) are running, the intelligent controller signal to the external device is shorted.
When all connected units are stopped, the intelligent controller signal is opened. (Including when alarms or errors are occurring)

Methodology for calculating distributions

This unit is able to make simplified calculations of air conditioning distribution and energy (electricity and gas) usage with the cumulative operating time (thermostat ON/thermostat OFF) of indoor units and the performance values of indoor units.

Calculations for time distribution

Calculate the electricity/gas consumption index for indoor units individually or as a part of a distribution group, and calculate the electricity/gas consumption distribution ratios for indoor units individually or as a part of an area group.

Types of parameters used to calculate distributions

The following parameters are used for calculating time distributing.

Parameter	Explanation
RHHi	The cumulative operating time of indoor unit No. i* (high)
RHi	The cumulative operating time of indoor unit No. i* (mid)
RLi	The cumulative operating time of indoor unit No. i* (low)
SHHi	The cumulative thermostat on time of indoor unit No. i* (high)
SHi	The cumulative thermostat on time of indoor unit No. i* (mid)
SLi	The cumulative thermostat on time of indoor unit No. i* (low)
Pi	The performance of indoor unit No. i* (a value equivalent to kW)
k	Weighting coefficient for electricity when the thermostat is ON and when it is OFF
αHH	Weighting coefficient for fan speed when the speed is high
αH	Weighting coefficient for fan speed when the speed is mid
αL	Weighting coefficient for fan speed when the speed is low

* Cumulative operating time is equal to thermostat ON cumulative time PLUS thermostat OFF cumulative time

If the distribution methodology (P.160) is set to “Time”, do not allocate PAC and GHP to the same distribution groups.

Appendix

Methodology for calculating electricity/gas consumption index for indoor unit No. i

TEi is the electricity consumption index for indoor unit No. i. **TGi** is the gas consumption index for indoor unit No. i. **TOi** is the fuel consumption index for indoor unit No. i.

- **When the object of electricity distribution calculations is “thermostat ON time” and “thermostat OFF time” (regular time distribution)**

The electricity consumption index is calculated with “cumulative operating time” and “thermostat ON cumulative time”.
The gas consumption index and fuel consumption index are calculated with “thermostat ON cumulative time”.

- GHP

Electricity	TEi = (RHHi×αHH+RHi×αH+RLi×αL)×Pi
Gas	TGi = (SHHi×αHH+SHi×αH+SLi×αL)×Pi

- PAC

Electricity	TEi = {(RHHi×αHH+RHi×αH+RLi×αL)÷k+(SHHi×αHH+SHi×αH+SLi×αL)}×Pi
Gas	TGi = 0

- **When the object of electricity distribution calculations is “thermostat ON time” (thermostat ON time distribution)**

The electricity consumption index, gas consumption index and fuel consumption index are calculated with “thermostat ON cumulative time”.

- GHP

Electricity	TEi = (SHHi×αHH+SHi×αH+SLi×αL)×Pi
Gas	TGi = (SHHi×αHH+SHi×αH+SLi×αL)×Pi

- PAC

Electricity	TEi = (SHHi×αHH+SHi×αH+SLi×αL)×Pi
Gas	TGi = 0

Methodology for calculating electricity/gas consumption index across the whole distribution group

The electricity/gas consumption index for the distribution group as a whole is the total electricity/gas consumption index for all indoor units included in the relevant distribution group.
TOTALe is the electricity consumption index for the distribution group as a whole. **TOTALg** is the gas consumption index for the distribution group as a whole. **m** is the number of indoor units included in the relevant group.

Electricity consumption index	TOTALe = TE1 + TE2 + … + TEm
Gas consumption index	TOTALg = TG1 + TG2 + … + TGm

Methodology for calculating electricity/gas consumption distribution for indoor unit No. i

REi is the electricity consumption distribution ratio. **RGi** is the gas consumption distribution ratio.

Distribution ratio of electricity consumed	REi (%) = TEi / TOTALe ×100
Distribution ratio of gas consumed	RGi (%) = TGi / TOTALg ×100

Methodology for calculating electricity/gas consumption distribution for area j

The electricity/gas consumption distribution ratio for the area as a whole is the total of electricity/gas consumption distribution ratio for all indoor units included in the relevant area.
NEj is the electricity consumption distribution ratio in Area j. **NGi** is the gas consumption distribution ratio in Area j. **n** is the number of indoor units included in the relevant area.

Distribution ratio of electricity consumed	NEj = RE1 + RE2 + … + REn
Distribution ratio of gas consumed	NGj = RG1 + RG2 + … + RGn

Note

- For models whose only setting for fan speed is “High”, or for models whose only settings are “High” or “Low”, you cannot give weighting for each speed.
- Distribution ratios are rounded to two decimal places for display.

Appendix

Appendix

Calculating the air conditioning usage volume

You can calculate either the electricity/gas consumed by a distribution group as a whole or for individual indoor units.

Methodology for calculating electricity/gas usage across the whole distribution group

The formula for calculating the electricity usage or gas usage for a distribution group is as follows.

Quantity of electricity used	Pulse meter (electricity meter) count value x pulse unit quantity (kWh)
Quantity of gas used	Pulse meter (gas flow meter) count value x pulse unit quantity (m^3)

Methodology for calculating electricity/gas consumption usage for each indoor unit

The formula for calculating the electricity usage or gas usage for an individual indoor unit is as follows.

Quantity of electricity used	Electricity usage of the distribution group x the distribution ratio of electricity consumed by indoor units
Quantity of gas used	Gas usage of the distribution group x the distribution ratio of gas consumed by indoor units

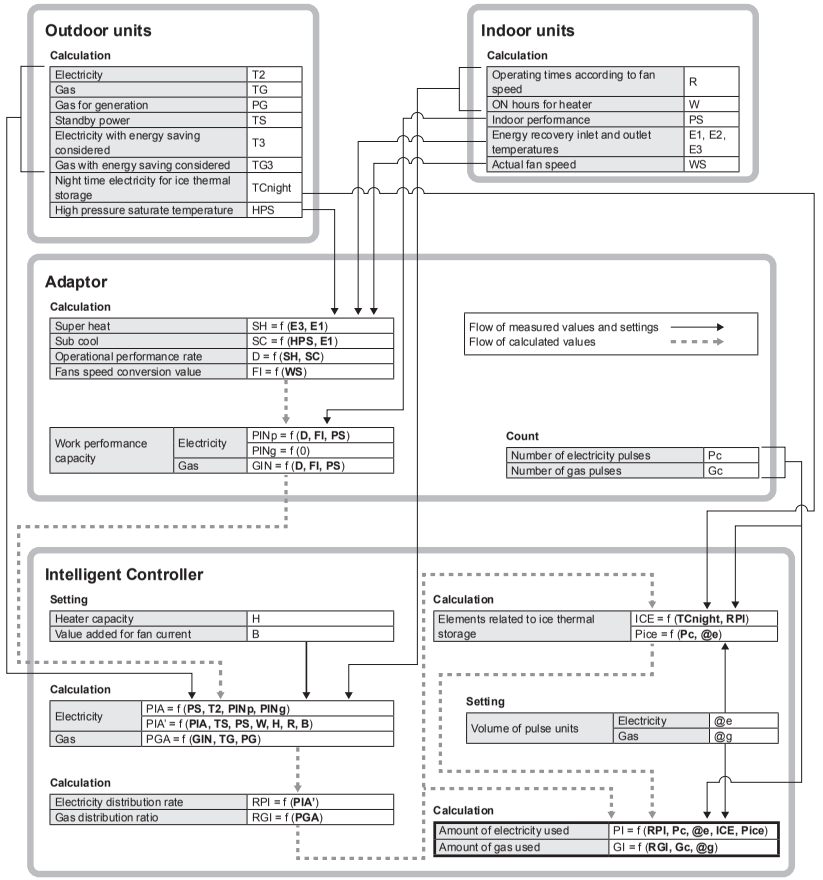
For the methodology for calculating the distribution ratio of electricity/gas consumed by indoor units, refer to “Methodology for calculating electricity/gas consumption distribution for indoor unit No. i” (P.192).

Note

- Usages are rounded to two decimal places for display.

Calculations for load distribution

Load distribution is calculated according to the following flow.



Note

- “f” indicates a function calculation.
  For example, “Operational performance rate D=f (SH, SC)” means that the operational performance rate is calculated using “Super heat SH” and “Sub cool SC”.

Things you should know

This section explains some things you need to know in order to use the unit.

Operation related

When back up data is restored
The message “InitCom...” may appear on the screen for a long time immediately after restarting (approximately 1 hour and 30 minutes at the longest).
Under no circumstances turn the unit off at this stage. You may corrupt files in the unit and render it unable to start.
If you are unable to start the unit, the data in the unit will need to be repaired, so contact the place of purchase or your servicing agent to ask them to repair the data.

Multi-unit systems for buildings and GHP
For multi-unit systems for buildings and GHP, the outdoor unit data (operation cycles, operating times, etc.) displayed is for a standard unit. The data display on this unit varies when the operating status of the standard unit changes.

The alarm log screen
Only an alarm code is displayed in the alarm log screen. Even if the alarm code is the same, the actual content of the alarm may be different with different models. Check the alarm content relevant to the alarm code in the operating instructions for each model.

Area and distribution group settings
Correct distribution calculations cannot be made if you put PAC and GHP in the same area or distribution group for time distribution. Make sure you separate PAC and GHP by area or distribution group.

Accumulation/distribution displays by time slot
This unit has functionality to accumulate and distribute by time slot, but due to delays during the transmission and reception of operational data, the counts apportioned to each time slot (in hours, out hours, particular days) may not be completely accurate.

Display refresh times
The maximum period between refreshing of filter signs and engine oil signs is 7 minutes. The maximum period between refreshing of accumulated operating time and distribution data (distribution ratios, used amounts) is 18 minutes. Electric heater ON time is refreshed every hour.

Closing down
The closing down processing starts a midnight (00:00) and lasts for a few minutes while the day’s processes are closed. No operations will be possible during this time.

Malfunctions during operation due to lightning or wireless interference
Turn the unit off and then turn it on again.
You should not turn the unit off for any other reason as a rule. The unit may not be able to manage the air conditioning units properly if you do so.

The cumulative operating times
The distribution of air conditioning and operating hours for air conditioning units is performed when this unit is on and when the unit is communicating without error with the air conditioning units. The operating times for air conditioning units cannot be accumulated if this unit is off or if there are problems with communication.
The errors in calculations for things like distribution become greater as this situation continues so care should be taken.

Operations with the touch panel
Operations with the touch panel are not possible in the following cases:
- While the system is starting up
- While checking connectivity
- While closing down
- While accessing USB memory devices (backing up, restoring)
- During an external batch stop

Settings related

Limitations on changes to settings
There may be limitations on the changes you can make to settings depending on the model of air conditioning unit.
For example:
- You cannot make changes to “Heat” when the unit is a specialised cooling machine
- With the exception of some models, floor mounted units do not allow you to change the fan speed from “High”.
- You will not be able to change the airflow direction on ceiling embedded types if they don’t have flaps

So please use this unit with consideration for the peculiarities of each of the units.
Contact the place of purchase or your servicing agent for details.

Standby power (with time distribution)
This unit calculates distribution based on the operating times of the indoor units. The electricity and gas consumed while stopped (standby power) is not distributed.
For example, if no air conditioners operate for a month, the standby power is not distributed to any distribution group. If an indoor unit operates for even a minute, however, all of the standby power is distributed to the distribution group to which the indoor unit belongs.
With load distribution the standby power is included in the distribution.

The display on the screen when making changes
When you have made changes to the settings for indoor units on this unit, you may see the display returning temporarily (especially when performing batch operations). This is just a delay caused by communication and is not indicative of a malfunction.

Air conditioning distribution ratios and air conditioning usage
The methodology adopted on this unit for calculating air conditioning distribution ratios and air conditioning usage is only a simplified one. There will be differences from the usage volumes billed by the electricity and gas providers.
Depending on operating conditions, there will be differences from the actual air conditioning volumes and the distribution ratios.
Due to the rounding of fractions when calculating distribution ratios, you will observe differences arising between the following pairs of data.
- “Distribution rates of areas within a distribution group” and “100.00%”
- “Total of the distribution rate breakdown” and “distribution rate of the entire area”
- “Total of usage in each area” and “total usage according to the pulse meter”
- “Total of usages for in hours, out of hours, and cut-off days” and “usage for the whole time”

As this unit calculates distributions (proportional allocation) through a comparison of load estimated for each indoor unit rather than measuring energy directly, please use the calculations only as a guide.

The current time and date settings
The unit’s clock is accurate to ±30 seconds per month (at a normal temperature of 25 °C), regularly adjust the time and date against a reliable source.

About distribution data
If you remove an air conditioning unit after accumulating distribution data, all accumulated values for that air conditioning unit are deleted, so it will not be possible to view distribution data that includes that air conditioning unit after it is removed.
Before removing the unit, output (save) the distribution data as a CSV file to a USB memory device.
The output method for CSV files is the same as for outputting histories. (→ “Outputting (saving) logs as a CSV file” (P.60))

Miscellaneous

Indemnity
This company shall not compensate in the following cases.
- If the password is found out by a third party and problems result
- If a USB memory device malfunctions and backed up data (accumulated data, distribution data) is lost

Where large errors can occur in calculation
Some models (semi-centralised models, floor mounted models, etc.) and old models with electric heaters for example, may show large differences in calculations of air conditioning distribution ratios. Furthermore, if you use large pan type humidifiers that use a lot of power, the operating times of the humidifiers will not be reflected in the calculation of the distributions, leading to a large difference.
Contact the place of purchase or your servicing agent for details.

Remote control-less systems
In a system without remote controllers where only one centralised device has been installed, if that device breaks down then you may be faced with the problem of not being able to run the air conditioning units. It is our recommendation to install multiple centralised devices for safety purposes.

The identification number
You should take a note of the identification number and keep it in your records. You should also take care not to reveal the number to a third party.
Contact the place of purchase or your servicing agent if you forget the number.

Screen disruptions
There may be some disruption to the screen when it is refreshing, but this is not indicative of a malfunction.

Interface adaptors (sold separately)

Interface adaptors include those used to convert transmissions and those used for on and off control.

Interface adaptors for transmission conversion
This unit is a centralised controller designed for use with electronic package air conditioners (PAC) and gas heat pump air conditioners (GHP) later than type G, but you can also connect it with older models by using interface adaptors to convert communications.
There are the following limitations you should be aware of, however.
Contact the place of purchase or your servicing agent for details.

Models you can connect	E series and F series GHP	
Alarm display	“C12” (interface adaptor batch alarm) is displayed, but no details are displayed.	
Maintenance information	The following information is not displayed for GHP outdoor units. • Engine operation hours • Oil replacement timing • Outdoor unit operating hours	
Air conditioning distributing	Indoor unit fan speed data	The cumulative operating hours by fan speed will be fixed to “Mid.”. (Even if set to “Low” or “High”, the calculation will be made for “Mid.”)
	Cumulative operating hours	When group control has been set on the remote controller, the cumulative operating times of only one of these (the parent device) shall be the object of distribution calculations. If the child devices operate with the thermostat off or stop due to warnings, these will not be recognized.
	ON hours for electric heater	The cumulative ON time for electric heaters is not displayed.
	Indoor unit performance fixed values	As these are not identified automatically, set the performance fixed capacity values (kW) in the “Edit unit settings” screen (P.143). When doing this, when group control has been set on the remote controller, you need to set the value of all child device performances added together.
	Distribution methodology	Only time distribution is supported.
Items that cannot be operated	The following operations are not possible: • Resetting the filter sign • Airflow direction settings • Test operation For old models, install remote controllers before use.	
Test operation	When testing operation with remote controllers on old model indoor units, if you perform setting operations on this unit to the old model unit, test operations are automatically cancelled.	
Demand operations	Demand operations to outdoor units are not possible.	
Remote controller prohibition	You cannot change the prohibited items in the remote controller prohibition modes (“Prbt1” to “Prbt4”). Even if you make settings in “Local R/C Prhbt settings” in the “Settngs for communictn w A/C(3)” screen (P.185), the settings will be invalid.	

Interface adaptors for on/off control

Using interface adaptors for on/off control enables you to connect devices (ventilation fans, room air conditioners, etc.) to turn on or off.
There are the following limitations you should be aware of, however.
Contact the place of purchase or your servicing agent for details.

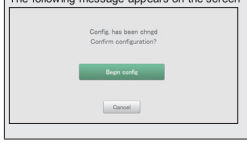
Items that can be centrally controlled	Centralised control is possible only with the following items: • ON/OFF • Remote controller prohibition (only prohibiting “ON/OFF”) You can also make timer settings, but settings other than “ON/OFF” and “remote controller prohibition” will be invalid. “Remote controller prohibition” is only for when local prohibition signal output is connected from the interface adaptor to the device.	
Alarm display	“C12” (interface adaptor batch alarm) is displayed, but no details are displayed. (However, only when the alarm signal input is connected to the interface adaptor)	
Air conditioning distributing	Indoor unit fan speed data	The cumulative operating hours by fan speed will be fixed to “Mid.”. Even when the thermostat ON signal input is connected to the interface adaptor, the cumulative operating hours will be counted as fixed to “Mid.”.
	ON hours for electric heater	The cumulative ON time for electric heaters is not displayed.
	Indoor unit performance fixed values	As these are not identified automatically, set the performance fixed capacity values (kW) in the “Edit unit settings” screen (P.143).
	Distribution methodology	Only time distribution is supported.

Note

- If a device meets the contact specifications as a interface adaptor for on/off control, you can control this unit from any device, but as this entails dangers to life, property, etc., it is strongly advised that you do not.
- After starting distribution operation, if you change the address of an indoor unit or switch the address of an indoor unit with another, for example, distribution calculations will be inaccurate, and other problems may occur so care should be taken.

Troubleshooting

Check the following before requesting repairs.
Due to the dangers involved, do not perform repairs yourself.

Symptom	Cause and measures
Scheduling isn’t working properly	• Have you set the calender and time? Scheduling cannot operate if you set the calender and time but neglect to register the schedule. • Are the current settings for the date and time correct? If the current time is not set properly, the schedule may be starting at another time.
The distribution ratio always becomes 100%	• Check the distribution group and area group settings. If you put only one area group in a single distribution group or only one indoor unit in a single area group, the distribution ratio will always be 100%, and the calculations are meaningless.
The power turns off unexpectedly	• Has the screen turn off automatically? The power is still on, so try touching the screen. • Irrespective of the set time, the screen may turn off at start up.
The display is taking a long time to update even after performing operations with the screen.	• Depending on the communication status of the connected air conditioning units, it may take some time. The screen will update if you wait a moment.
Screen of the colour liquid crystal display	• There may be some dots on the screen that do not light or stay lit constantly, but this is not indicative of a malfunction. Furthermore, it is characteristic for colour liquid crystal displays to show some discolouration due to changes in temperature, etc., but this is not indicative of a malfunction.
No operation even after touching buttons	• After long term use, there may be a shift in the positioning of the operating positions on the touch panel compared to the screen’s position. Contact the place of purchase or your servicing agent.
This unit suffers a malfunction while you have prohibited operations on local remote controllers and you are unable to change settings on air conditioning units, such as starting or stopping operation	• As a stop gap measure until service personnel can visit, turn off this unit and the communication adaptor, then turn off the indoor units and turn them back on. You will not be able to use the local remote controllers. You will be unable to operate systems that do not have remote controllers.
There is a power outage and the devices do not automatically restore themselves after the power has been restored	• This unit does not restore itself automatically after power has been restored. When a scheduled time is reached, the unit will switch to the scheduled setting.
Not even one indoor unit is loaded	• Conduct a confirmation of the configuration.
The following message appears on the screen 	• If there are changes to the system of air conditioning units, this message is displayed when you touch [Check configuration]. • If this message is displayed, contact the place of purchase or your servicing agent.

Cautions when cleaning and maintaining

Take care of the following when cleaning and maintaining the unit.

Unplug the power cord when cleaning.
The power connections of the unit include parts with very high voltage which can be extremely dangerous, so take care when cleaning. Before cleaning make sure you stop the system and unplug the power plug from the power outlet.

Use a neutral detergent
When removing dirt from the main unit and the surface of the touch panel, use a soft cloth dampened with warm water or a neutral detergent solution, then wring well before wiping.
Avoid using volatile chemicals, such as benzene or thinners, abrasive powders, or liquid pest sprays, as these can damage the unit's finish and the touch panel.

Do not let water get on the unit directly
Take care not to get water directly on the unit.
Electric insulation may worsen leading to possible malfunction and electric shock.

Do not disassemble.
Do not disassemble this unit.
This may cause malfunctions which may lead to extremely dangerous electrocution.

Checking the fixtures
You should check the fixtures for rust and corrosion a few times a year to ensure the control panel is still firmly attached.

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Specifications

Model No.		CZ-256ESMC3
Dimensions [H × W × D]		240 × 280 × (20 + 65) mm
Weight		2.7 kg
Temperature/Humidity range		0 °C to 40 °C / 20% to 80% (no condensation) Indoor use only.
Rated voltage/Rated frequency		Single phase 100-240 V ~ 50/60 Hz
Power consumption		Max. 20 W
Clock	**Precision**	± 30 seconds/month (at normal temperature 25 °C) * Adjust periodically.
	Holding time	100 days (at normal temperature 25 °C with full charge) * Approx. 8 hours are required for full charge.
Number of connectable units per link[*1]		Indoor unit - Up to 64 units[*2] Outdoor unit - Up to 30 units
PC environment for remote control	**Browsers**	Internet Explorer 11 or later or Google Chrome
	Screen resolution	1280×1024 (recommended)
USB memory devices that can be used		Standard type (USB2.0) Capacity: 4 GB or more Cautions before use • Proper operation is not guaranteed even if you use a computer that meets the above specifications. • Encryption (with security software) etc., cannot be used. • Panasonic accepts no responsibility for any loss of data.

*1: The maximum number of connectable units is shown below.
- When using only this unit: 128 indoor units and 60 outdoor units
- When connecting a Communication Adaptor: 256 indoor units and 120 outdoor units

*2: The number of indoor units includes the Interface Adaptor.

Appendix

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For Intelligent Controller

Back up PC Card (CZ-CBPCC2) **Operation Manual**

Thank you for choosing this product.
Before using the system, be sure to read this manual carefully. In particular, be sure to read the "Important Safety Instructions".
After reading this manual, store it in a convenient place.

Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".
This document contains illustrations in order to ensure the safe use of this product as well as to prevent harm to the user and damage to personal property.
The illustrations and their meanings are as described below.

⚠**Warning**	This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠**Caution**	This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

⚠Warning

- Do not use when wet. Inserting this product into the PC card slot when there is water or other such fluids on it could result in malfunction, electric shock or fire outbreak.
- Do not disassemble or modify the product. Doing so may cause electric shock or fire.

⚠Caution

- When touching the PC card during operations such as insertion or removal, first discharge any accumulated static electricity to ground (through an earthed metallic device etc.) before touching the unit.
- Do not place the product in places prone to static electricity.
- Do not shake or cause shock to the device, nor remove from the card slot while it is still reading or writing data. Doing so could cause data corruption or loss.
- Do not use or store in places prone to vibration or shock, in direct sunlight, in places with high levels of dust, humidity or drastic temperature variations, or near strong magnetic fields such as speakers etc.
- Do not place the card in trouser pockets etc.
  Doing so places pressure on the device when one is sitting down etc., and may lead to damage.

Precautions for Use

- Do not drop the card or subject it to strong shocks.
- On transferring the device from low temperature to a higher temperature, allow some time for it to reach the temperature of the new surroundings before starting use. Abrupt changes in temperature or humidity may cause internal condensation and lead to malfunctioning.
- We do not undertake data recovery operations for this product.
  Take regular backups of vital data to other media, such as MO disks, hard disk etc.
- Please be informed that we shall not be responsible for any loss arising from damage or loss of data pertaining to this product.
- Since this uses flash memory, it has a limited life.
  Data recording and reading becomes difficult over a period of time of usage. In that case, please procure a new device.
- Due to modifications, specifications for this product, design and user manual contents are subject to change without notice.

1 Product Functionalities

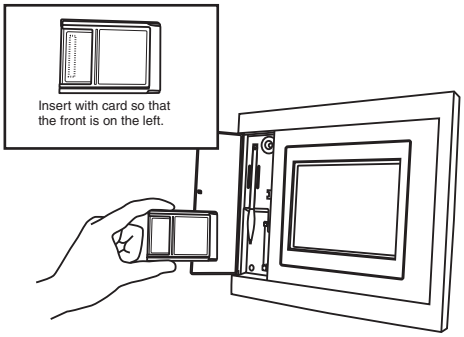
This product can be set into Intelligent Controller to save cut-off data as a backup file.
Since the backup files are output in CSV format, the user can read the PC card from a personal computer, thereby enabling one to process or print the cut-off data using commercially available spreadsheet software etc.

2 Setting the PC Card

Open the storage outlet on the front surface of the Intelligent Controller, and firmly insert the card fully into the card socket in the direction displayed in the illustration on the right.

Memo

- The card does not get set properly if it is not facing correctly or if it is inserted at an angle. Insert the PC card so that **the front of the card is on the left side**.
- When set correctly, a quick sound is emanated.

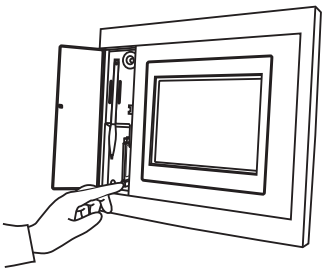


3 Removing the PC Card

To remove the card from the Intelligent Controller's PC card socket, press the Remove button as shown in the illustration on the right.

Memo

A quick sound is emanated when a set card is removed.



4 Data Backup Method

The [Backup] and [Restore] buttons of the [Cut-off/Data backup] menu (Main 2/Sub 4) become enabled when a PC card is inserted in the Intelligent Controller.
For the actual procedure, please refer to the Intelligent Controller Operation Manual.

5 CSV File Format

CSV files are output in the following file-name format:
YYYYMMDD-YYYYMMDDn.CSV

- YYYYMMDD: Accounting initiation year/month/date
- YYYYMMDD: Accounting closure year/month/date
- n: File No. In case multiple files with identical accounting period initiation/closure dates exist, numbers 1, 2, 3...9 are allotted.

4. Central Controller

Header portion

1) Distribution ratio calculation method
   Character string "Simple normal distribution mode" or "Simple thermostat ON distribution mode"
2) Period
   Accounting period initiation month/date and time, closure month/date and time
   (Format: [99Months99Days99Hrs])
3) Adaptor-wise pulse counts and distribution group number (Main unit and adaptors 1-7)
   Power 1 (Regular hours, Out of hours, and Special days), Power 2 (Regular hours, Out of hours, and Special days), Gas (Regular hours, Out of hours, and Special days), Distribution group number of Power 1, Distribution group number of Power 2, Distribution group number of gas

Data portion

As regards the indoor units data, the data in the table below is constantly output in comma-separated format for the maximum number of indoor units (256 units).
For the system that does not have indoor units, the adaptor number=0 and only a comma is generated as output.
In lines 1 and 2, an item-wise heading (Main item, Sub item in the table below) is generated as output.

No	Main item	Sub item	Range	Comments
1	Adaptor No.	-	0 to 7	0 signifies the Intelligent Controller main unit.
2	Link No.	-	1 to 2	1: LINK 1, 2: LINK 2
3	Unit key	-	(Optional)	(for internal system processing)
4	Central control address	-	1 to 64, undetermined	
5	System address	-	1 to 32	31 and 32 to be used only in case of local adaptors
6	Unit address	-	1 to 64	
7	Product type	-	PAC, GHP, HOT	HOT is set by the Intelligent Controller.
8	Model	-		Indoor unit model
9	Indoor unit function [kW]	-	0.0 to 999.9	Values if modified by the Intelligent Controller
10	Electric heater Yes/No	-	0/1	Presence of electric heater Yes (1)/No (0)
11	Unit name	-	maximum 12 characters	
12	Tenant No.	-	1 to 128	
13	Tenant name	-	maximum 20 characters	
14	Distribution group	-	1 to 8	
15	Blast thermostat ON (minutes)	Regular hours	0 to 3932159	
16		Out of hours	"	
17		Special days	"	
18	Strong blower thermostat ON (minutes)	Regular hours	"	
19		Out of hours	"	
20		Special days	"	
21	Light blower thermostat ON (minutes)	Regular hours	"	
22		Out of hours	"	
23		Special days	"	
24	Blast thermostat OFF (minutes)	Regular hours	"	
25		Out of hours	"	
26		Special days	"	
27	Strong blower thermostat OFF (minutes)	Regular hours	"	
28		Out of hours	"	
29		Special days	"	
30	Light blower thermostat OFF (minutes)	Regular hours	"	
31		Out of hours	"	
32		Special days	"	
33	Heater ON (minutes)	Regular hours	"	
34		Out of hours	"	
35		Special days	"	
36	Adaptor usage Yes/No	Main unit	0/1	Distribution group allocation Yes (1)/No (0)
37		Adaptor 1	"	"
38		Adaptor 2	"	"
39		Adaptor 3	"	"
40		Adaptor 4	"	"
41		Adaptor 5	"	"
42		Adaptor 6	"	"
43		Adaptor 7	"	"
44	Intra-group power distribution ratio [%]	Regular hours	0.00 to 100.00	
45		Out of hours	"	
46		Special days	"	
47		Total time	"	
48	Power consumption [kWh]	Regular hours	0	
49		Out of hours	"	
50		Special days	"	
51		Total time	"	
52	Intra-group gas distribution ratio [%]	Regular hours	0.00 to 100.00	
53		Out of hours	"	
54		Special days	"	
55		Total time	"	
56	Gas consumption [m3]	Regular hours	0	
57		Out of hours	"	
58		Special days	"	
59		Total time	"	

Memo

- Standard commercially available CF cards cannot be used on the Intelligent Controller. The [Backup] and [Restore] buttons of the [Cut-off/Data backup] menu (Main 2/Sub 4) do not become enabled if such a card is inserted.
- When processing with commercially available spreadsheet software, ensure that the data has first been copied to a separate folder in the computer before conducting operations. Avoid directly processing the original data inside the PC card.

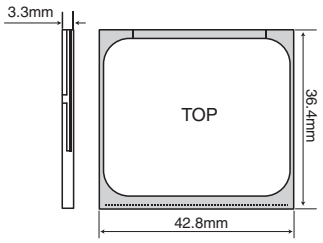
6 Specifications

- Operating temperature range

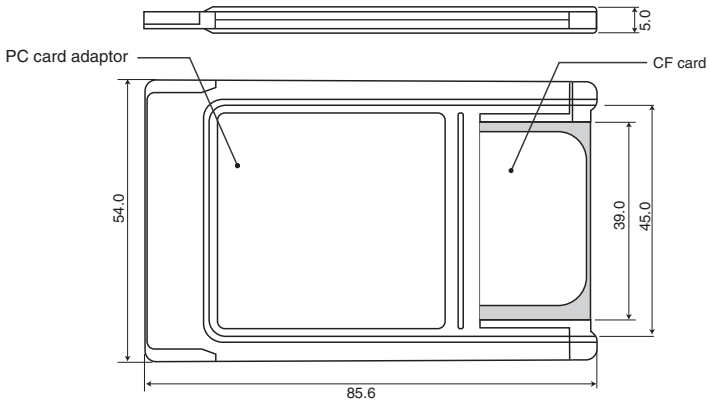
5 to 40°C

- External dimensions

CF card dimensions diagram



Dimensions diagram when CF card is mounted on the PC card adaptor



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4-5. Web Interface / CZ-CWEBC2

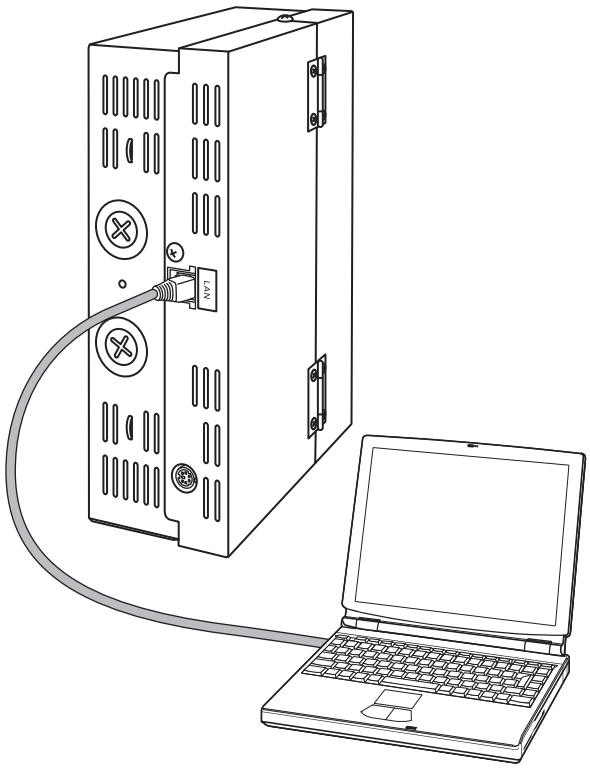
Operation Manual

Centralized Control System

CZ-CWEBC2

Web Interface

Thank you for choosing the CZ-CWEBC2 Web Interface.
Before using the system, be sure to read this manual carefully. In particular, be sure to read the “Important Safety Instructions”.
After reading this manual, store it in a convenient place.



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Centralized Control System

CZ-CWEBC2

Web Interface

Operation Manual

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[Note]
The screen display examples in this manual are for explanation use and may be different from the displays of air conditioners actually used.
The screen displays may also vary, depending on the operating system of your PC and the Web browser you use.

■ Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".

The precautions given in this manual consist of specific "⚠ Warnings" and "⚠ Cautions". They provide important safety related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures.

- The labels and their meanings are as described below.

⚠ Warning This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.

⚠ Caution This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

- Meaning of symbols

⚠ Indicates "Warning" or "Caution".

⃠ Indicates "Prohibited".

❗ Indicates an action that should always be performed.

- After reading this manual, save it in a convenient place.
  Be sure to provide this manual to any person who may use the product.

Installation Precautions

⚠ Warning	
Do not install by yourself. ❗ Installation should always be performed by your dealer or a professional service provider. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.	Use only specified air conditioners. ❗ Always use only air conditioners specified by dealer. Installation should always be performed by a professional service provider. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
Electrical work must be carried out by qualified personnel. ❗ Contact your dealer for installation. Do not attempt to install the product by yourself.	Avoid installation in the following locations: ❗ Locations subject to inflammable gas leakage

■ Important Safety Instructions

⚠ Caution	
Do not install in damp locations or locations subject to vibrations. Damage to the system can result.	Do not install under direct sunlight or in places near heat sources. Damage to the system can result.
Do not install near sources of noise. Malfunctions can result. Elevators, automatic doors, industrial machinery, etc.	Avoid static electricity during cabling work. Before starting cabling work, touch ground to discharge static electricity from the body.
Avoid installation in the following locations: • Near beaches or other places with a large amount of salt • Hot springs or other locations subject to sulfuric gas • Locations subject to water and oil (including industrial lubricants) sprays and high humidity • Locations with large changes in voltage • Near machines generating electromagnetic waves • Locations close to organic solvents	Keep televisions, radios, PCs, etc, at least 1 m away from the Centralized Control System, indoor units, and remote controllers. Picture breakup and noise can occur.
Do not use heaters near the Centralized Control System. The Centralized Control System may malfunction because the temperature becomes outside the range of the operating temperature for the system.	Use remote controllers or system controllers together. Should the Centralized Control System fail, operation of air conditioners is disabled with the Centralized Control System. Be sure to use the remote controllers or system controllers together.

■ Important Safety Instructions

Precautions for Use

⚠ Warning

Do not touch switches with wet hands.



Prohibited

Electric shock and damage to the system can result.

Protect the Web Interface from water.



Prohibited

Damage to the system can result.

Stop the system and turn the power off if you sense unusual smells or other irregularities.



Turn off the power.

Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system. Contact your dealer.

⚠ Caution

Do not drop the system or subject it to strong shocks.



Prohibited

Damage to the system can result.

Use only fuses with the correct capacity.



Prohibited

Use of pins or copper wire can result in fire and damage to the system.

Use only the specified power source.



Use of any other power source can result in fire and damage to the system. Use single-phase 100-240 V AC power.

■ Important Safety Instructions

Moving and Repair Precautions

⚠ Warning	
Do not disassemble or repair.  Prohibited Never disassemble or repair the system by yourself. Contact your dealer for repair. Electric shock or fire may result if an inexperienced person attempts to repair the system.	Contact your dealer before moving the system.  Contact your dealer Contact your dealer or a professional service provider about moving and reinstalling the system. Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

Features of the System

The Web Interface (CZ-CWEBC2) is a centralized air conditioning management system dedicated to PAC and GHP for small-sized buildings.
Operations and status monitoring of air conditioners can be performed by a customer's PC after logging into the Web Interface.

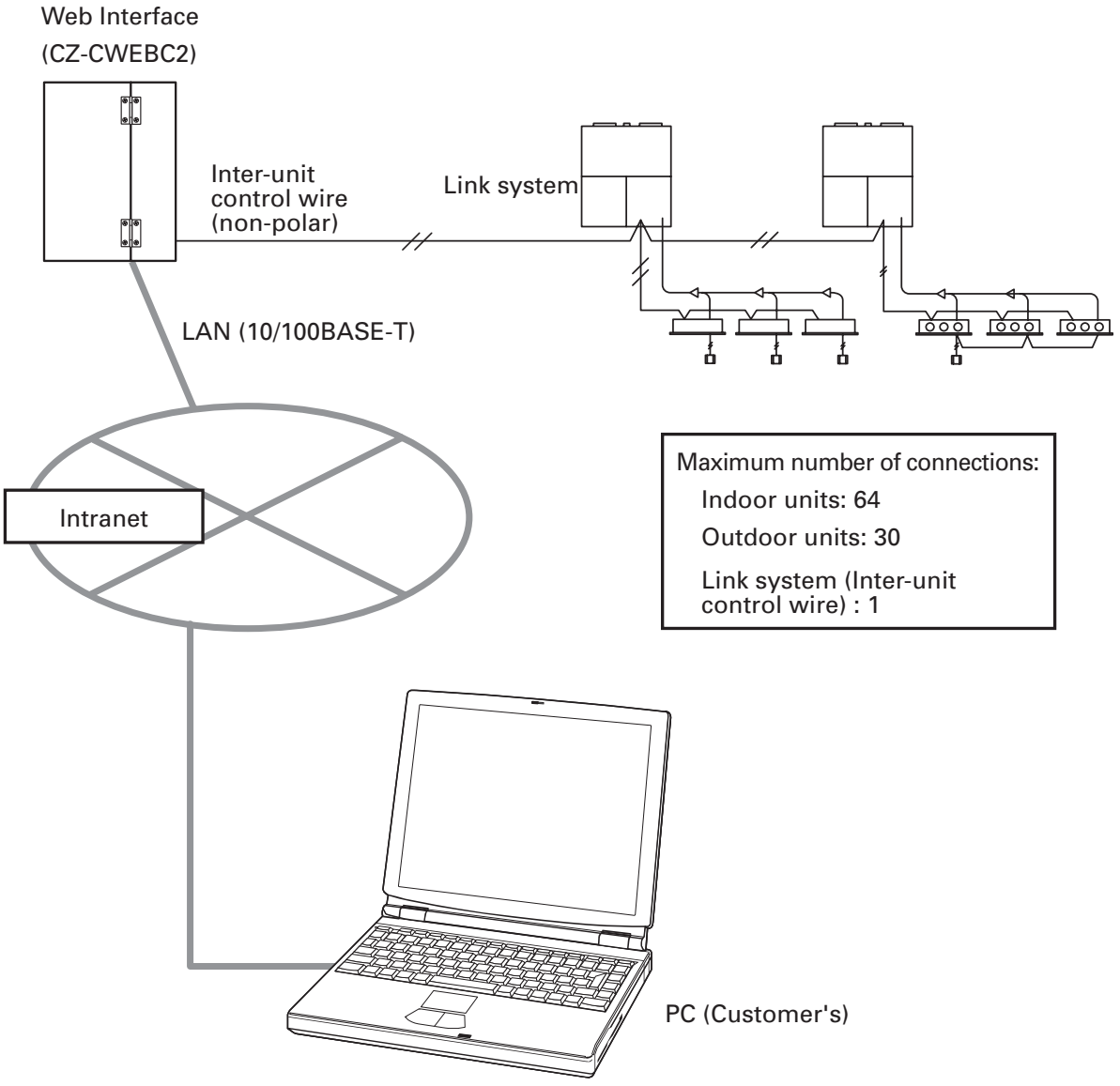
- Number of connectable units..... • Up to 64 indoor units can be connected to one Web Interface.
  • Up to 30 outdoor units can be connected.
- Display ..... • No display unit is provided with this product. Operations are performed from and indications are displayed on a customer's PC after login.
- Operation functions ..... • Start and stop, temperature settings, operation mode selection, fan speed settings, fan direction settings, prohibition of use of remote controllers, ventilation, and resetting of filter cleaning sign
- Operation monitoring ..... • Monitoring of operation status (operating/stopped, operation mode, etc.) and alarms
  • Monitoring of filter cleaning signs
  • Display of alarm logs
- Program timers ..... • Up to 50 types of weekly timers can be programmed by combining 50 types of daily timers (50 times per day).
  • Programs for a tenant holiday and five types of timer special days can be set.
- Supported languages ..... • The following languages are supported, and you can select a language when logging in by entering a language code:
  English
  French
  German
  Italian
  Portuguese
  Spanish

Terms and abbreviations used in this manual and in the system software

Full term	Abbreviation
Outdoor unit system address	Outdoor unit system, Outdoor unit, Outdoor system, Outdoor, O/D
Indoor unit address	Indoor unit, Indoor, I/D
Tenant number	Tenant No., Tenant
Unit name	Unit
Central control address	Central address, CNTR

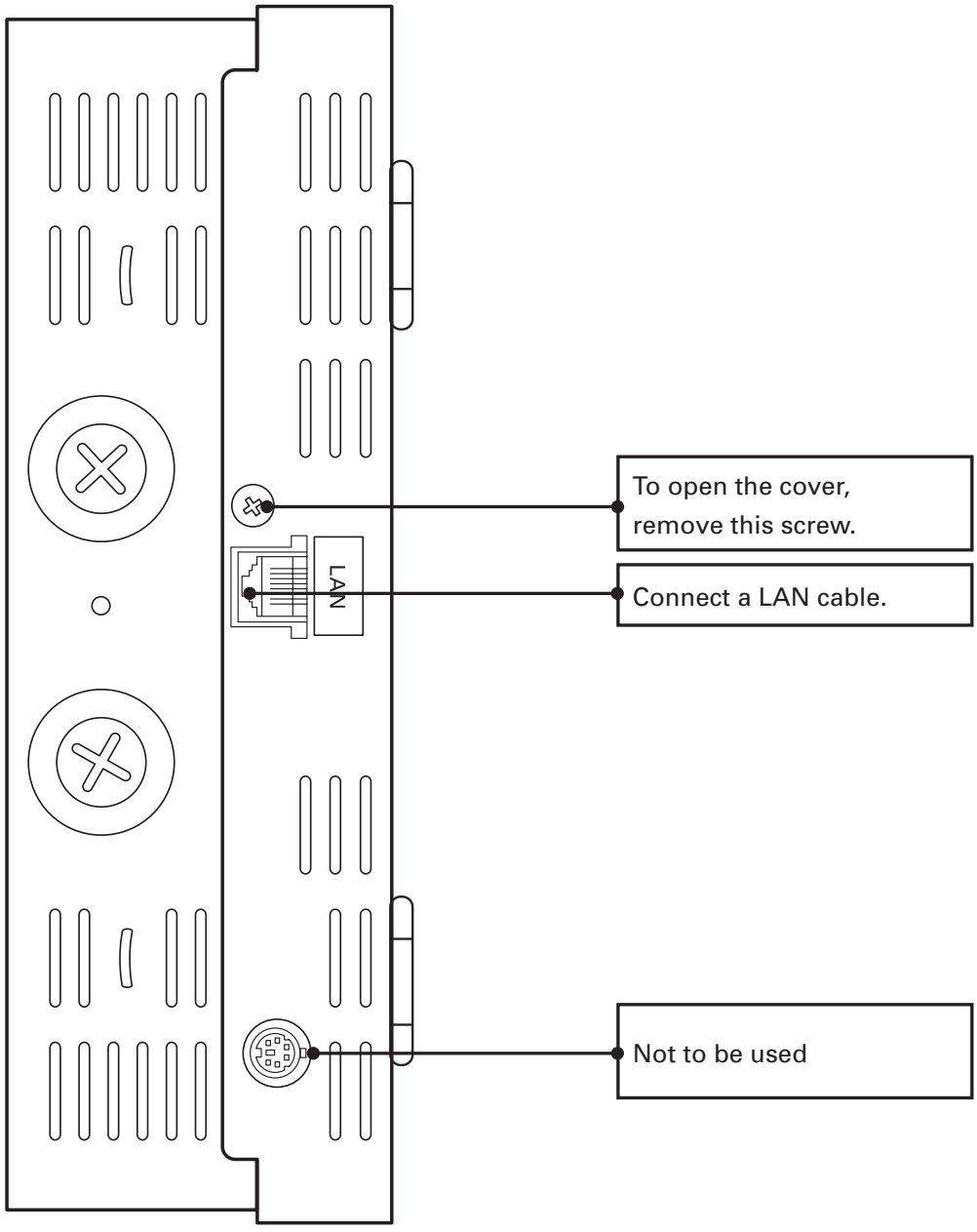
System Configuration

System Configuration Example



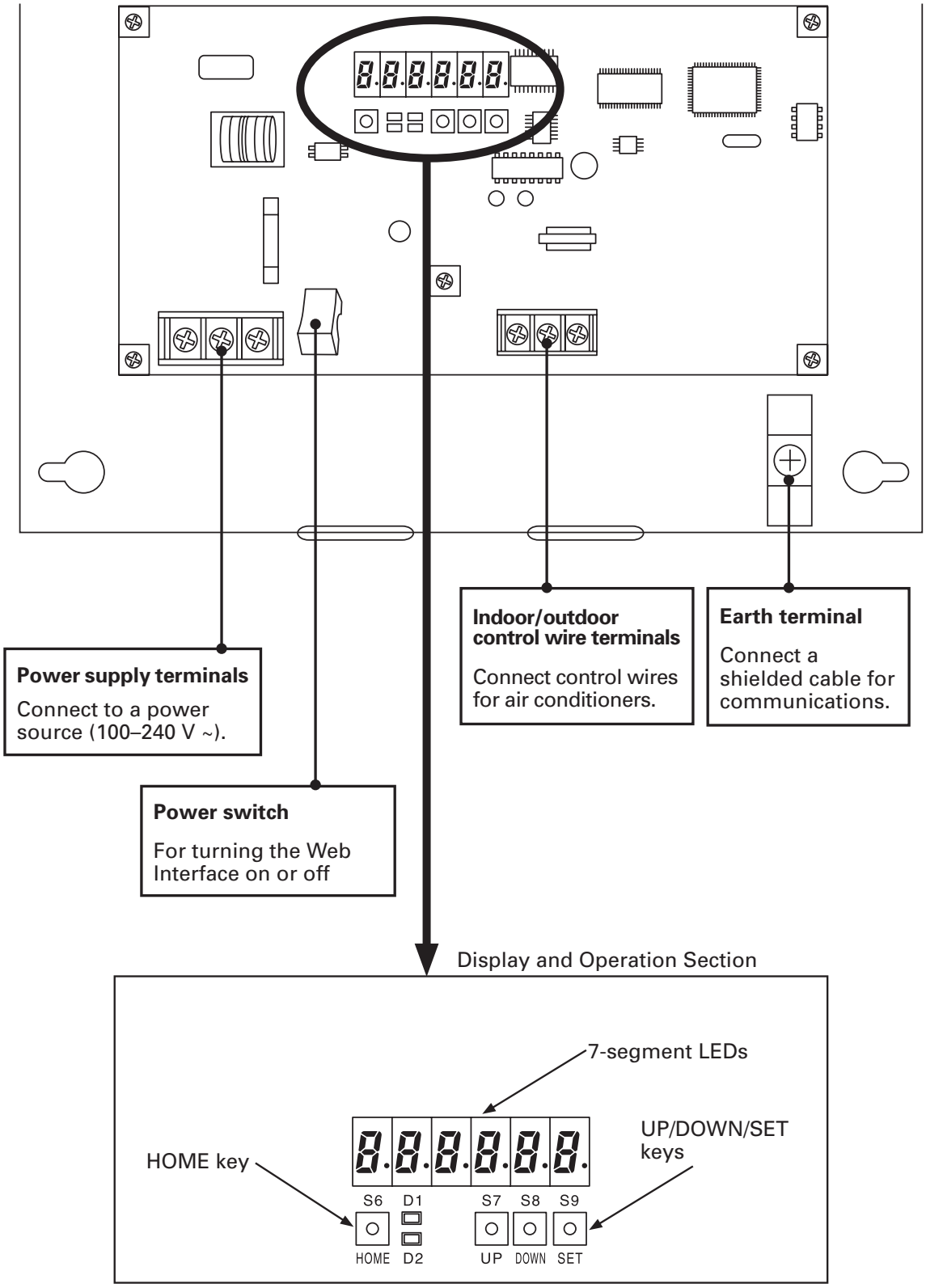
Names and Functions of Parts

• Exterior



■ Names and Functions of Parts

• Under the cover



■ Names and Functions of Parts

[Notes on Connecting a LAN cable]

- Use a LAN cable of Category 5* or higher standards.
- Take security measures, such as installing a firewall, in order to protect this system against external unauthorized access.
- For details on connections and settings, consult the network administrator of the field site.

*Category 5

The standards for telecommunications cabling systems defined by the Telecommunications Industry Association (TIA) and the Electronic Industries Alliance (EIA). Up to 100 MHz frequencies can be used for telecommunications.
Straight and cross cables can be used. Straight cables are used for connections between a PC and a hub, and the Web Interface and the hub. Cross cables are used for directly connecting the Web Interface and a PC.

■ Preparations and Login

1 Turning the Web Interface On

After checking the connection with the air conditioners and making sure that **all the air conditioners are ON**, set the Power switch of the Web Interface to ON.

2 Checking the PC

The following environment is required for a customer's PC to access the Web Interface for operations of air conditioners:
(The system may not function properly in an environment other than that mentioned below.)

(1) Browser : Microsoft Internet Explorer 6.0
(2) Java applet : Sun Microsystems Java Plugin Ver1.4.2
* Free downloading is possible from
http://www.java.com/ja/download/manual.jsp.
(3) Communications protocol : IPV4 (IPV6 not supported)
(4) Display resolutions : XGA (1024 × 768 dots) or higher recommended

3 Log-in

Enter the following in the address bar of the Web browser on the PC:

http://[① or ②]/sacwww/index_[③].asp

① IP address : IP address that has been set for the Web Interface unit
The factory default settings are "192.168.1.1" and the DHCP "Invalid".
② ID name : "Device Name" that has been set for the Web Interface unit
The ID name is required when the DHCP server is to be used.
③ Language code (Enter with one-byte characters.)

English: en	French: fr	German: de
Italian: it	Portuguese: pt	Spanish: es

[Example]
In a case where the IP address of the Web Interface is "10.31.139.212" and you are accessing English pages

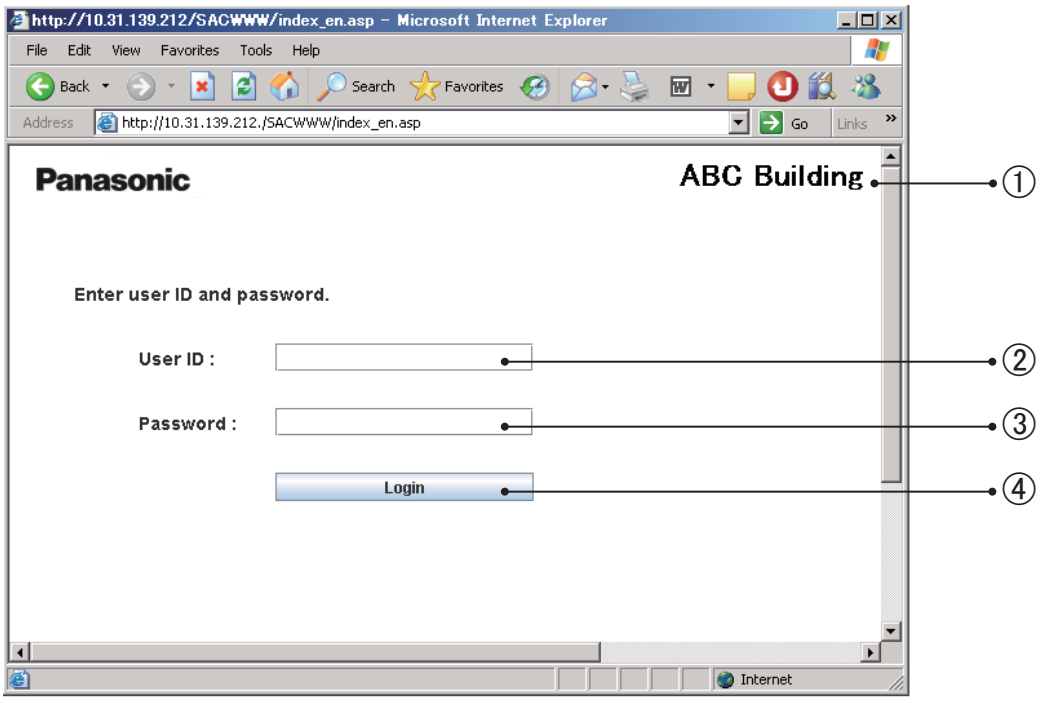
http://10.31.139.212/sacwww/index_en.asp

In a case where a DHCP server is used and the ID name (device name) of the Web Interface is "WindowsCE0"

http://WindowsCE0/sacwww/index_en.asp

■ Preparations and Login

If the network works properly, the following login screen is displayed:



Log in using the user ID and password that have been set for the Web Interface.

① The “Site name” that has been set for the Web Interface is displayed.
② Enter the “User ID” that has been set for the Web Interface.
③ Enter the “Password” that has been set for the Web Interface.
④ Click on this button to log in.

If a wrong user ID or password is entered, the following message will be displayed:





After login is executed properly, the “Each tenant” screen (next page) will be displayed.

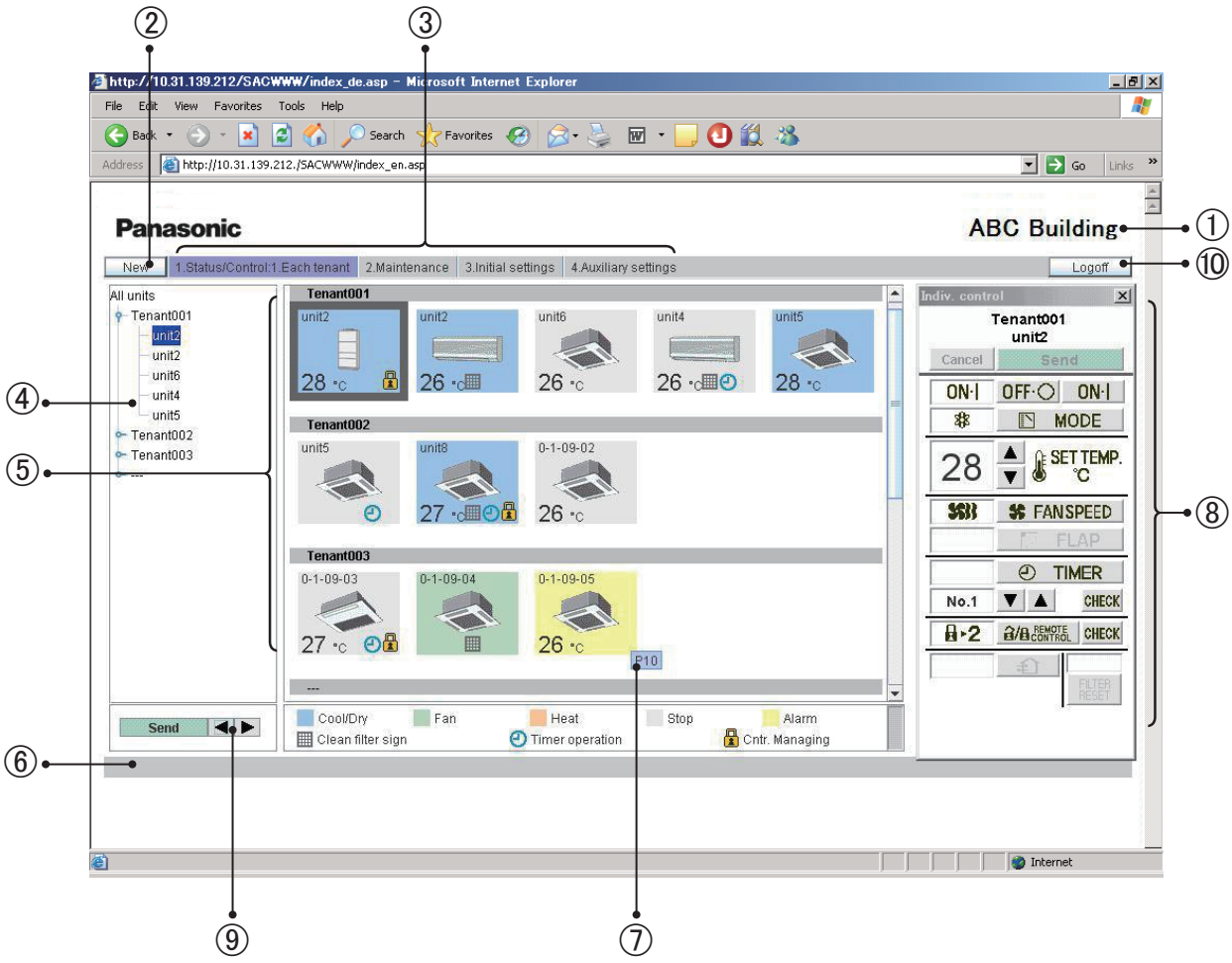
> At the factory, the Administrator user shown below is registered. After logging in using this administrator user account, change the password:*
> User ID : administrator
> Password : admin
> *For details on how to change the password, see “8.4 User Settings”.

Status/Control

Main 1 Sub 1

1 Displaying general information by tenant

When you log in the Web Interface, or when "1. Status/Control: 1. Each tenant" is selected from the menu, the screen shown below is displayed.
(The details of the displayed screen vary, depending on the type of account used for login.)



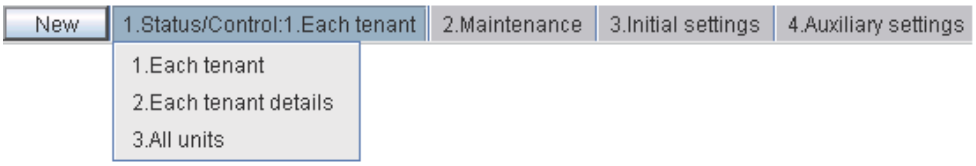
In a case of group control, only the main units will be displayed.

① Site name
The "Site name" that has been specified on the "WEB settings" screen (Main 3 Sub 3) is displayed.
② "New" button
For updating the data on the screen to the latest data. This button is displayed on every screen.

■ Status/Control

Main 1 Sub 1

③ Menu (The displayed menu varies, depending on the type of account used for login.)
Select a screen by displaying the pulldown menu, as shown below.
★ Menu for the “Admin.” (Administrator) user



★ Menu for a “Special” user



★ Menu for a “General” user



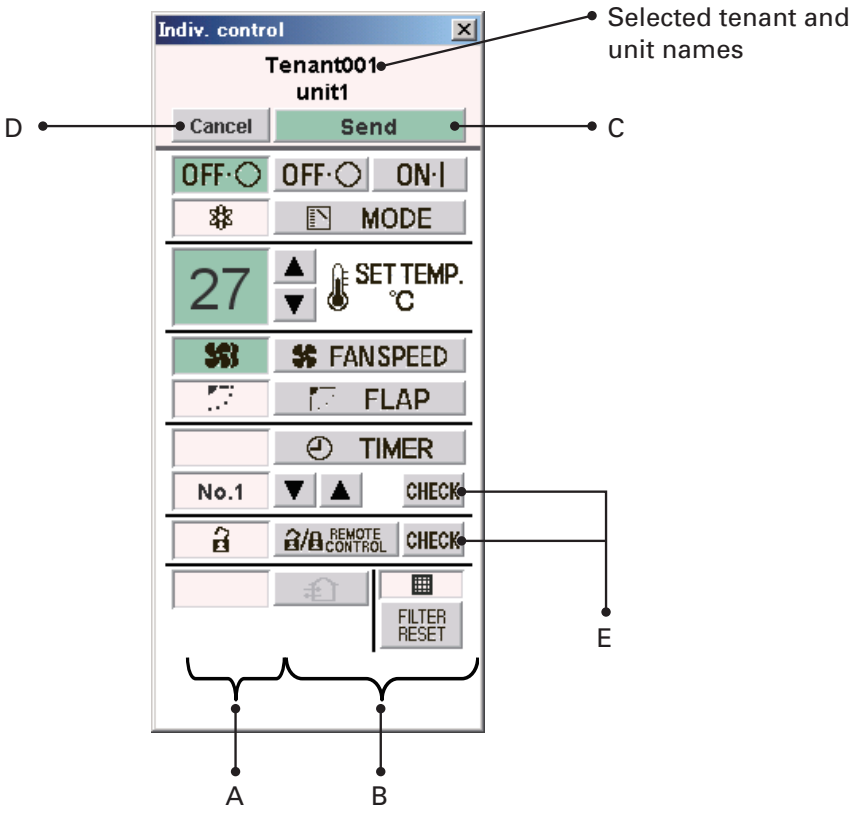
④ Tree view section
A tree view of relationships among the indoor units that are connected with the Web Interface and tenants is displayed.
Indoor units and tenants to be selected vary, according to which part of the tree you click on.
Each indoor unit is selected when an indoor unit name (highlighted part in the screen example) is clicked on.
When a tenant name is clicked on, all the units belonging to the tenant are selected.
All indoor units are selected when the top line (“All units” in the screen example) of the tree is clicked on.
According to the type of account used for login (Admin, Special, or General), only the operable tenants will be displayed.
⑤ Icon display section
The indoor units connected with the Web Interface are displayed with icons.
For details on the meanings of colors and symbols of the icons, see the legend displayed below the icon display section.
When an indoor unit icon is clicked on, that indoor unit is individually selected, and the selected indoor-unit icon is indicated with an inversed frame.
When a tenant name is clicked on, all the indoor units belonging to that tenant are selected, and all the indoor-unit icons are indicated with highlighted frames.
While any of the icons is selected, the display for the corresponding remote controller (⑧) is displayed.
⑥ Notification column
The communication status between the Web browser and the Web Interface is displayed.
For example, while a screen is being updated, “Updating” is displayed.
When settings for an indoor unit are changed, while those data are being sent, “Sending” is displayed.
⑦ Alarm code display
If you move the cursor onto the icon of the indoor unit from which an alarm has been issued, an alarm code will be displayed after about 1 second.

■ Status/Control

Main 1 Sub 1

⑧ Remote control window

If any of the indoor units is selected, the remote control window shown below will be displayed for detailed setting modifications.



A: Status/Control screen section

The status and operations of the selected air conditioner are displayed.
If a setting is changed, the background color of the changed item will turn green, and the “Send” button will be enabled.
In the above example, the background color for the items of start/stop, setting temperature, and fan speed is green.
When the “Send” button is clicked on, data for all changes are enabled and sent to the Web Interface.
To disable the changes made, click on the “Cancel” button or select another air conditioner.

B: Control section

The settings for start/stop, operation mode, setting temperature, fan speed, and swing/fan direction can be changed.

■ Status/Control

Main 1 Sub 1

C: Send button

For sending all the changes made so far to the Web Interface.
The settings of the air conditioner will not be changed until the data for the changes are sent using this button.

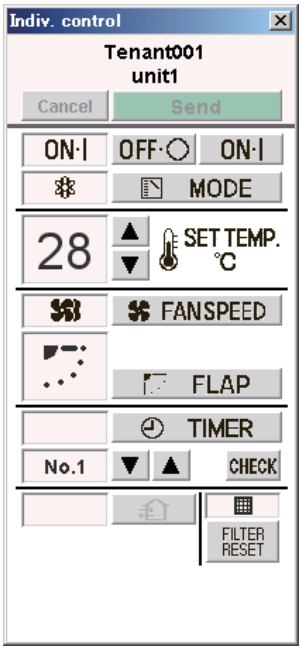
D: Cancel button

For cancelling all the changes made so far.

E: Check buttons for timer setting and remote controller prohibition setting

For displaying a check screen for the corresponding settings.
(See "Tenant holiday/Timer special day" and "Prohibiting remote control use".)
To return to the previous screen, click on the "Return" button.

*For a user who has logged in using the "General" user account, the buttons that have been set as prohibited will be disabled.
In addition, the "R/C" button and the "Check" button on its right will not be displayed.



Remote controller for a "General" user

■ Status/Control

Main 1 Sub 1

⑨ Display order change buttons

For changing the display order of indoor units

After selecting an indoor unit whose order you wish to change, click on the "◀" or "▶" button. Each time the "◀" button is clicked on, the order of the indoor unit will move one place upward in the tree or leftward in the icon display section.

Each time the "▶" button is clicked on, the order of the indoor unit will move one place downward in the tree or rightward in the icon display section.

To register the changed setting, click on the "Send" button.

The changed order will be reflected on the "Each tenant details" and "All units" screens.

⑩ "Log off" button

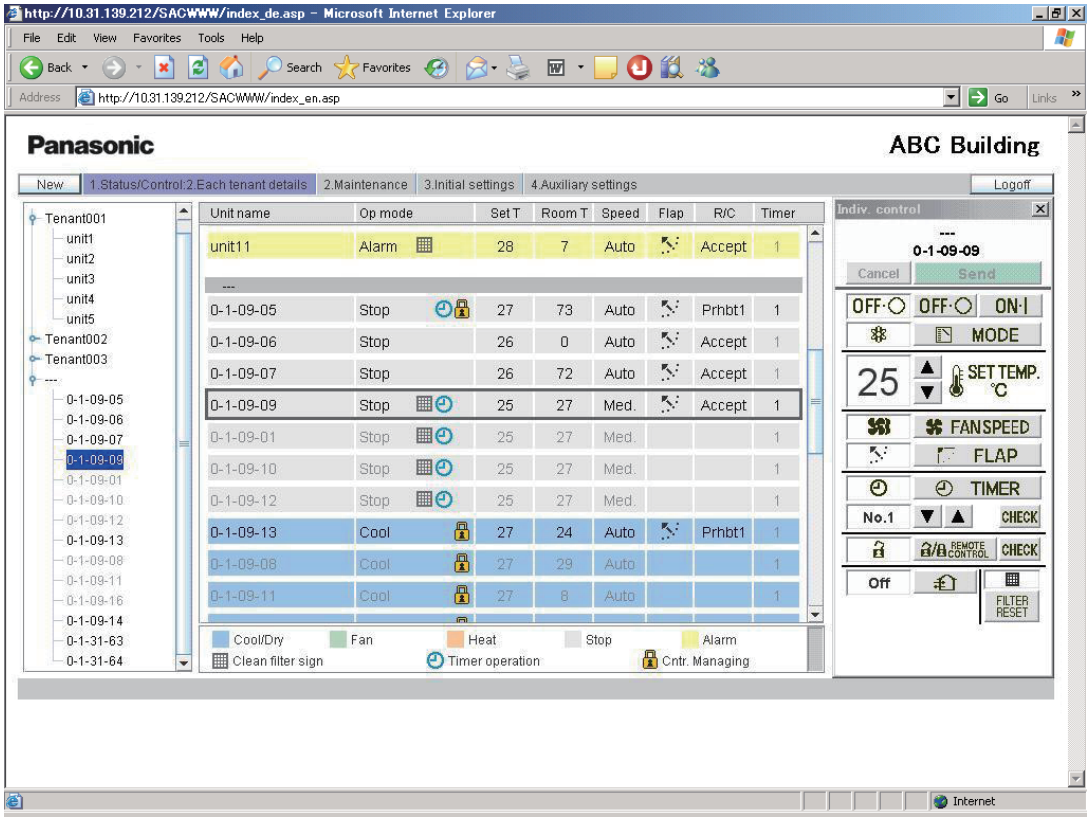
For logging off the currently logged-in user. The login screen will be displayed.

■ Status/Control

Main 1 Sub 2

2 Displaying detailed information by tenant

When “1. Status/Control: 2. Each tenant details” is selected from the menu, the screen shown below is displayed. (The details of the displayed screen vary, depending on the type of account used for login.)
When any of the indoor units is clicked on, the remote controller screen will be displayed. Operations on this screen are the same as those on the “Each tenant” screen. See the relevant heading.



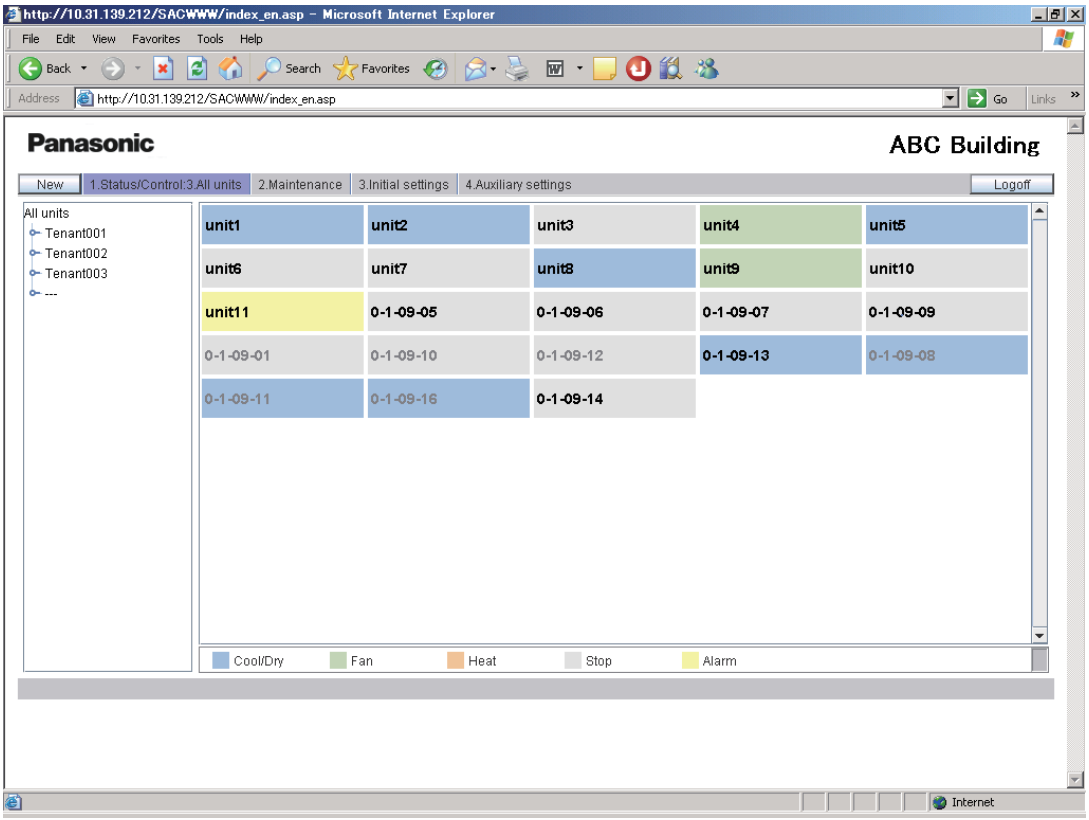
Even in a case of group control, the main units, as well as sub unit, are displayed.
The indications for sub units are grayed, and the remote controller screen will not open if you click on a grayed indication. To open the remote control screen, select the main unit.
For sub units, the cells for the flap setting and remote controller prohibition setting are blank.

■ Status/Control

Main 1 Sub 3

3 All Units

When “1. Status/Control: 3. All units” is selected from the menu, the screen shown below is displayed.
(The details of the displayed screen vary, depending on the type of account used for login.)
A maximum of 64 indoor units are displayed on a screen. In a case of group control, sub units, as well as main units, are displayed.
Operations on this screen are the same as those on the “Each tenant” screen. See the relevant heading.
When any of the indoor units is clicked on, the remote controller screen will be displayed.



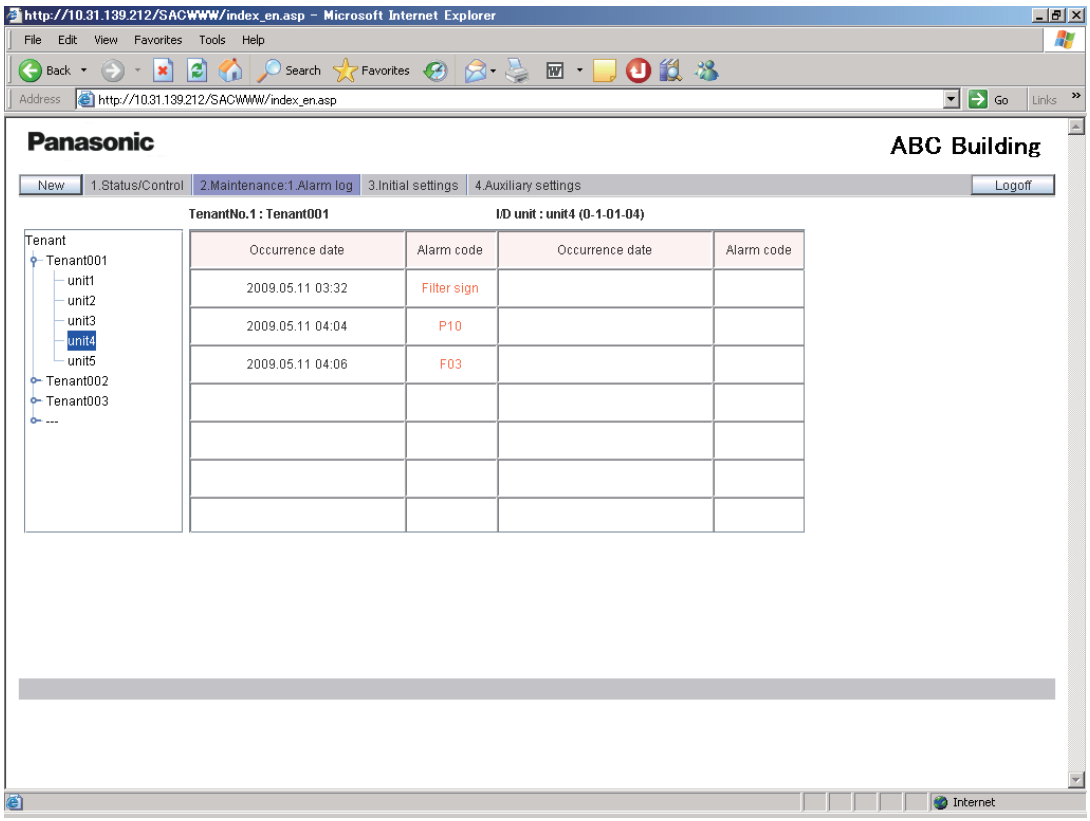
As the number of indoor units increases, the display space for one unit will be reduced. As a result, part of a unit name may become hidden.

Maintenance

Main 2 Sub 1

1 Alarm Log

If you log in using the administrator or special user account, when “2. Maintenance: 1. Alarm log” is selected from the menu, the screen shown below is displayed.
When an indoor unit is selected in the tree, the latest 14 alarm logs will be displayed.
If 15 or more alarms are issued, all but the latest 14 logs will be erased.
A log for restoration from an error will not be recorded.



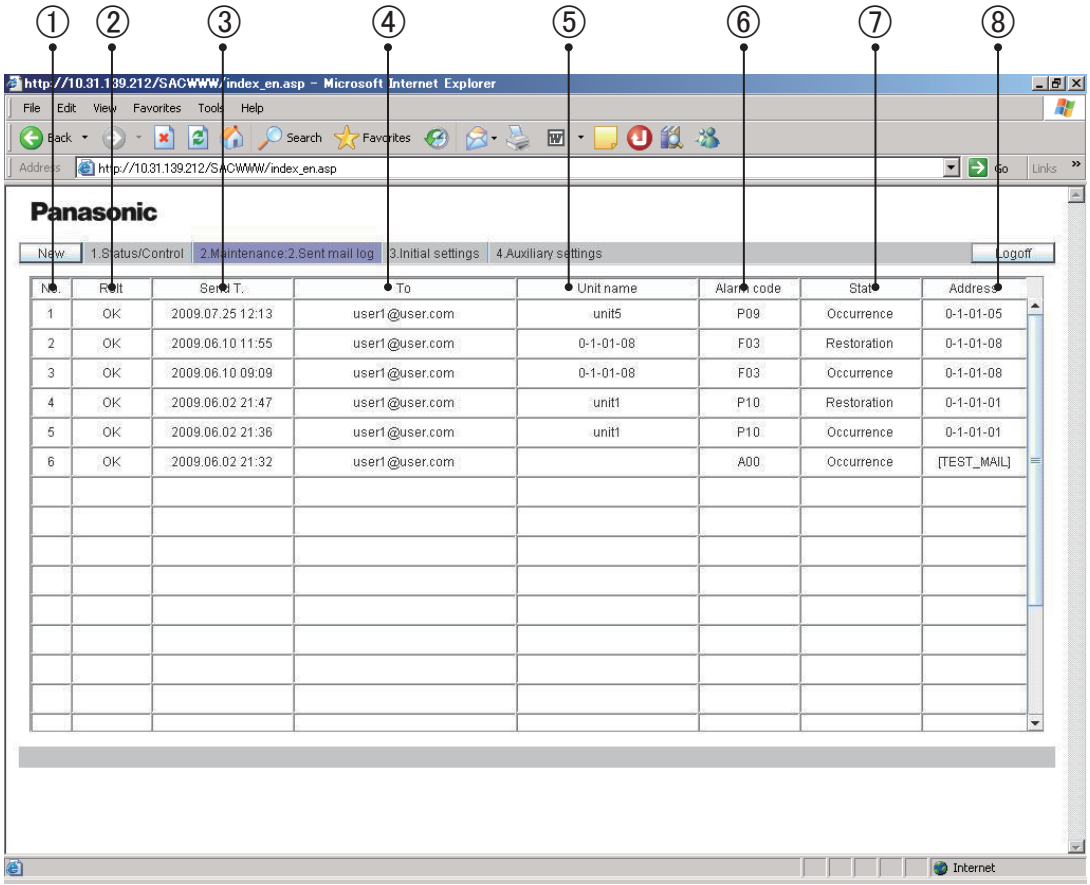
The content of an alarm is indicated with an alarm code.
For details on the meanings of alarm codes, refer to the operation manual of the air conditioners or consult your service representative.

■ Maintenance

Main 2 Sub 2

2 Sent Mail Log

If you log in using the administrator user account, when "2. Maintenance: 2. Sent mail log" is selected from the menu, the screen shown below is displayed.
The logs for pieces of e-mail that were delivered to the specified addresses when an alarm was issued from air conditioners or when the air conditioners were restored are displayed.



① No.
The entry numbers for the sent mail log. With a maximum of 20 (No. 1 to 20) possible entries, the newest entries appear at the top of the list. When the number of entries exceeds 20, entries are deleted starting with the oldest.
As up to three mail recipients can be specified, up to three log entries can be recorded for one alarm occurrence.
When normal status is restored for the alarm, up to 3 e-mail delivery logs are recorded, in the same way.
② Rslt
"OK" appears when a piece of alarm mail is sent properly, and "N/A" appears when sending fails.
③ Send T.
The date and time a piece of alarm mail was sent (or sending was attempted).
④ To
The recipient address a piece of alarm mail was sent to. If the address is too long, only part of the address may appear.
⑤ Unit name
The name of the indoor unit for which the alarm occurred.

■ Maintenance

Main 2 Sub 2

⑥ Alarm code
The code for the alarm that occurred.
⑦ Stat
"Occurrence" appears when a notification of an alarm occurrence is sent, and
"Restoration" appears when a notification of an alarm restoration is sent.
⑧ Address
The address of the indoor unit for which the alarm occurred.
The display format is "0-1- Outdoor unit system address - Indoor unit address".
When a piece of test mail is sent, "TEST_MAIL" appears.

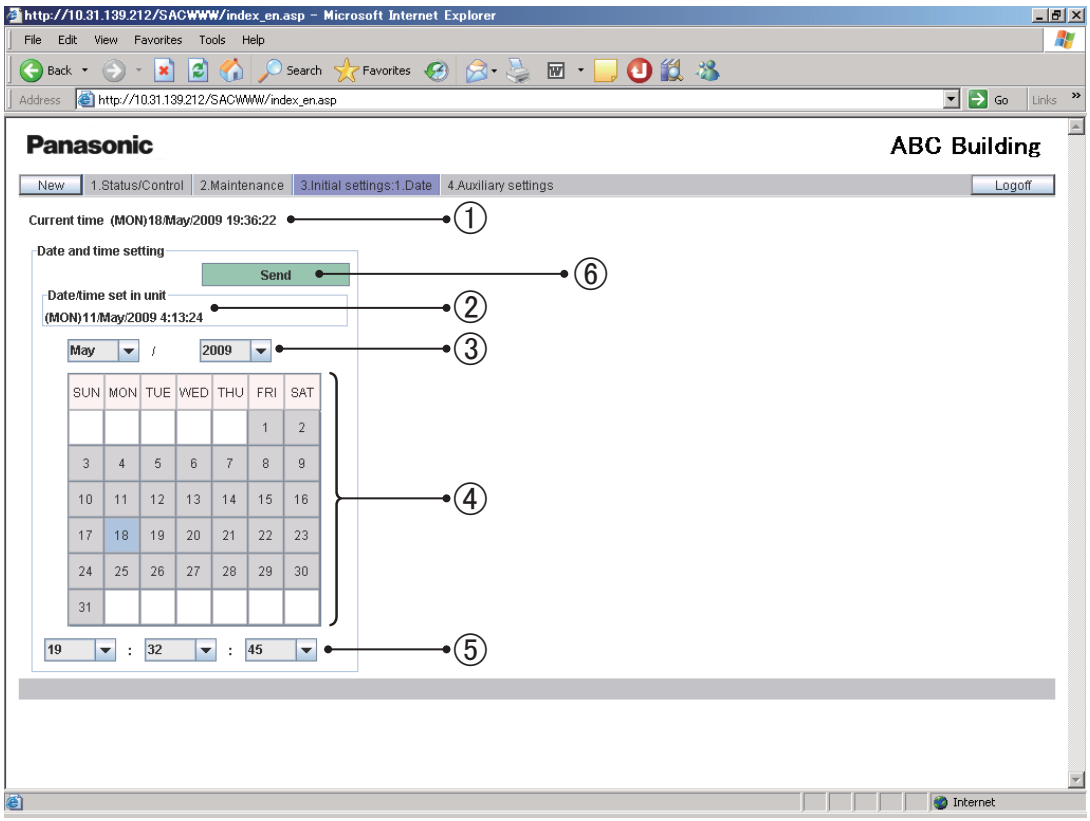
*For details on the setting of a destination address for alarm e-mail, see "WEB settings" (Main 3 Sub 3).

Initial Settings

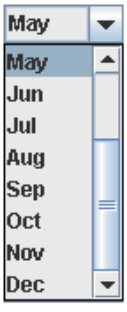
Main 3 Sub 1

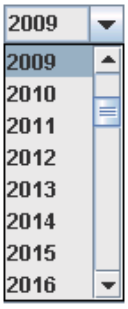
1 Date and Time Setting

If you log in using the administrator user account, when "3. Initial settings: 1. Date" is selected from the menu, the screen shown below is displayed.
Setting of the current date and time can be made.
Be sure to set the date and time before starting any operation, as this setting is required for program timer settings.



① The current date and time settings of the PC are displayed. (This indication is periodically updated.)
② The current date and time settings of the Web Interface main unit are displayed.
(Only when this screen is displayed or updated is this indication updated.)
③ To set the date, click on "▼" to open the pulldown menu shown below. Select the year (2000–2070) and month.

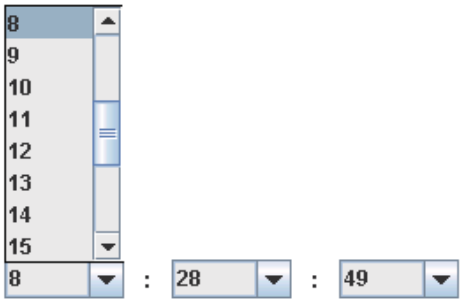




■ Initial Settings

Main 3 Sub 1

④ Directly click on the day to be set. The selected day will be highlighted in light blue.
⑤ To set the time, click on "▼" to open the pulldown menu shown below.
Select the hour, minute, and second.



⑥ When you click on "Send", the following message will be displayed. Click on "YES" with the time signal. The date and time settings of the Web Interface are updated.
The date and time of the PC will not be updated.



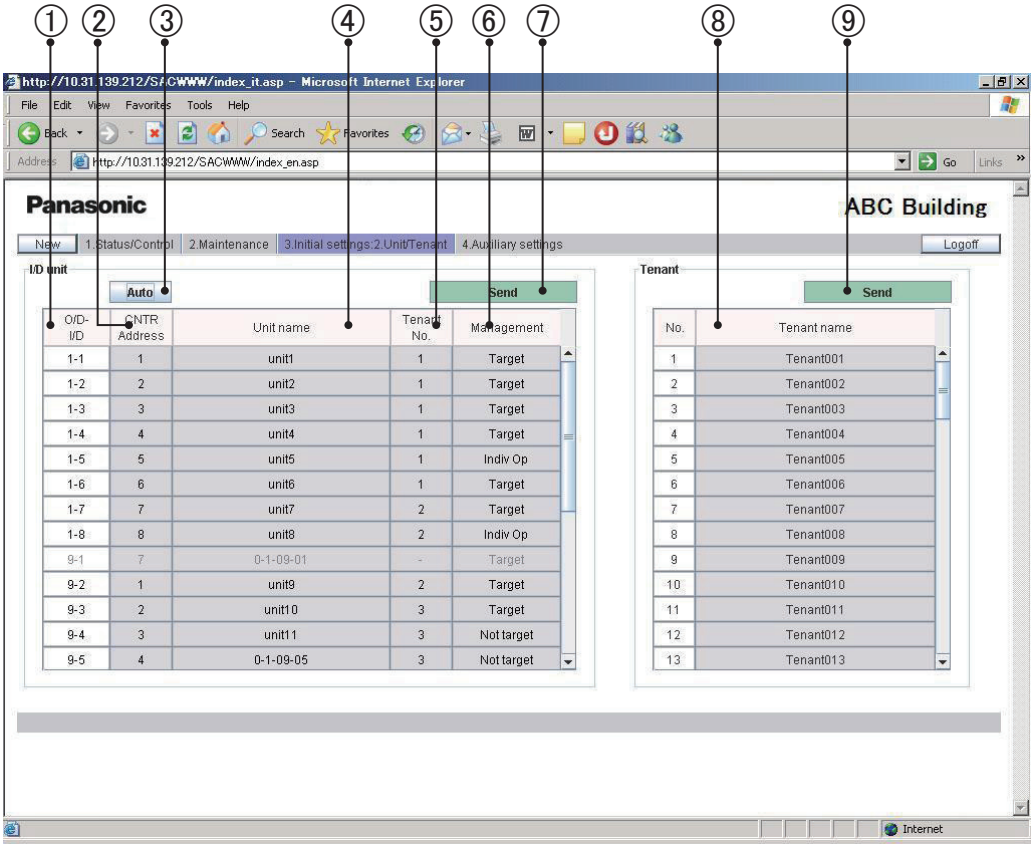
Note: In Steps ③, ④, and ⑤, the settings of the PC will be reflected when this screen is displayed or updated.

■ Initial Settings

Main 3 Sub 2

2 Unit/Tenant

If you log in using the administrator user account, when “3. Initial settings: 2. Unit/Tenant” is selected from the menu, the screen shown below is displayed.
Setting of the central control addresses, unit names, and tenants can be made.



① The address for each indoor unit is displayed. The display format is “Outdoor system address – Indoor address”.

② The current central control address for each indoor unit is displayed.
To set or change a central control address, click on the cell you wish to set/change then enter a value in the range of 1–64.
In a case of group control, a sub unit cannot be selected. The central control address of the main unit will be applied to the sub units.
If a value outside the range of 1–64 is entered, the message shown below is displayed.



③ If you click on “Auto”, the central control addresses will be automatically allocated from 1 to the indoor units in ascending order of the indoor unit address.

The same central control address must not be assigned to two or more indoor units belonging to the same link system. Any such invalid input will be cancelled.

If another piece of central control equipment (system controller, etc.) is connected, it is recommended to set the central control addresses on such equipment.

■ Initial Settings

Main 3 Sub 2

④ The name of each indoor unit is displayed.
To set or change the name of a unit, click on the cell you wish to set/change then enter a name, using up to 12 characters.
An "=" (equal sign) or "," (comma) cannot be used.
⑤ The tenant No. for each indoor unit is displayed.
A "Tenant" represents a group of several indoor units used on the "Each tenant" screen and other screens.
To set or change a tenant No., click on the cell you wish to set/change then enter a value in the range of 1–64.
In a case of group control, a sub unit cannot be selected. The same tenant No. as that for the main unit is allocated to the sub units.
If a value outside the range of 1–64 is entered, the message shown below is displayed.



⑥ The type of management for each indoor unit can be set.
To select the management type, click on "▼" to open the pulldown menu, as shown below. Select the type.

- Target : The corresponding indoor unit is a target for management. The factory default is "Target" for all the indoor units.
- Indiv Op : The indoor units that are set to "Indiv Op" will be excluded from the operations for all units. When the operations (start/stop, temperature setting, etc.) for all units or all tenants are performed by the Web browser, those commands will not be sent to the units set to "Indiv Op".
- Not target : The indoor units that are set to "Not target" will be excluded from targets of all operations, monitoring, and display. Such units will not be displayed on any screen other than this one.



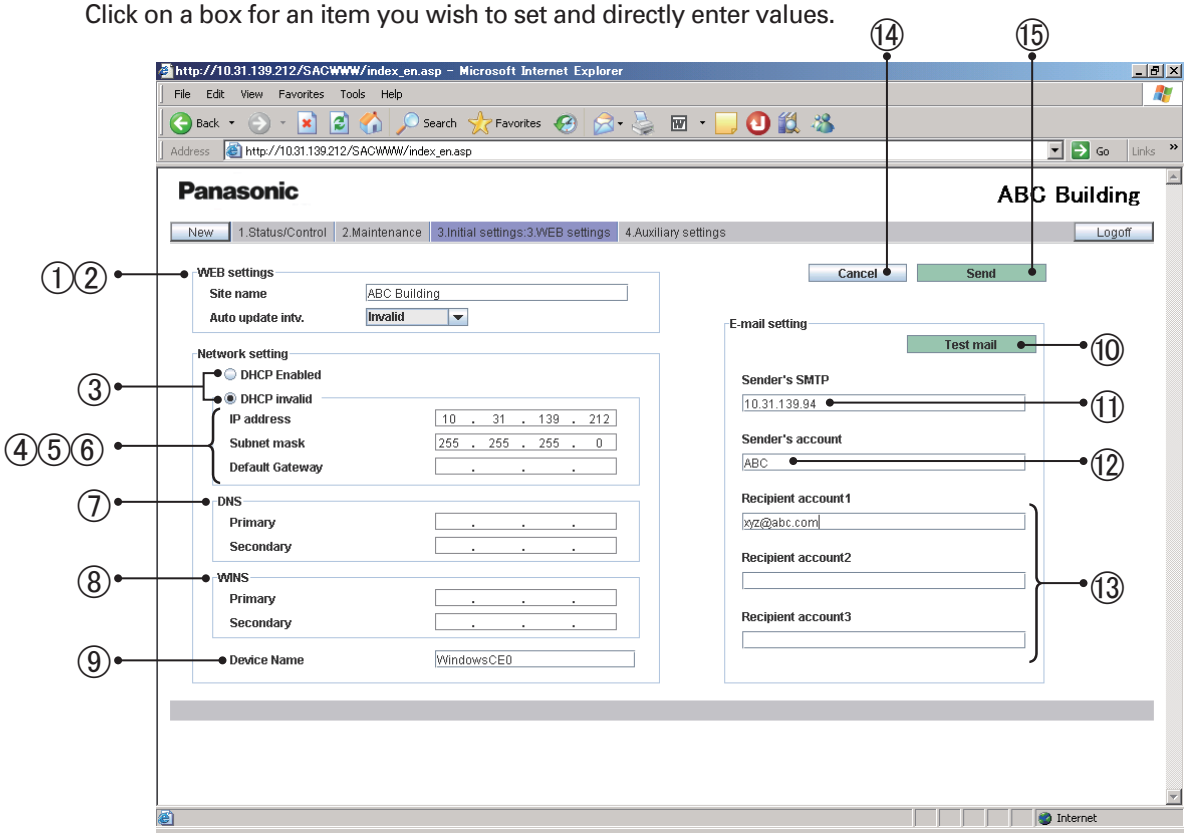
⑦ Clicking on this button will enable the settings of ②, ④, ⑤, and ⑥ above and send the data to the Web Interface. The changed data will only be enabled after being sent. The data for tenant name settings shown below will not be sent.
⑧ The tenant name for each tenant number is displayed. A maximum of 64 tenant names can be set.
To set or change the name of a unit, click on the cell you wish to set/change then enter a name, using up to 20 characters.
An "=" (equal sign) cannot be used.
⑨ Clicking on this button will enable the settings of the above tenant names and send the data to the Web Interface. The changed data will only be enabled after being sent.
The data of the settings of the above ②, ④, ⑤, and ⑥ will not be sent.

■ Initial Settings

Main 3 Sub 3

3 WEB Settings

If you log in using the administrator user account, when "3. Initial settings: 3. WEB settings" is selected from the menu, the screen shown below is displayed.
The Web-related settings, such as site name, e-mail settings, and network settings, can be made.
Click on a box for an item you wish to set and directly enter values.



[WEB settings]

① Enter a site name (within 40 characters). An "=" (equal sign) cannot be used.

② An automatic updating interval of a screen that will be displayed on the Web browser can be set. You can select from among Invalid, 10 seconds, 20 seconds, 30 seconds, 1 minute, 2 minutes, 10 minutes, 30 minutes, and 1 hour.
If "Invalid" is selected, the data on a screen will not be updated until you click on the "New" button.

* The following screens will be automatically updated:
Each tenant (Main 1 Sub 1)
Each tenant details (Main 1 Sub 2)
All units (Main 1 Sub 3)

[Network setting]

③ When a DHCP instead of a static IP is used, select the "DHCP Enabled" radio button.
If "DHCP Enabled" is selected, items ④–⑥ will be disabled.
The factory default is "DHCP invalid".

④ Enter the IP address for the Web Interface. Refer to the settings of other devices, such as the PC and router. The factory default is "192.168.1.1".

⑤ Enter the subnet mask for the Web Interface. Refer to the settings of other devices, such as the PC and router.

⑥ Enter the IP address of the default gateway that is connected with the Web Interface, as required.

■ Initial Settings

Main 3 Sub 3

⑦ Enter the IP addresses for the primary and secondary DNS servers, as required.
⑧ Enter the IP addresses for the primary and secondary WINS servers, as required.
⑨ Enter a device name (ID name) of the Web Interface.
(This device name is used for identifying the Web Interface when a DNS server is used.)
Up to 15 characters, "-" (hyphen), and "_" (underscore) can be used.
Only an alphabetic (A–Z, a–z) can be used for the first character.
Neither a "-" (hyphen) nor an "_" (underscore) can be used for the last character.

[E-mail setting] The settings for automatic delivery of e-mail notifying of an occurrence of or restoration from an error of an air conditioner:
⑩ For sending test mail
⑪ Enter the IP address (or domain name) of the mail (SMTP) server that is separately contracted.
One-byte alphanumerics, "@" (at sign), "・" (bullet), "_" (underscore), and ":" (colon) can be used.
⑫ Enter a sender's account name (within 40 characters).
An "=" (equal sign) cannot be used.
⑬ Enter a recipient account name (mail address) (within 40 characters).
A maximum of 3 accounts can be set.
⑭ For disabling input/changed data and returning to the original settings
⑮ Clicking on this button will enable the input settings and send them to the Web Interface.
The input data will only be enabled after being sent.
When the following message is displayed, click on "YES":



If any of the settings ③–⑨ is changed, the Web Interface will be restarted after the message shown below is displayed. Wait for at least 5 minutes before logging in again.

> Network settings have been changed. The unit will restart.
> Please log in again after about 5 minutes.

* For details on the settings on this screen, consult the network administrator for the environment where the Web Interface has been installed.
* The range of values that can be set for the IP addresses, subnet mask, default gateway, and the DNS and WINS blocks is 0–255.
* For the IP addresses, neither "0.0.0.0" nor "255.255.255.255" can be set.
* If an invalid value is entered, the following error message will be displayed:

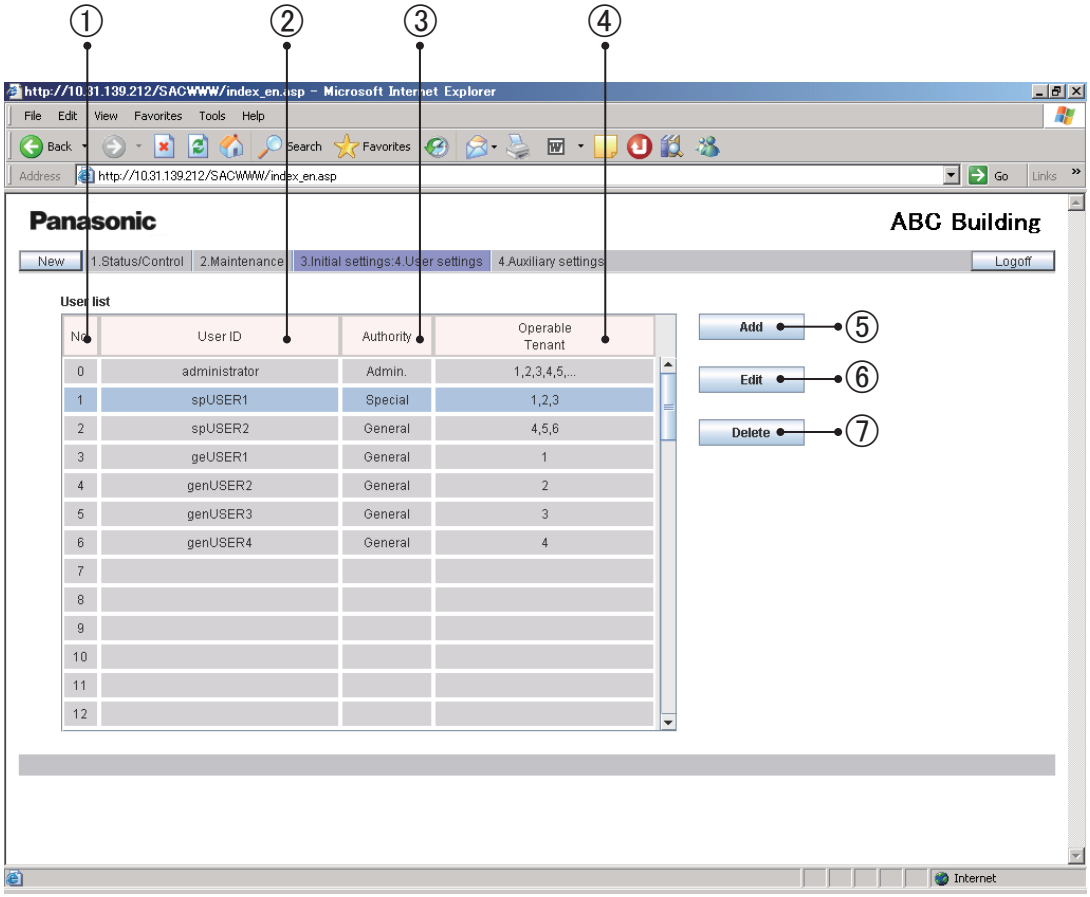


■ Initial Settings

Main 3 Sub 4

4 User Settings

If you log in using the administrator user account, when “3. Initial settings: 4. User settings” is selected from the menu, the screen shown below is displayed.
Setting of the user ID, password, and authority types that are required for logging in the Web Interface can be made.



① User No. A maximum of 64 (No. 1–64) users can be set.
At the factory, the Administrator user shown below is registered at the top (No. 0).
After logging in using this administrator user account, change the password.

User ID : administrator
Password : admin

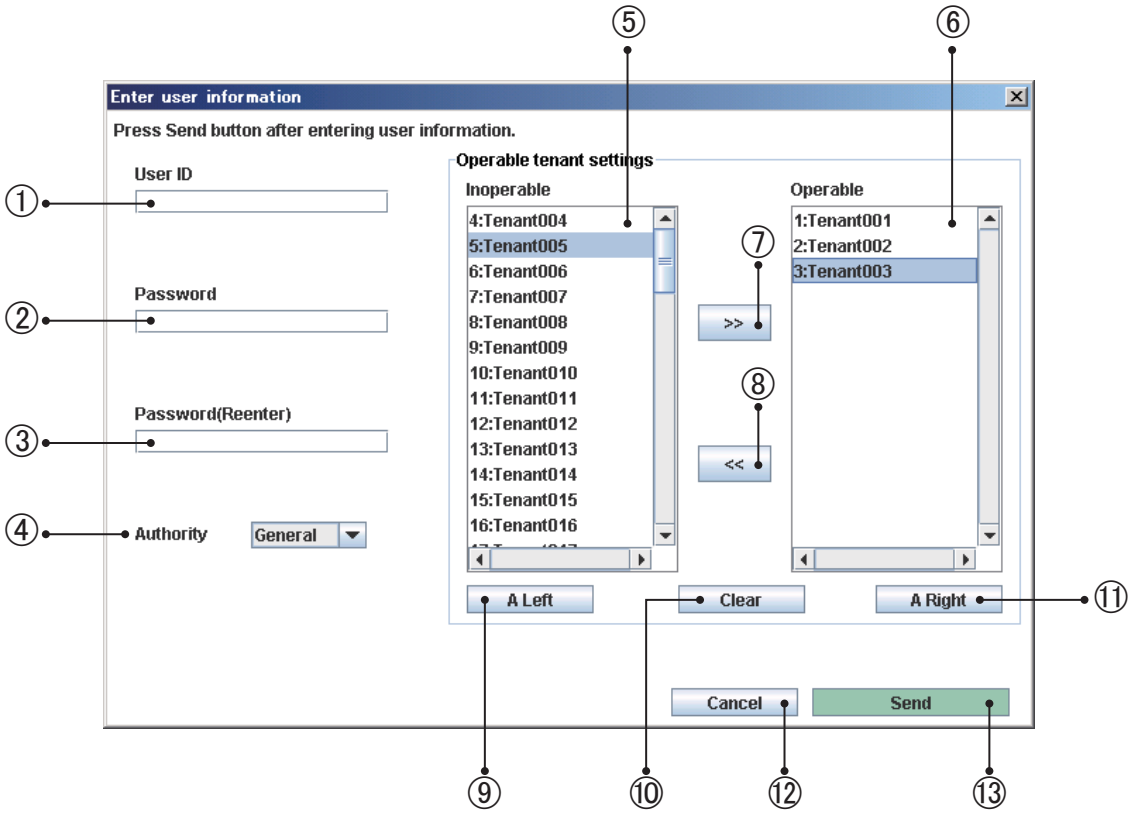
② User ID
③ The user authority types include “Admin.”, “Special” and “General”. Only one “Admin.” can be set, and the administrator user is displayed at the top (No. 0).
④ The tenant numbers of whom monitoring and operations are allowed for that user are displayed. Although a maximum of 64 tenants can be set, only 5 are displayed in the cell at a time. If there are 6 or more tenants, “...” will be affixed.
⑤ For adding a new user. If users have been already set for all of No. 1–64, this button is disabled.
⑥ For editing the already set user data
⑦ For deleting a user setting. The administrator user at the top cannot be deleted.

■ Initial Settings

Main 3 Sub 4

(1) Adding a New User

If you click on the “Add” button, the following screen will be displayed:



If a user is added, that user will be registered as the lowest user number to which no user is currently registered.
No user number to be used for registration can be skipped.

① Enter a user ID (within 20 characters).
② Enter a password (within 10 characters).
③ For reconfirmation, enter the same password as that in Step ②. (In Steps ② and ③, input characters will not be displayed on the screen.)
④ Select the type of user authority, “Special” or “General”.
⑤ A list of the tenants of whom monitoring and operations are not allowed for that user is displayed.
⑥ A list of the tenants of whom monitoring and operations are allowed for that user is displayed.

After selecting a tenant or several tenants on the list at the left or right, perform the operations described below.
Several tenants can be simultaneously selected in the following ways:

- While holding the Ctrl key pressed, click on the tenants you wish to select one by one.
- After selecting one tenant, click on another tenant while holding the Shift key pressed. All the tenants displayed between the selected tenants will be selected.

⑦ The tenant(s) selected on the left list will be moved to the right list and registered as operable target(s).
⑧ The tenant(s) selected on the right list will be moved to the left list and registered as inoperable target(s).

■ Initial Settings

Main 3 Sub 4

⑨ For selecting all the tenants on the left list
⑩ For cancelling the current selection of tenant(s) on both the left and right lists
⑪ For selecting all the tenants on the right list
⑫ For cancelling all the settings made and closing the screen
⑬ For enabling and sending the set data to the Web Interface for registering the operable tenants

(2) Editing the data of existing users

- If you click on the “Edit” button, the same screen as that shown in the previous heading will be displayed.
- The current settings displayed on the screen can be edited in the same manner as when adding a user.
- The changed settings will be enabled only after they are sent by clicking on the “Send” button.
- For the administrator user located at the top (No. 0), only the user ID and password can be changed.

The authority type is fixed at “Admin.” and cannot be changed.
The operable tenants are fixed at “All tenants” and cannot be changed.

(3) Deleting the data of existing users

After selecting a user, click on the “Delete” button. The following message will be displayed.



If you click on “YES”, that user will be deleted.
When a user is deleted, the subsequent users will be shifted upward, and their user numbers will be decreased by one.
If the same user is registered again, the user number for that user will be the final user number.
The administrator user at the top (No. 0) cannot be deleted.

(4) Error messages

If any entered data are wrong, one of the following error messages may be displayed when you click on the “Send” button.
Correct the corresponding data and send the data again.

[Invalid user ID entered.]
A wrong or no user ID (no input) was entered and sent.



■ Initial Settings

Main 3 Sub 4

[The user ID already exists.]

The input user ID has already been registered.



[Password reentry is incorrect.]

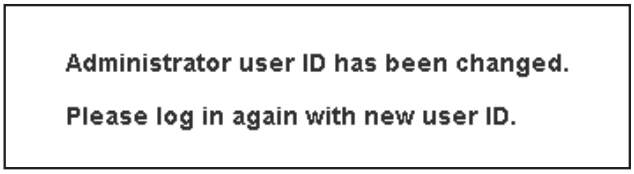
The password reentered in Step ③ is not the same as that entered in Step ②.



[Administrator user ID has been changed.]

If the administrator user ID is changed, the message shown below will be displayed.

Log in again with the new user ID.



■ Initial Settings

Main 3 Sub 4

(5) Comparison of authority for each user

○: Denotes that corresponding operations and displays are available.

× : Denotes that neither the corresponding function nor its screen display is available.

All other functions and displays that are not shown in the table below are available for all users.

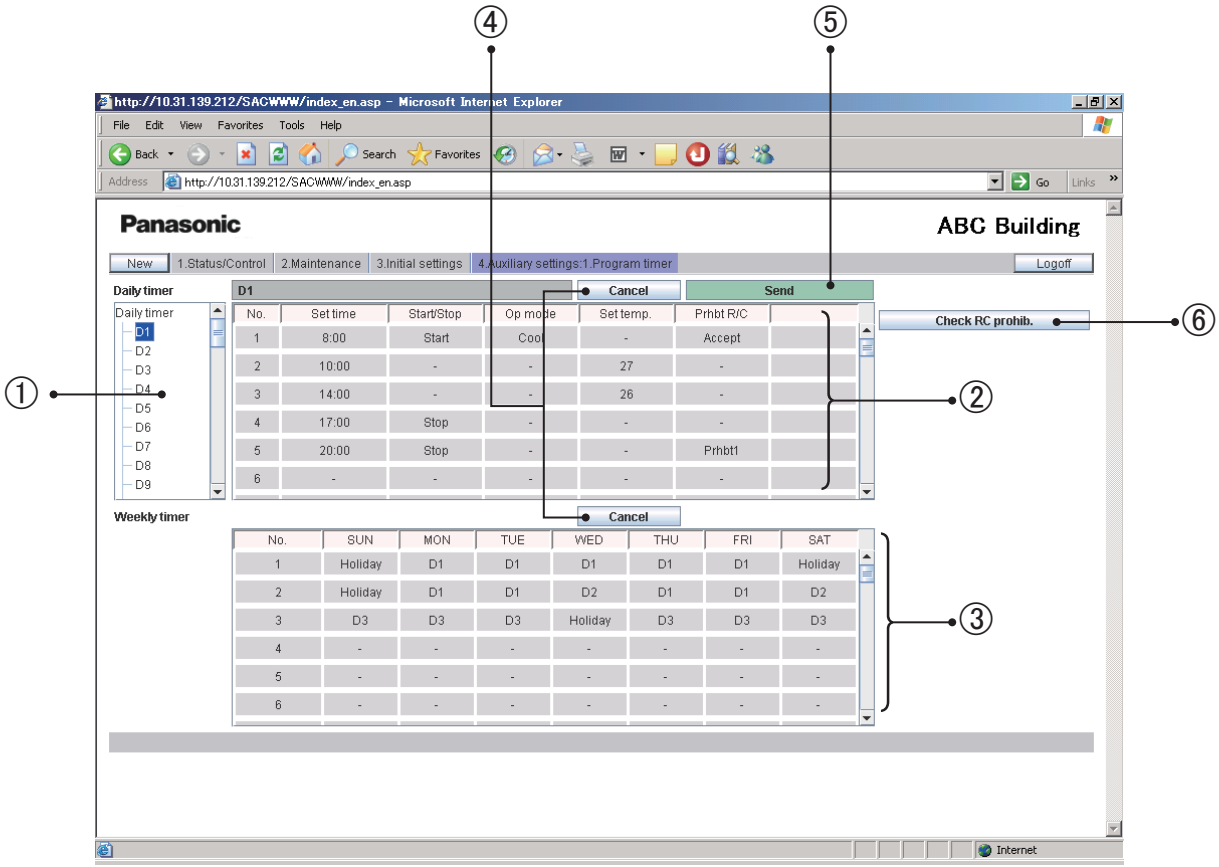
Users / Functions and displays	Admin. user	Special user	General user
Operable tenants	All	Only set tenants	Only set tenants
Prohibit R/C selection 1–4 (Remote controller screen)	○	○	×
Alarm logs	○	○	×
Sent mail log	○	×	×
Date and time setting	○	×	×
Unit and tenant setting	○	×	×
Tenant name setting	○	×	×
WEB settings	○	×	×
User settings	○	×	×
Program timers setting	○	Checking only	Checking only
Tenant holiday and timer special days setting	○	×	×
Remote controller prohibition setting	○	Checking only	×
Other settings	○	×	×

Auxiliary Settings

Main 4 Sub 1

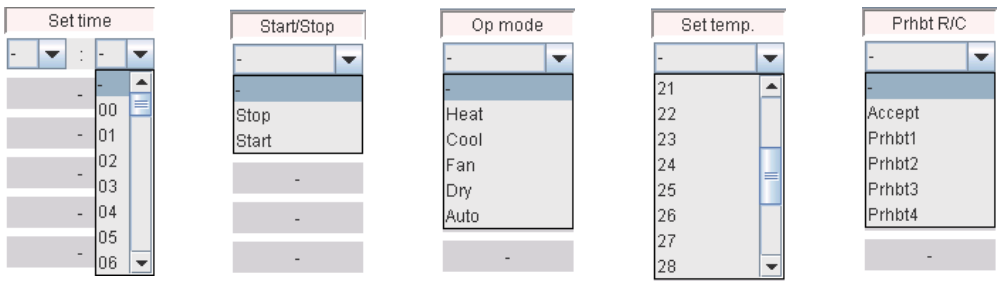
1 Program Timer

If you log in using the administrator user account, when “4. Auxiliary settings: 1.Program timer” is selected from the menu, the screen shown below is displayed.
Settings for the daily timers and weekly timers can be made. (For a special or general user, only checking of the timer settings is possible.)



① When a daily timer No. is selected in the tree, the current setting for that timer is displayed.
A maximum of 50 daily timers, one timer for a “Holiday”, and five timers for “Sp day” (special days) are provided.
The “Holiday” timer is a daily timer reserved for a holiday for the tenant.
An “Sp day” timer is a daily timer reserved for a special day for the tenant.
For details on how to use them, see “Tenant holiday/Timer special day”.

② To set operation time and operations for a daily timer, click on a setting item you wish to set to open the pulldown menu, as shown below. Select operation time or operation.



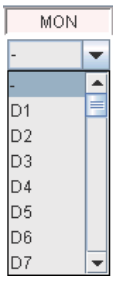
Up to 50 actions per day can be set for a daily timer.
Several actions can be set for one operation time.

■ Auxiliary Settings

Main 4 Sub 1

③ For a weekly timer, select a daily timer from the pulldown menu in the same way as with a daily timer.

Select a desired daily timer number (D1–D50, holiday, or special day 1–5) for each day of the week. A maximum of 50 weekly timers can be set.



④ For disabling input/changed data and returning to the original settings.

⑤ Clicking on this button will enable the input settings and send them to the Web Interface. The input data will only be enabled after being sent.

Setting data for each daily timer No. (D1, D2, . . .) must be sent each time the setting for the daily timer is completed. If you attempt to move to D2 setting while you are setting D1, for example, the error message “Send for each daily timer.” will be displayed, as shown below.

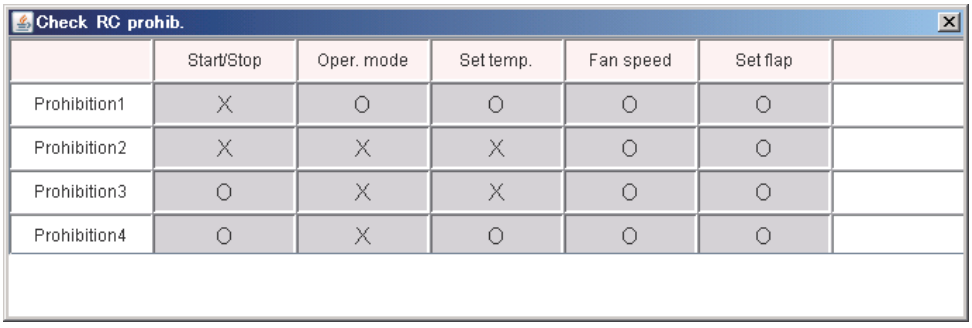


If this message is displayed, click on the “Send” button to enable the setting, or click on the “Cancel” button to disable the setting then perform the setting for another daily timer No.

⑥ The items for which operations with the remote controller are prohibited can be confirmed.

When you click on this button, the screen shown below will be displayed.

You can only confirm the prohibited items. You cannot change the setting. To change settings, see “Prohibiting remote control use”.



	Start/Stop	Oper. mode	Set temp.	Fan speed	Set flap	
Prohibition1	X	O	O	O	O	
Prohibition2	X	X	X	O	O	
Prohibition3	O	X	X	O	O	
Prohibition4	O	X	O	O	O	

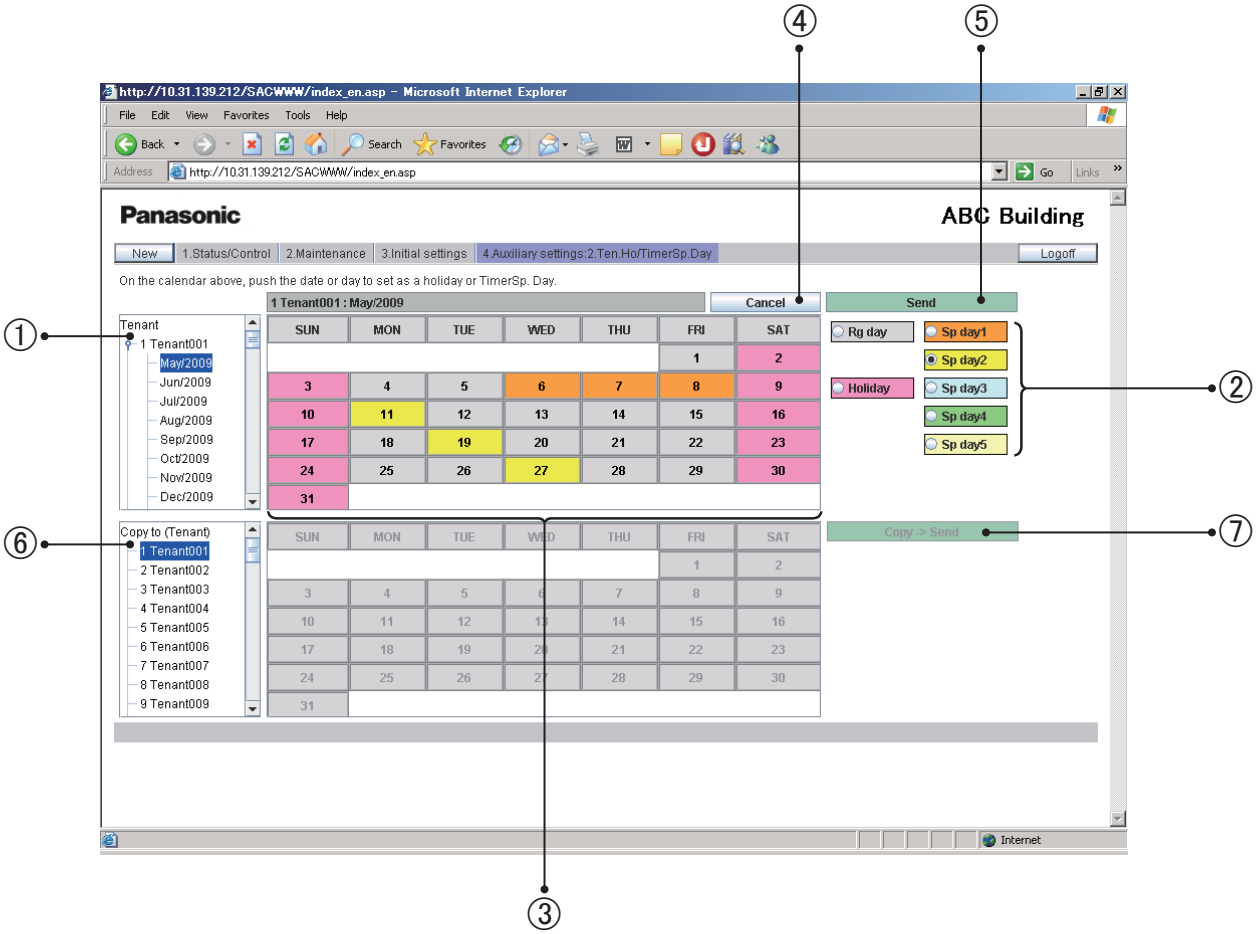
The setting temperature will be automatically set within the range of each air conditioner's upper and lower limit values during actual operation, as the upper and lower temperature limits vary depending on the indoor unit models. Setting for an item for which “Set time” is not set will be invalid.

■ Auxiliary Settings

Main 4 Sub 2

2 Tenant holiday/Timer special day

If you log in using the administrator user account, when "4. Auxiliary settings: 2.Ten.Ho/TimerSp.Day" is selected from the menu, the screen shown below is displayed.
The timer settings for the tenant holiday and special days can be made.



① When a month for your desired tenant No. is selected in the tree, the current timer settings are displayed.
Settings for the next 2 years are possible.
② Select the type of days to be set (regular days, holiday, special days 1–5).
③ Click on a day or a day of the week. That day or day of the week will be set as a holiday or timer special day that has been selected in Step ②. Programmed timer operation set on the "Ten.Ho/TimerSp.Day" screen will be executed on that day or day of the week.
If you click on an individual day, the selected timer is set for that day; if you click on a day of the week, the selected timer is set for that day of the week.
To cancel a holiday or timer special day setting, select "Rg day" in Step ② and select the day or day of the week.
④ For disabling input/changed data and returning to the original settings.
⑤ Clicking on this button will enable the input settings and send them to the Web Interface. The input data will only be enabled after being sent.

■ Auxiliary Settings

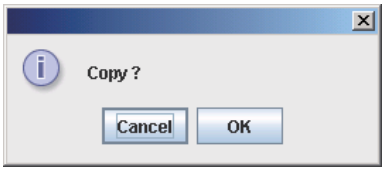
Main 4 Sub 2

The tenant holiday and timer special days settings must be performed for individual tenants.
If you attempt to move to Tenant 002 setting while you are setting Tenant 001,
for example, the error message “Send for each tenant.” will be displayed, as shown below.



If this message is displayed, click on the “Send” button to enable the setting, or click on the “Cancel” button to disable the setting then perform the setting for another tenant.

⑥ Select a tenant to whom you wish to copy data of holiday/timer special days setting.
⑦ If you click on “Copy –> Send”, the following message will be displayed:



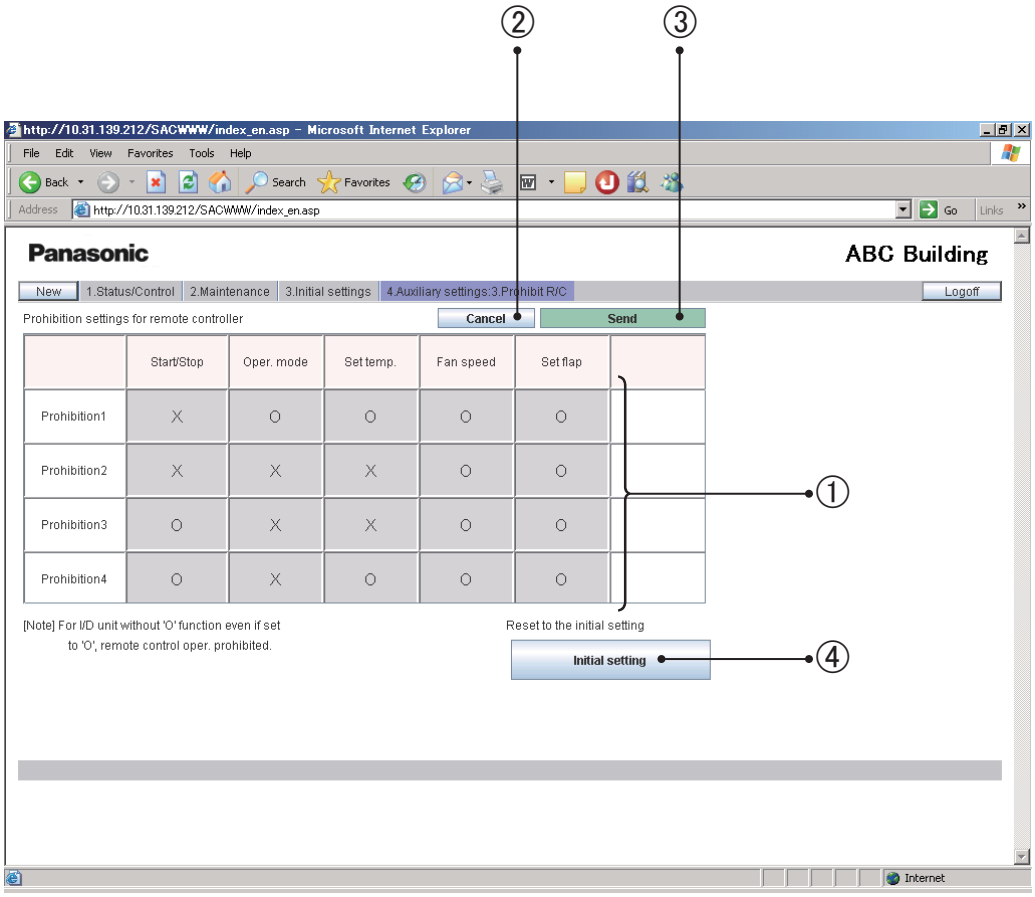
If you click on “OK”, the setting data for the next 2 years will be copied from the upper (source) tenant to the lower (destination) tenant.
If the setting for the upper (source) tenant is not valid, the “Copy –> Send” button is not available.
First click on the “Send” button to make the setting valid then click on the “Copy –> Send” button.

■ Auxiliary Settings

Main 4 Sub 3

3 Prohibiting remote control use

If you log in using the administrator user account, when "4. Auxiliary settings: 3.Prohibit R/C" is selected from the menu, the screen shown below is displayed.
Setting of the items for which operations with the remote controller for an air conditioner are prohibited can be made. (For a special user, only checking of the settings is possible.)



① Each time you click on a setting item, "○" and "×" will appear alternately.
② For disabling input/changed data and returning to the original settings.
③ Clicking on this button will enable the input settings and send them to the Web Interface. The input data will only be enabled after being sent.
④ To return the setting to the initial setting, click on "Initial setting". When the following message is displayed, click on "YES". The factory default setting (the setting as shown in the above figure) will be restored, and the data are also sent to the Web Interface.



■ Auxiliary Settings

Main 4 Sub 3

Setting all the setting items to ○ (allowed) is not possible, because this has the same meaning that remote controller operations are permitted.
The following error message will be displayed.

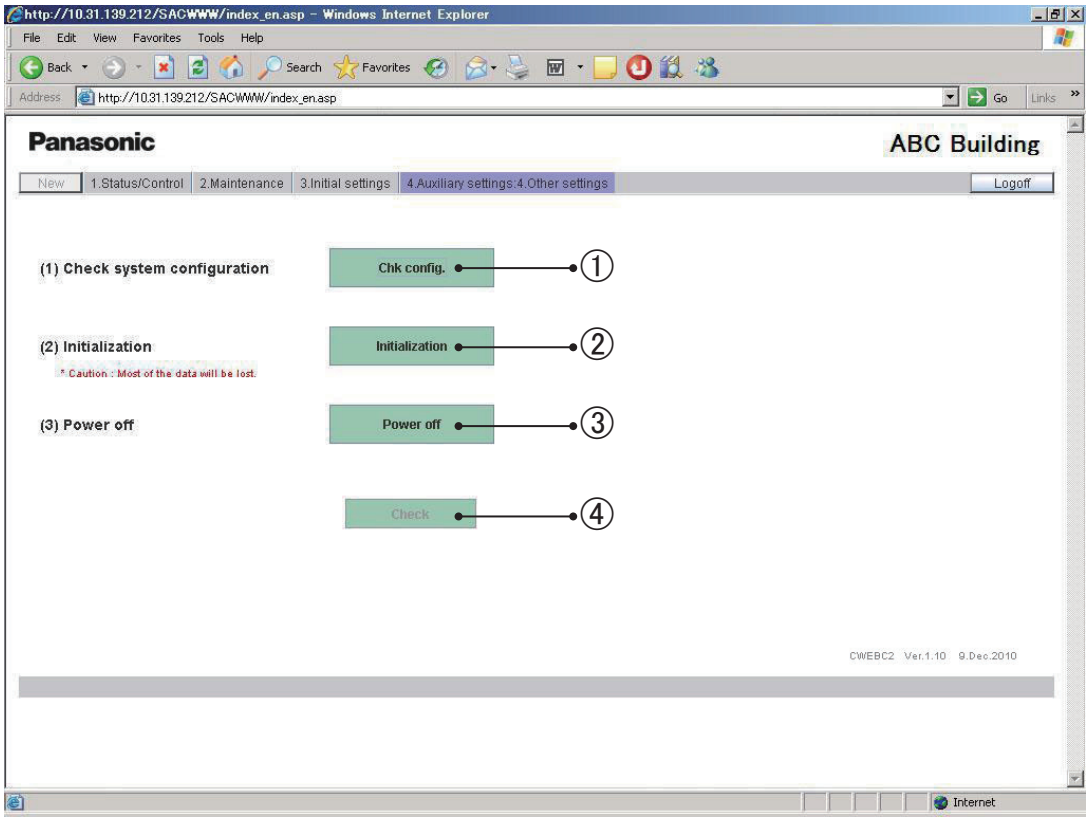


■ Auxiliary Settings

Main 4 Sub 4

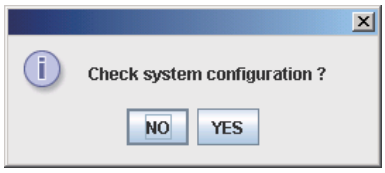
4 Other settings

If you log in using the administrator user account, when “4. Auxiliary settings: 4.Other settings” is selected from the menu, the screen shown below is displayed.



(1) Configuration check

① If you click on “Chk config.”, a system configuration check can be performed.
Perform a configuration check after addition/deletion of units or address change is performed on the air conditioner side.
When the following message is displayed, click on “YES” to perform a system configuration check.



■ Auxiliary Settings

Main 4 Sub 4

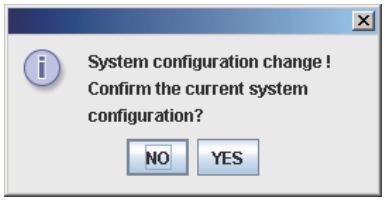
The following message will be displayed while checking the system configuration. While this message is displayed, no Web operation is possible. Wait until the check is completed.



If the checking result shows that the system configuration has not been changed, the following message will be displayed.



If the checking result shows that the system configuration has been changed, the following message will be displayed.



Note that if you leave the screen in this state for 1 hour or more, the current system configuration confirmation process will be automatically performed and registered.

If you click on “YES”, registration of the system configuration and data storage will be performed.
During this process, the following message is displayed, and no Web operation is possible. Wait until the process is completed.



After registration of the system configuration and data storage are completed, the following message will be displayed.



■ Auxiliary Settings

Main 4 Sub 4

[Notes on system configuration check]

- Never perform a system configuration check unless you have actually changed the system configuration.

System configuration changes include addition, moving, and removal of units, and address change.

- Never perform a system configuration check when a power outage occurs on the air conditioner side or when temporary communication failure is generated.

If a system configuration registration is performed in such situations, the air conditioners that should be recognized may not be recognized.

- If "System configuration change!" is displayed as a result of your accidentally performing a system configuration check, never proceed to the current system configuration registration process. First take correction measures against the causal erroneous status, then click on "NO".

If the system configuration is confirmed to be as it originally was, "No configuration change" will be displayed.

- Note that if you leave the screen with the message "System configuration change!" displayed for 1 hour or more, the current system configuration confirmation process will be automatically performed and registered.

(2) Initialization

② If you click on the "Initialization" button, the message shown below will be displayed:
If you click on "YES", system configuration data and setting data will be deleted.
All alarm logs and alarm e-mail delivery logs will be also deleted.

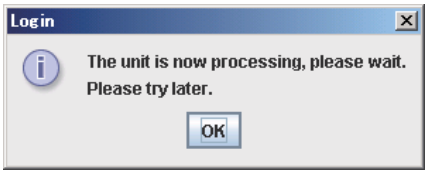


!! Do not make imprudent initialization.

The following data will not be deleted:

- Network settings ("WEB settings" screen)
  IP addresses, subnet mask, default gateway, DNS, WINS, and device name
- All user settings ("User settings" screen)

(3) If you attempt to log in using a special/general user account while the Web Interface is in the process of a system configuration check, current system configuration registration, or initialization, the message shown below will be displayed, and you cannot log in. Wait then try to log in again.



(The administrator user can log in, but Web operations will not be available. The above message will be displayed) The same message will be also displayed when an already logged in user attempts to perform any operation while the Web Interface is in the process of the above procedures.

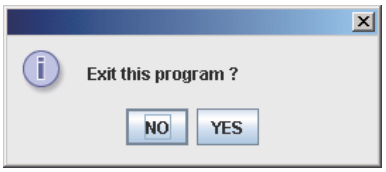
■ Auxiliary Settings

Main 4 Sub 4

(4) To close the dialog box displayed in the process of a system configuration check, current system configuration registration, or initialization, click on "×" on the upper right corner. As the process continues after the dialog box is closed, if you attempt to perform other operation, the same message will be displayed again. The message is also displayed again if you click on ④ "Check" in the screen example.

(5) Power off

③ If you click on "Power off", the message shown below will be displayed.



If you click on "YES", the system is preparing for safely shutting down the Web Interface main unit. Never turn off the Web Interface main unit while the following message is displayed:



Make sure that the following message is displayed then set the Power switch of the Web Interface to OFF.



After this message is displayed, to log in again, the Power switch of the Web Interface must be set to ON again.

(6) Check button

④ When you click on the "Check" button while this button is valid, the current process of the Web Interface will be displayed.

3

■ Supplementary Information

■ Note on powering the system down

Always use the following procedure to power the Web Interface off:

Click on Power off on the "Other settings" screen.

⇩

When "Exit this program ?" is displayed, click on OK,

⇩

Wait until a message appears to inform you that "It is now safe to turn off the unit."* then power the system down.

(*It may take several minutes until this message appears.)

■ Only an alarm code is displayed to notify of alarm content of air conditioners.

The content of an alarm can vary for different models, even if the alarm code is the same. Refer to the documentation of the various models to determine the content of the alarm.

■ If errors occurred because of lightning or electromagnetic interference

Turn the Web Interface off then back on again.

(See "Note on powering the system down" above.)

As a rule, the Web Interface should be powered down only in cases such as the above.

Correct management of air conditioners is not possible when the Web Interface is powered down.

■ Note on setting the current date and time

The current date and time should be set on a regular basis, since the system clock can gain or lose up to about two minutes per month (at 25℃).

■ You cannot perform Web operations from the PC while the Web Interface is undergoing the processes described below. Wait until that process is completed, following the instructions displayed on the screen.

- During startup (after turning the Web Interface on)
- During a system configuration check
- During initialization
- During the power-down process
- 23:30–0:05 daily

■ When only one centralized control unit is installed in a system without a remote controller, if the centralized control unit is damaged, the air conditioner(s) may become inoperable, or other troubles may occur.

To avoid this problem, we recommend that you use remote controller(s) or install multiple centralized control units.

■ About passwords

Login passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.

If you forget your login password, contact your dealer or service provider.

We will not be liable for any disadvantage caused by disclosure of login passwords to third parties.

■ Supplementary Information

■ About interface adaptors (optional)

You can use interface adaptors to connect equipment that can be turned on and off (fans, room air conditioners, and so on) to the Web Interface.

However, note that the following limitations apply.

For details, refer to the documentation of the equipment or contact your dealer or service provider.

▶ Central control is supported for the following operations only:

- Start/stop
- Remote control prohibition (start/stop only)

Timer settings are supported, but settings other than "Start/Stop" and "Prohibit R/C" are ignored.

Remote control prohibition is possible only if reception of a prohibition signal output from the local adaptor is enabled through connection to the equipment. Even in such a case, the only operations that can be prohibited are start and stop.

▶ Alarm display

Alarm details are not shown.

The "C12" code is displayed (meaning the alarm for any of the air conditioners connected with the local adaptors).

However, this is possible only when connection with a local adaptor enables transmission of the alarm signal.

▶ As long as it conforms to the contact specifications of the on/off local adaptors, any type of equipment can be connected to the Web Interface. However, you should avoid connecting equipment whose operations can have grave consequences for life or property.

■ Supplementary Information

★ IMPORTANT ★

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Other products names are trademarks or registered trademarks of their respective holders, or copyrights of their respective holders.

- Duplication of all or part of the software and documentation of this product without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.

- We shall not be liable for any loss, lost profits, or any incidental damages due to use of this product or the supplied software. We shall not be liable to any claim based on a third-party claim.

We shall not be liable for any disadvantage caused by malfunction of the equipment or software.

- The software supplied with this product may not be used on any other equipment.

- This product and the supplied software are subject to change without notice.

The contents of this manual are subject to change without notice.

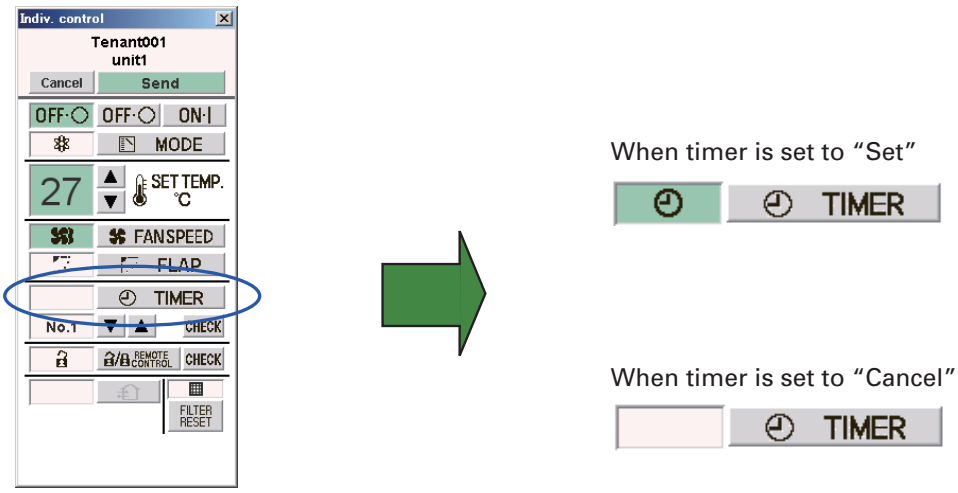
- We shall not be liable for any violation of the patent rights of any third party stemming from use of information in this manual, or for violation of other rights.

■ Troubleshooting

Before requesting service, check the following items.
Do not attempt to service the Web Interface by yourself. Doing so can be dangerous.

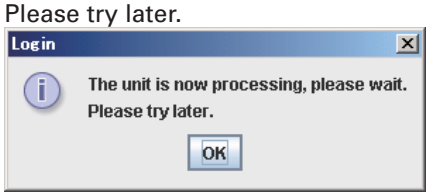
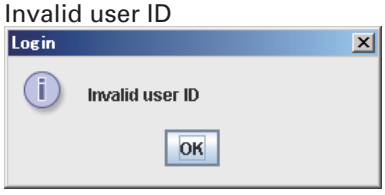
Symptom	Cause
The Web Interface cannot detect a single indoor unit. Or it can find not all of them.	• Click on the “Chk config.” button in the “Other settings” screen.
“Page not found” or “Page not displayed” is displayed and you cannot log in. “Communication error” is displayed during Web operation.	Is the Web Interface On? Is the LAN cable connected?
Timer operation does not work.	• Is timer operation set to “Set”? If timer operation is set to “Cancel”, timer operation will not work even if a timer is selected. (*) • Are the current date and time correctly set? If the current date and time are not correctly set, operation can start at an unexpected time. (See “Date and time setting” screen.)
A screen display is not automatically updated.	The factory default for “Auto update intv.” is “Invalid”. (Check the “WEB settings” screen.)
When local remote control operation is prohibited on the Web Interface, start/ stop operation of air conditioners is disabled because of failure in the Web Interface.	• Emergency operations until our service person arrives: Power down the Web Interface and power the indoor units down then back up again. Operation with the local remote controllers will become possible. This cannot be done in a remote control-free system.
After the recovery from a power outage, the equipment did not come on automatically according to program timer settings.	• The Web Interface does not power up equipment automatically by program timer after a power outage. The setting for the next programmed time will be executed when the time arrives.

(*) When timer operation is set to “Set” or “Cancel”, the timer operation indication on the remote controller screen will be as shown below. Each time you click on “TIMER”, the setting will change from “Set” to “Cancel” or vice versa.



■ Troubleshooting

- When the Internet is used for connection of the Web Interface to the PC, take security measures, such as installing an optional firewall.
- The warning messages to be displayed during Web operations, their causes, and corrective measures are shown in the table below.

Warning message	Meaning and cause	Corrective measures
The unit is now processing, please wait. Please try later. 	The Web Interface is in the process of setting. The access from the Web is busy.	While the Web Interface is undergoing the following processes, Web operations are not possible: • During startup (after turning the Web Interface on) • During system configuration check • During initialization • During power-off process • 23:30-0:05 daily Wait until the process is completed then try again.
Communication error 	The Web Interface is not activated. (power-down, etc.) Failure in the LAN cable or LAN	Try again. Check that the Web Interface is activated. Check the LAN cable and LAN.
Invalid user ID 	You have specified an invalid user ID for login.	Retry login using a proper user ID that has been registered in the Web Interface.
Wrong password 	You have specified an invalid password for login.	Retry login using a proper password that has been registered in the Web Interface.
That user is logged in already. 	An administrator user attempted to log in while another administrator user was already logged in.	Log off the administrator user who has already logged in first.

Care

■ **Unplug the power cord before cleaning the Web Interface.**
The system has high-voltage connectors and other dangerous components. Always power the system down and unplug the power cord before cleaning it.

■ **Use a neutral solvent.**
To clean the main unit, use a soft cloth slightly moistened with lukewarm water or a neutral solvent.
Do not use volatile agents, such as benzine and thinner, abrasives, or pesticides. Doing so can damage painted surfaces.

■ **Avoid direct contact with water.**
Do not allow water to contact the product directly.
Insulation will be impaired, which may result in damage or electrical shorts.

■ **Do not disassemble.**
Do not disassemble the Web Interface.
Doing so may damage the unit or cause electrical shock and is very dangerous.

■ **Check the mounting of components.**
Several times a year, check to make sure that the mounting of components has not been weakened by rust or corrosion.

■ Specifications

Model name		CZ-CWEBC2
External dimensions		(H)248 × (W)185 × (D)80 mm
Method of installation		Inside the control panel
Maximum number of connectable units		64 air conditioners (indoor units)
Timer precision		± Approx. 2 minutes/month (normal temperature: 25℃)
Timer	Setting unit	1 minute
	Operation	50 times/day 50 types of daily timer / 50 types of weekly timer
	Program cycle	1 week
Temperature/humidity ranges for use		5℃–40℃ / 20%–80%
Power requirements		Single-phase, 100–240 V ~, 50/60 Hz
Power consumption		Max. 17 W
Weight		2.2 kg

4. Central Controller

● **Installation (Electric) and Service Instructions**

Safety Precautions

- Before conducting installation or electrical work, be sure to carefully read these "Safety Precautions" and follow them carefully.
- The precautions given in this manual consist of specific "Warnings" and "Cautions". Be sure to follow these precautions, as they provide important safety related information. The labels and their meanings are as described below.

⚠ **Warning**	This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠ **Caution**	This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

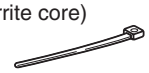
⚠ Warning

- Be sure to arrange installation at the dealer where the system was purchased or use a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Carefully follow these Installation (Electric) and Service Instructions when installing the unit. Electric shock or fire may result if the unit is not installed correctly.
- Electrical installation should be performed by qualified electrician, in accordance with the provisions of the Technical Standards for Electrical Installations, local regulations for indoor wiring, and these Installation (Electric) and Service Instructions. Be sure to use a dedicated electrical circuit. Insufficient electrical circuit capacity may result in electric shock or fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Fasten the cables securely so that the cables will not exert force on the connection terminals. Insecure connections or fastening may result in overheating or fire.
- The installation location requires the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.
- Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations. The circuit breaker must be an approved 10-16 A, having a contact separation in all poles.
- Install this unit to the location where general users cannot easily access (such as inside the control box).

⚠ Caution

- When performing electrical installation, discharge any accumulated static electricity to ground before touching the unit.
- Always use the system together with a remote controller or a system controller.

Supplied parts

Part number	Part name	Quantity	Part number	Part name	Quantity
①	Small pan head bolt (M4 x 10) 	4	②	Nut(M4) 	4
③	Flat washer 	4	④	Cable tie 	2
⑤	Operation Manual 	1	⑥	This leaflet 	1
⑦	Ferrite core 	1	⑧	Cable tie (for fixing a ferrite core) 	1

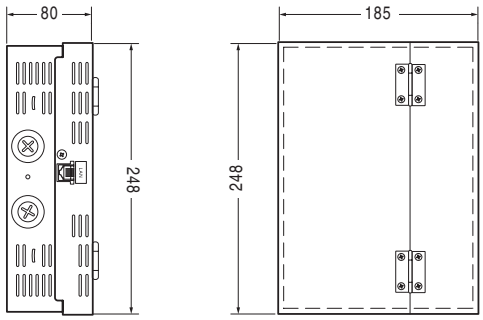
Specifications

Rated voltage·····100 - 240 V～, single phase
Rated frequency ····· 50/60 Hz
Power consumption ·····17 W max.
Operating temperature ·····5 to 40° C
Operating humidity ·····20 to 80%
(non-condensing)

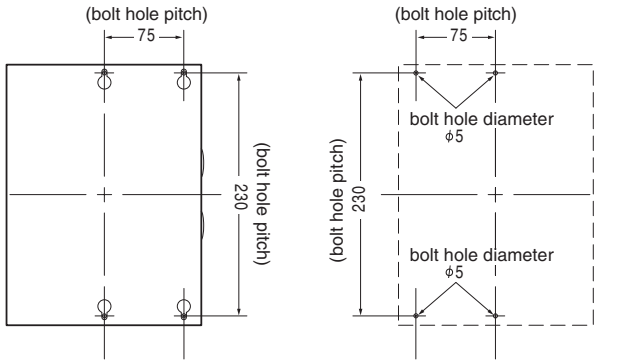
3

1 Cautions regarding the design of the control box

External dimensions



Control box machining diagram



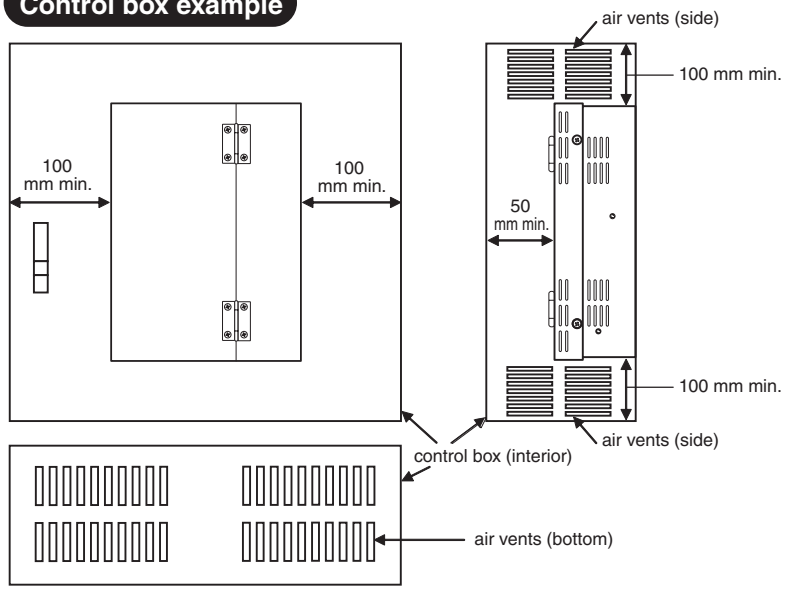
* It is possible to install the unit upside down.

Take the following into consideration when designing the control box:

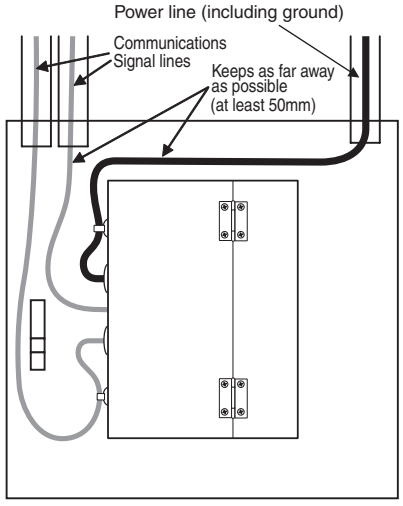
(1) To ensure sufficient airflow for cooling, provide air vents (holes, slots, etc.) on the upper, lower, left and right sides of the box, as shown in the figure below. (Be sure not to clog the ventilation hole when setting.)Ensure that the temperature inside the control box does not exceed 40°C.

(2) Keep the power and communications signal lines as far apart as possible (at least 50 mm, if cabled inside the control box) to reduce the effects of electrical noise.

Control box example



Wiring example



2 Mounting

Caution

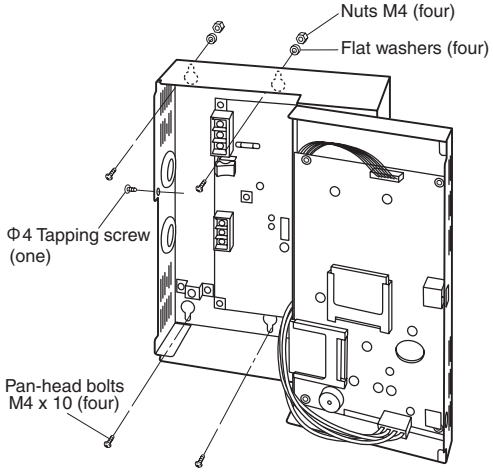
- Mount the unit far away from potential noise sources.
- Do not mount the unit where it could get wet, or in areas of high humidity.
- Do not mount the unit where it could be subject to excessive vibration or shocks.
- Mount the unit inside a control box.

(1) Remove the tapping screw at the side of the LAN connector and open the lid.

(2) Mount the controller unit to the control box using the four supplied bolts, washers, and nuts.

(3) Replace the lid, and secure it with the tapping screw.

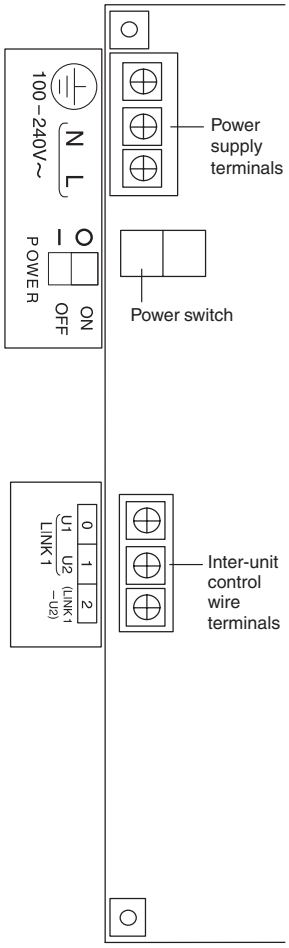
Mounting diagram



3 Wiring

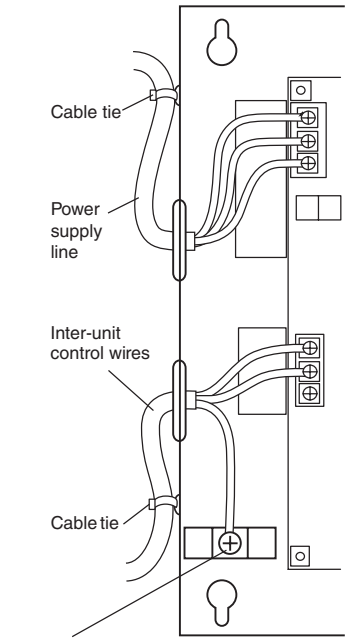
Always shut off the power supply (breaker) before installing or uninstalling.

Connection terminals



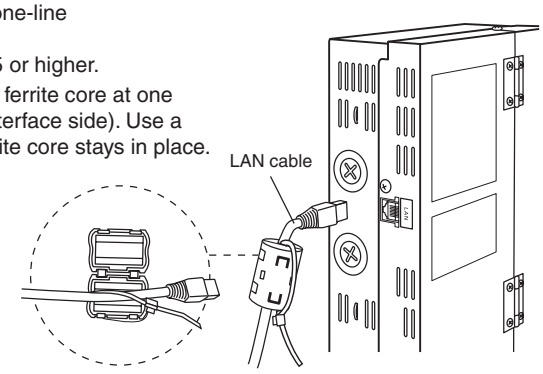
(1) Power supply connection

Connect the power supply to the commercial power mains (100 to 240 V AC), using a dedicated circuit. Connect the power supply lines to the L and N power supply terminals (the power supply neutral to the N terminal).
Connect an earth ground line to the power supply terminal.
Firmly secure the power lines using the supplied cable tie.



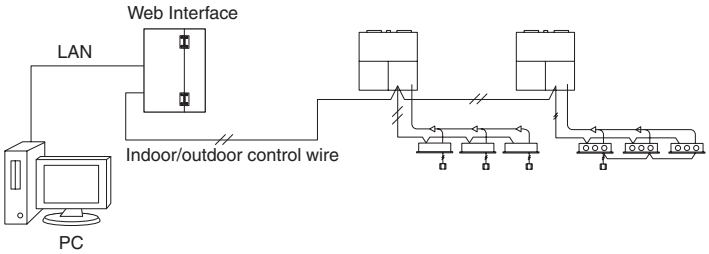
(2) Signal connection

- Do not run signal lines through the same conduit as power supply lines, use the same cable as the power supply, or run close to the power supply lines (maintain at least 30 cm separation, if cabled outside the control box).
- Do not run the LINK1 and LAN signal lines through the same conduit, or run the signal lines close together.
- Connect indoor and outdoor signals using 0.5 - 2.0 mm² two-conductor cable.
  Overall length of each signal line should be 1 km or less.
  Secure the shielded cable to the metal plate with a screw, as illustrated (apply one-line grounding).
- Use LAN cables of Category 5 or higher.
- Be sure to attach the supplied ferrite core at one end of the LAN cable (Web Interface side). Use a cable tie to make sure the ferrite core stays in place.



Basic wiring diagram

Wire up the Indoor/outdoor control wire as shown in the figure below.



Wiring procedure

- Inter-unit control wire (no polarity)
  Use the shielded wire for inter-unit control wiring.
  Connect signal terminals 0 and 1 (LINK1) to the Inter-unti control wire terminals of an indoor or outdoor unit.
  Make sure that power lines are not connected to the Inter-unit control wire terminals.

* If the power voltage is accidentally applied to the Inter-unit control wire terminals, the fuse will go out to protect the board, but not in some cases.If this happens, disconnect the power line, and connect the Inter-unit control wire to the spare U2 terminal. (The other signal line can stay connected to the U1 terminal.) The spare U2 terminals are right next to the main U2 terminals.
Use terminal 2 (LINK1-U2) instead of terminal 1

- LAN cable
  Connect the LAN cable directly to the PC or to the network hub.

4 System power off procedure

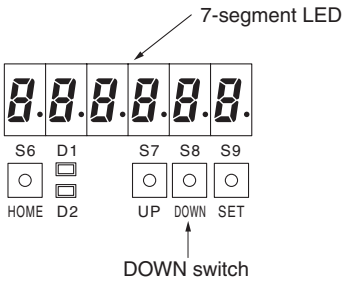
(1) Press and hold DOWN swich for more than 4 seconds.
The 7-segment LED indication appears as below.

d-SAVE

Wait several minutes.
The 7-segment LED indication appears as below.

P-oFF

(2) Turn the power switch off.



5 Verify the system configuration, make necessary settings

(1) Turn on power to all air conditioner units.
(2) Turn on power to the unit.
(3) Set the date and time on the unit and verify the system configuration.
(4) Verify the number of units connected.
(5) Perform the necessary settings.**Be sure to set the central control address.**
* See the Operation Manual for details.

6 Educating the customer

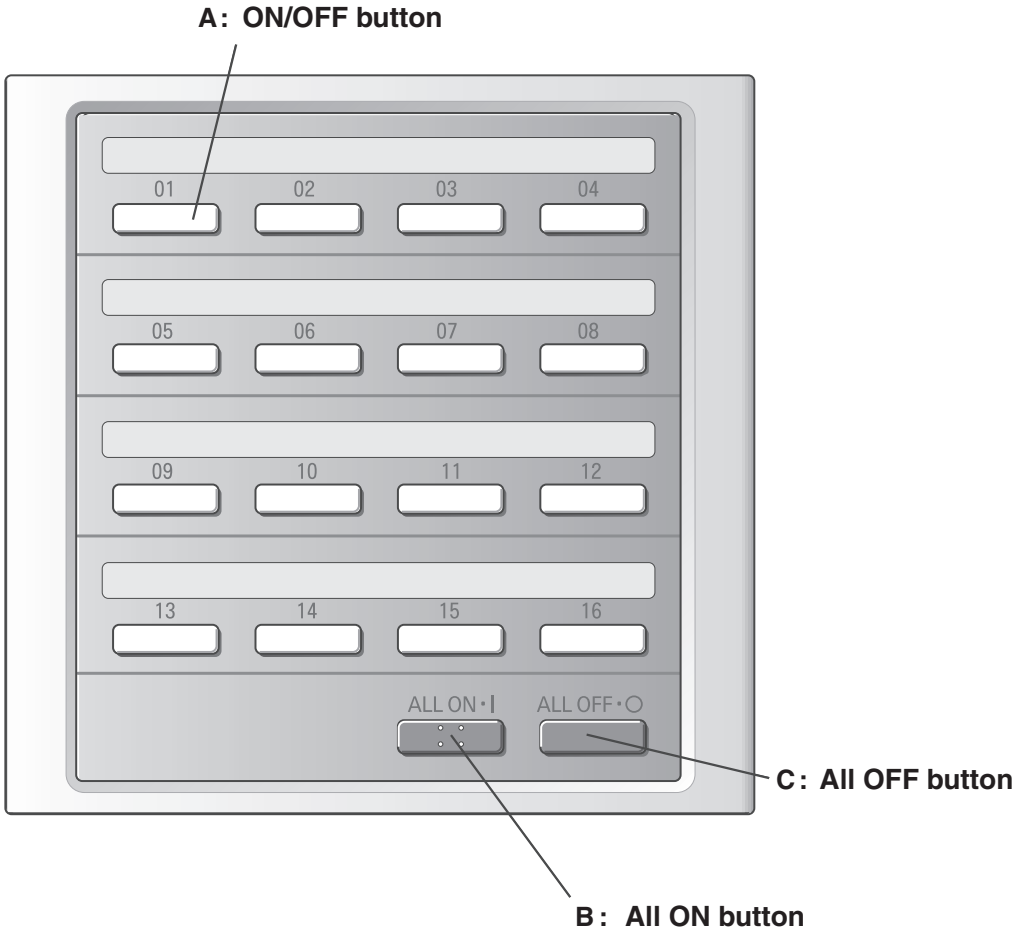
- Give the Operation Manual to the customer.
- Explain the operation to the customer, following the explanations given in the Operation Manual.

4. Central Controller

4-6. ON/OFF Controller / CZ-ANC2

■ **How to Use the ON/OFF Controller**

● **Functions of buttons**



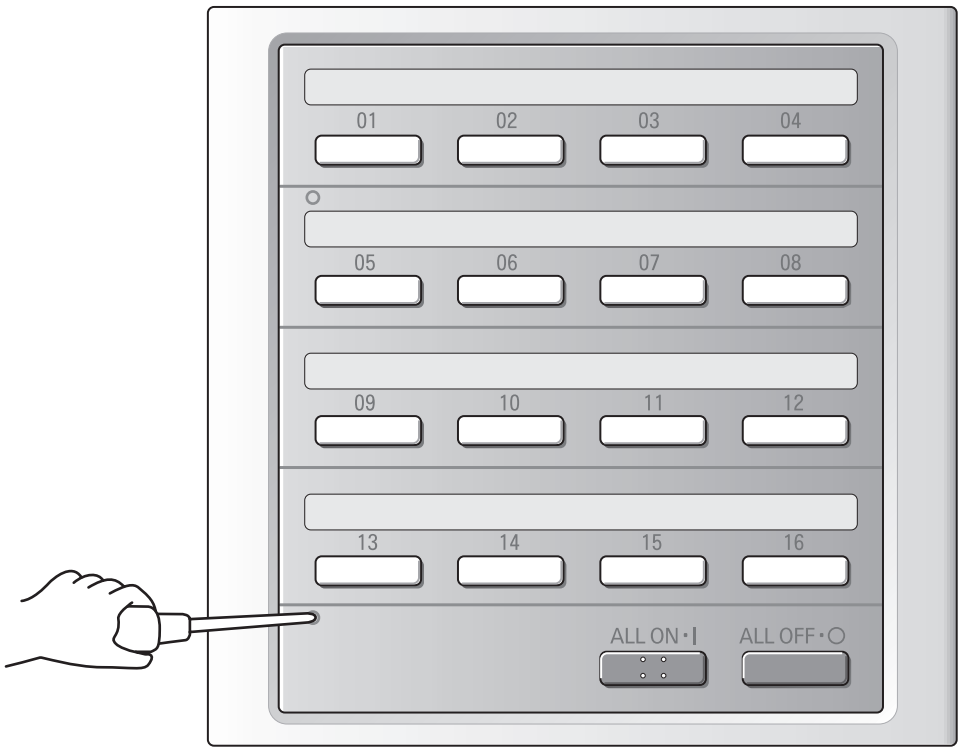
A: ON/OFF button 01 ～ 16	Press this to start up or stop an individual air conditioner.
B: All ON button ALL ON	Press this to start up all the air conditioners at the same time. **NOTE** **The indoor units which can be operated by the ON/OFF controller now start operating in sequence at intervals of 1 to 2 seconds.**
C: All OFF button ALL OFF	Press this to stop all the air conditioners at the same time.

● How to use the nameplate

The nameplate shows the rooms where the air conditioners are to be operated, and it enables the operating statuses of the air conditioners in those rooms to be checked by the operation indicator lamps.

Steps

1. Insert an implement such as a ballpoint pen into the hole on the left of the transparent cover, and remove the cover.
2. Use a writing instrument such as an oil-based pen to write the names of the rooms on the switch name labels provided, and adhere the labels to the name displays.



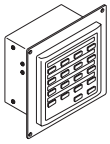
4. Central Controller

■ Installation Instructions

● General

This booklet briefly outlines where and how to install the ON/OFF controller. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the controller before beginning.

NOTE Give these instructions to the customer after finishing the installation.

Part Name	Figure	Q'ty	Remarks
ON/OFF controller		1	
Tapping screw	Truss-head Phillips 4 x 16 mm 	4	For securing the system controller
Rawl plug		4	For securing the system controller
Manual		1	For installation
		1	For operation

● Installation site selection

- Install the ON/OFF controller at a height of between 1 and 1.5 meters above the floor.
- Do not install the ON/OFF controller in a place where it will be exposed to direct sunlight or near a window or other place where it will be exposed to the outside air.
- Be sure to install the ON/OFF controller vertically, such as on a wall.

● How to install the ON/OFF controller

CAUTION

- Do not twist the control wiring together with the power wiring or run it through the same metal conduit, because this may cause a malfunction.
- Install the ON/OFF controller away from sources of electrical noise.
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

WARNING

Do not supply power to the unit or try to operate it until the tubing and wiring to the outdoor unit is completed.

4. Central Controller

Overview of the ON/OFF controller

Unit: mm

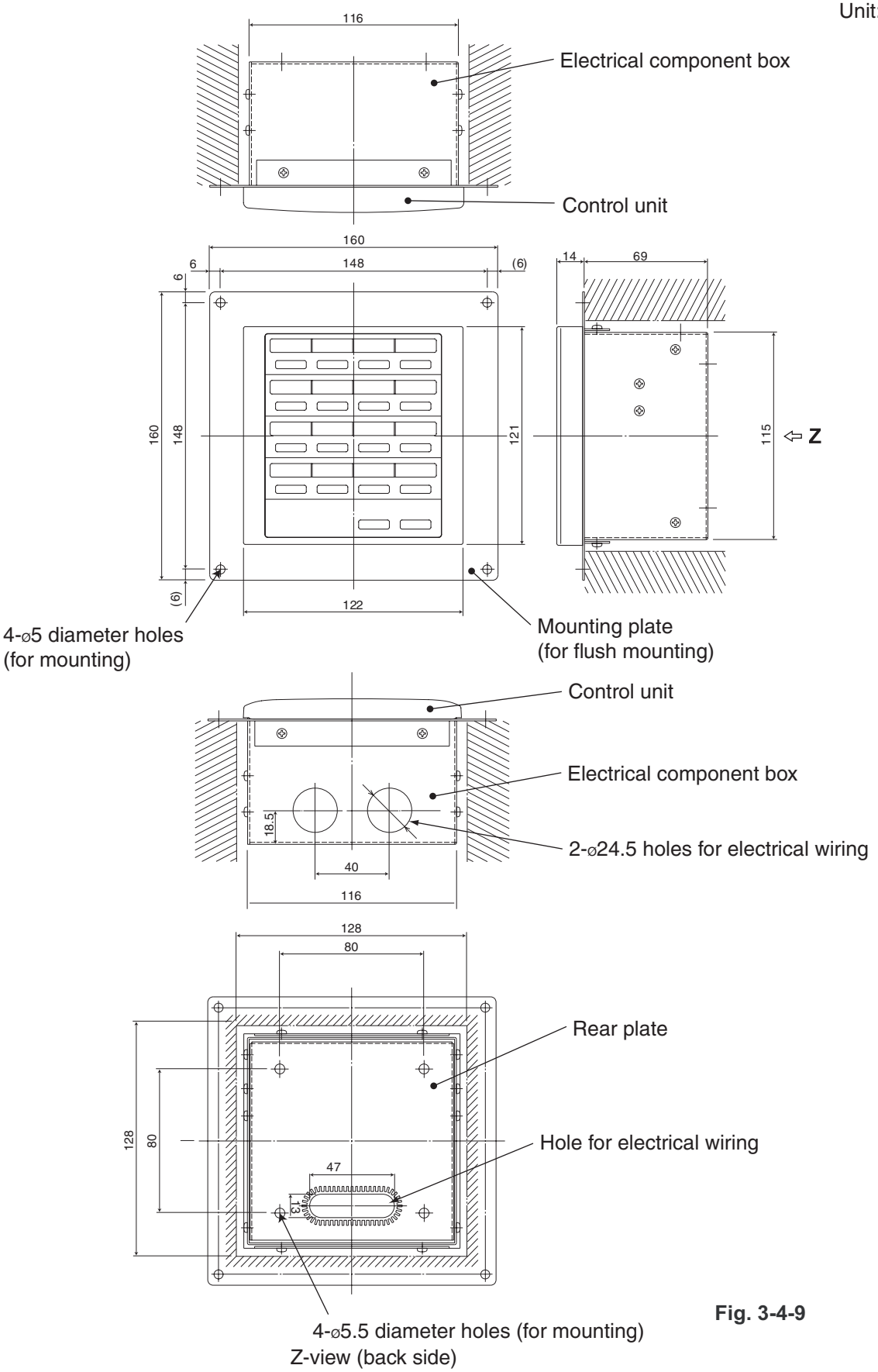
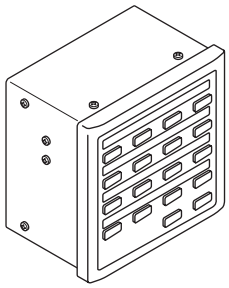


Fig. 3-4-9

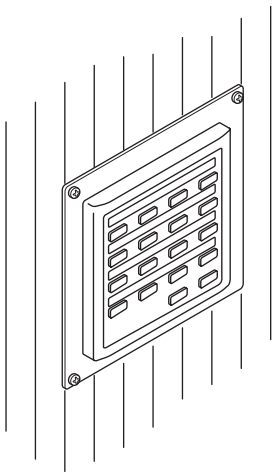
* In order to mount the ON/OFF controller flush with the wall, an opening measuring 128 mm × 128 mm is necessary.

4. Central Controller

Installation procedure



a): Normal mounting



b): Flush mounting

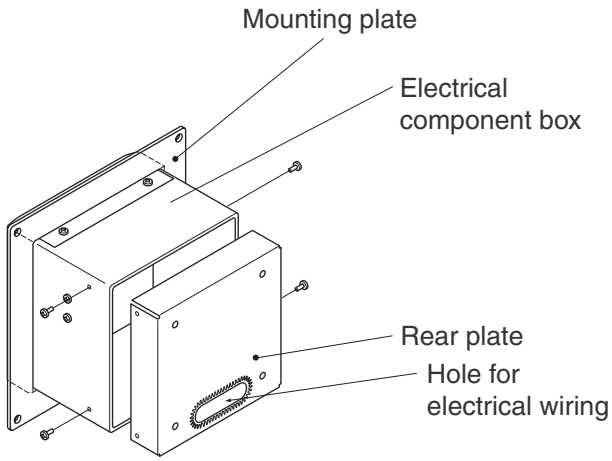


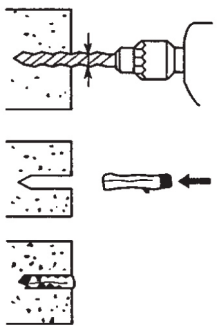
Fig. 3-4-10

1. Decide how the ON/OFF controller will be mounted: in the normal manner or flush with the wall.
   a) To mount the ON/OFF controller in the normal manner, remove the mounting plate. Then reattach the four screws to the electrical component box.
   b) To mount the ON/OFF controller flush with the wall, make an opening in the wall measuring 128 mm × 128 mm. The opening must be at least 85mm deep as measured from the outside surface of the wall.

2. Remove the rear plate and connect the electrical wiring.
   1) Remove the four screws located on both sides of the rear plate.
   2) Either the hole in the bottom of the electrical component box or the hole in the rear plate may be used to feed the electrical wiring.

3. Secure the ON/OFF controller in place.
   a) If the ON/OFF controller is being mounted in the normal manner, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the ON/OFF controller over the rear plate and secure it in place using four screws.
   b) If the ON/OFF controller is being mounted flush with the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.

NOTE To mount the ON/OFF controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes in the wall and insert Rawl plugs to anchor the mounting screws.



4. Central Controller

Layout of electrical terminals

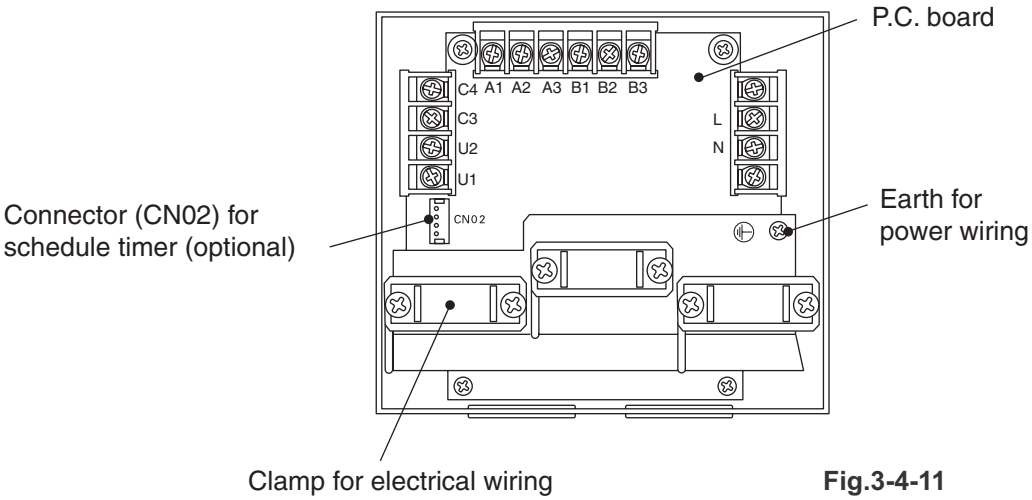
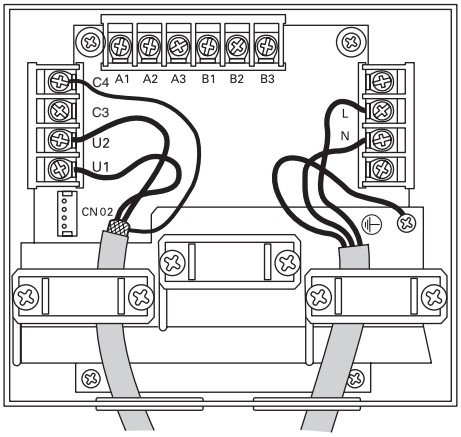


Fig.3-4-11

How to connect electrical wiring

1) Basic wiring



N: L: Power supply (220-240 V ∿ 50/60 Hz)

U1: U2: Inter-unit control wiring. (Low voltage) (Use shielded wiring)

C3: Reserve

C4: Earth for inter-unit control wiring

2) Terminals for remote monitoring

A1: Input for turning on air conditioners concurrently.

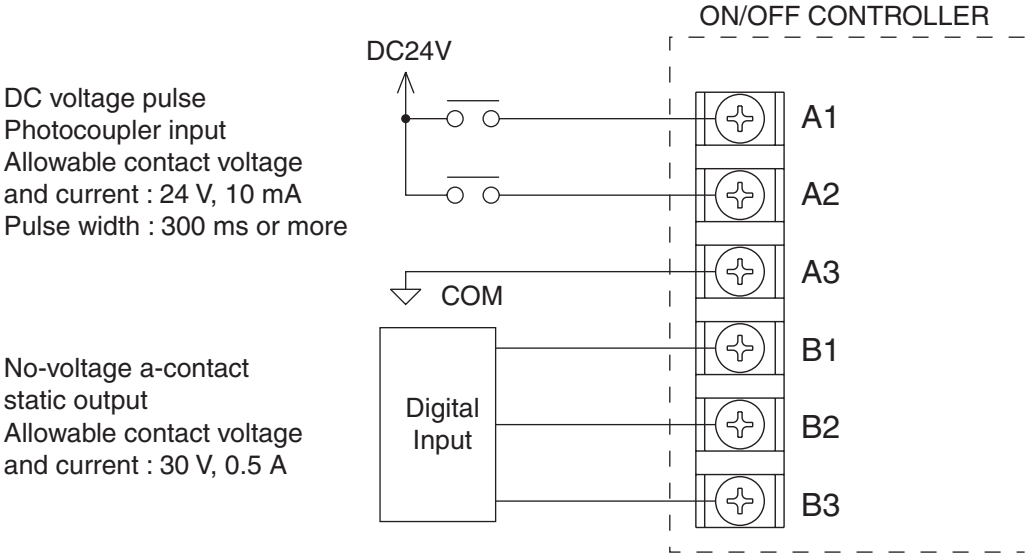
A2: Input for turning off air conditioners concurrently.

A3: Common input for turning air conditioners on or off.

B1: On operation state indicator output.

B2: Alarm indicator output.

B3: Common indicator output.



4. Central Controller

Basic wiring diagram

CAUTION

Ensure that wiring connections are correct.
(Incorrect wiring will damage the equipment.)

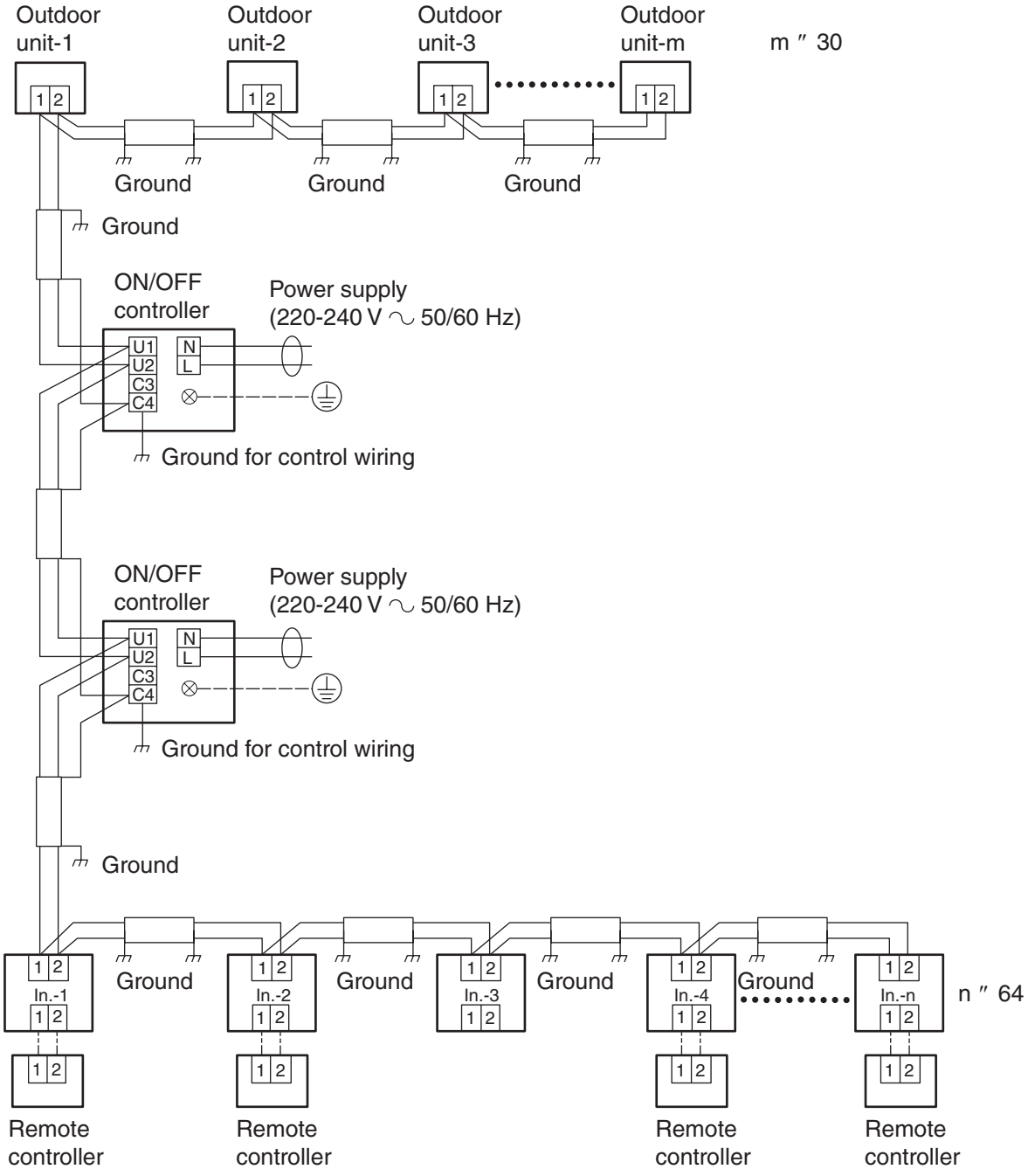


Fig. 3-4-12

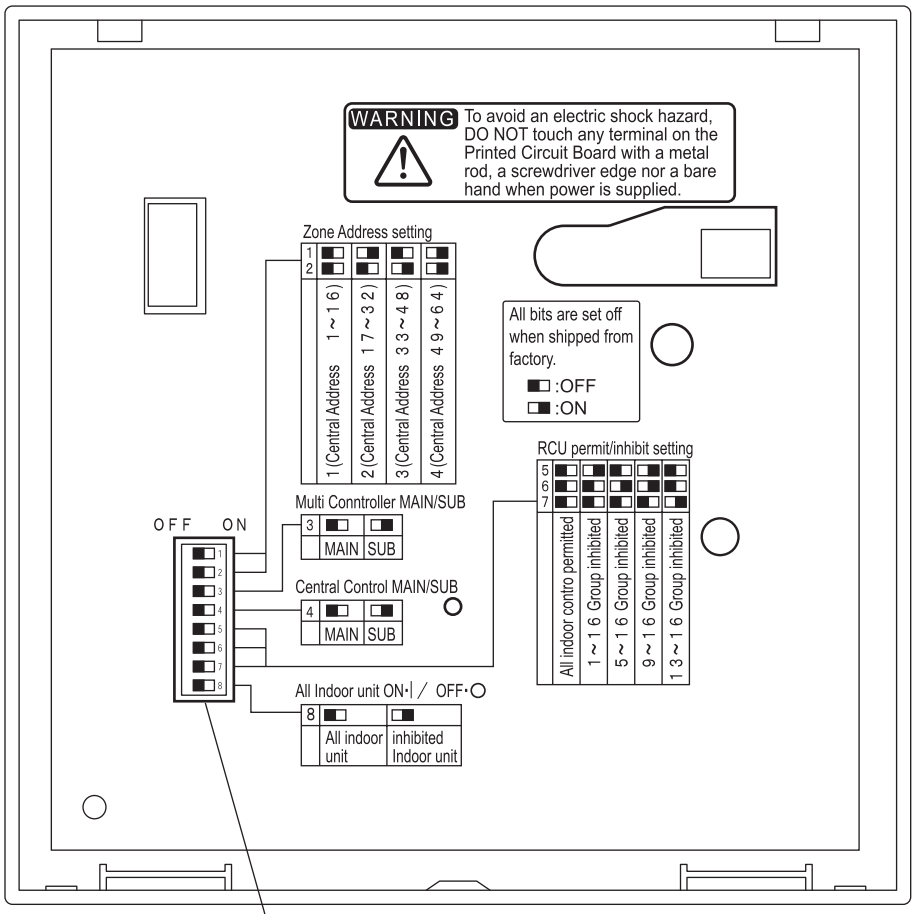
NOTE

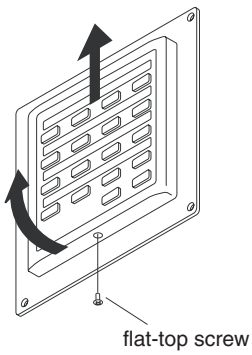
1. The following figure is the inter-unit control wiring.

   Use the shielded wiring.
2. In. means indoor unit.
3. One ON/OFF controller can connect up to two units – one main unit and one sub unit – for each zone.

3

● Dip switch setting



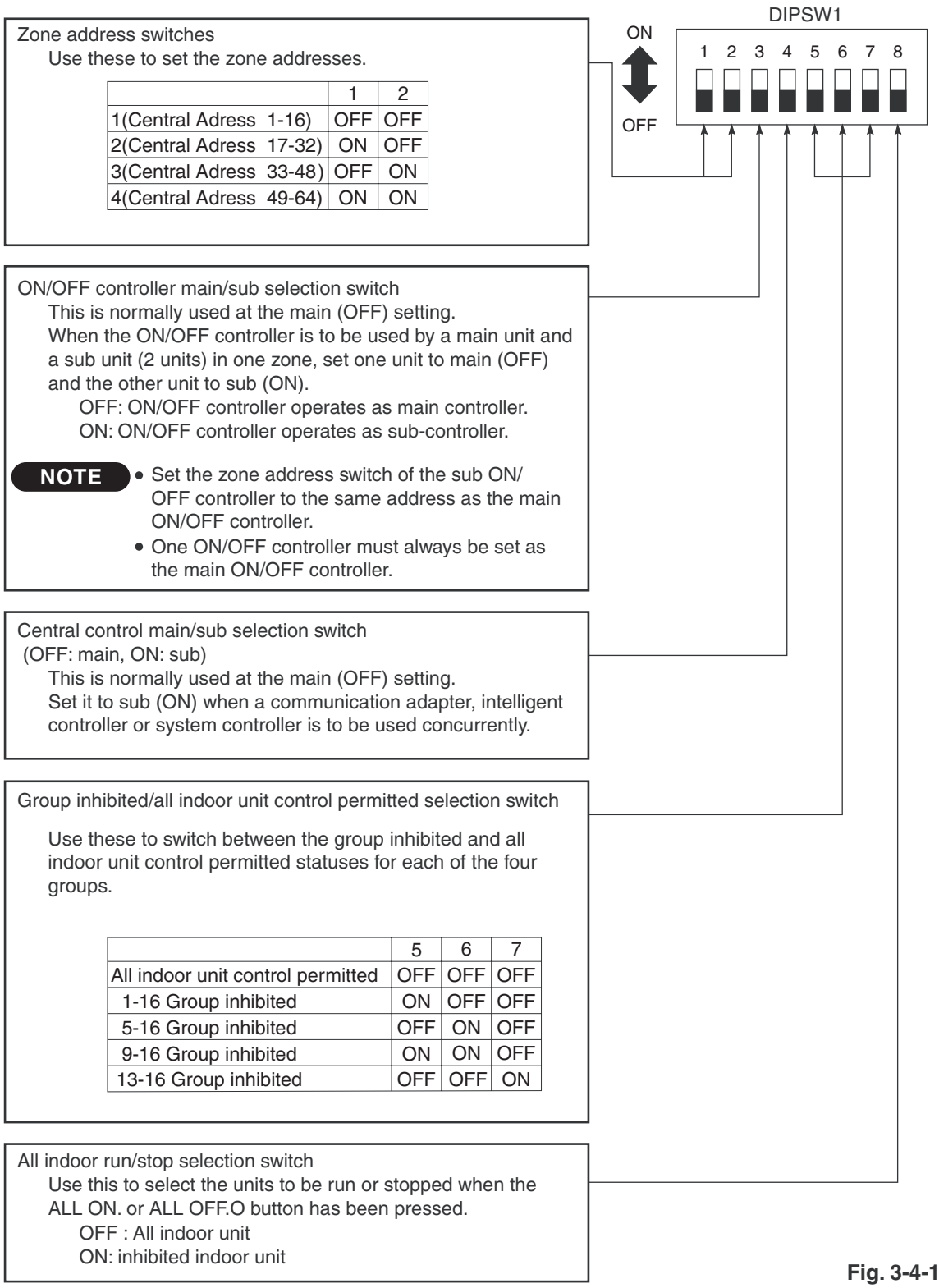


How to reach the P.C. board
Remove the flat-top screw on the bottom of the back case.
Raise the bottom of the control unit, and now remove the unit by sliding it upward.
The P.C. board on the back of the control unit is now visible.

NOTE Do not force the bottom of the control unit open. Doing so may damage the notch at the top and make it impossible to install the control unit.

4. Central Controller

DIPSW1



Zone address switches

Use these to set the zone addresses.

	1	2
1(Central Adress 1-16)	OFF	OFF
2(Central Adress 17-32)	ON	OFF
3(Central Adress 33-48)	OFF	ON
4(Central Adress 49-64)	ON	ON

ON/OFF controller main/sub selection switch

This is normally used at the main (OFF) setting.
When the ON/OFF controller is to be used by a main unit and a sub unit (2 units) in one zone, set one unit to main (OFF) and the other unit to sub (ON).

OFF: ON/OFF controller operates as main controller.
ON: ON/OFF controller operates as sub-controller.

NOTE

- Set the zone address switch of the sub ON/OFF controller to the same address as the main ON/OFF controller.
- One ON/OFF controller must always be set as the main ON/OFF controller.

Central control main/sub selection switch
(OFF: main, ON: sub)

This is normally used at the main (OFF) setting.
Set it to sub (ON) when a communication adapter, intelligent controller or system controller is to be used concurrently.

Group inhibited/all indoor unit control permitted selection switch

Use these to switch between the group inhibited and all indoor unit control permitted statuses for each of the four groups.

	5	6	7
All indoor unit control permitted	OFF	OFF	OFF
1-16 Group inhibited	ON	OFF	OFF
5-16 Group inhibited	OFF	ON	OFF
9-16 Group inhibited	ON	ON	OFF
13-16 Group inhibited	OFF	OFF	ON

All indoor run/stop selection switch

Use this to select the units to be run or stopped when the ALL ON. or ALL OFF.O button has been pressed.

OFF : All indoor unit
ON: inhibited indoor unit

Fig. 3-4-13

* All switches are OFF position at shipment.

3

● Zone address setting

The zone addresses must be set (using #1 and #2 of DIPSW1) when the ON/OFF controllers are to be controlled in a multiple number of zones.

- Set to zone 1 when the ON/OFF controller is to be used in one zone only.
- When the ON/OFF controllers are to be used in a multiple number of zones, one of them must be set to zone 1 without fail.

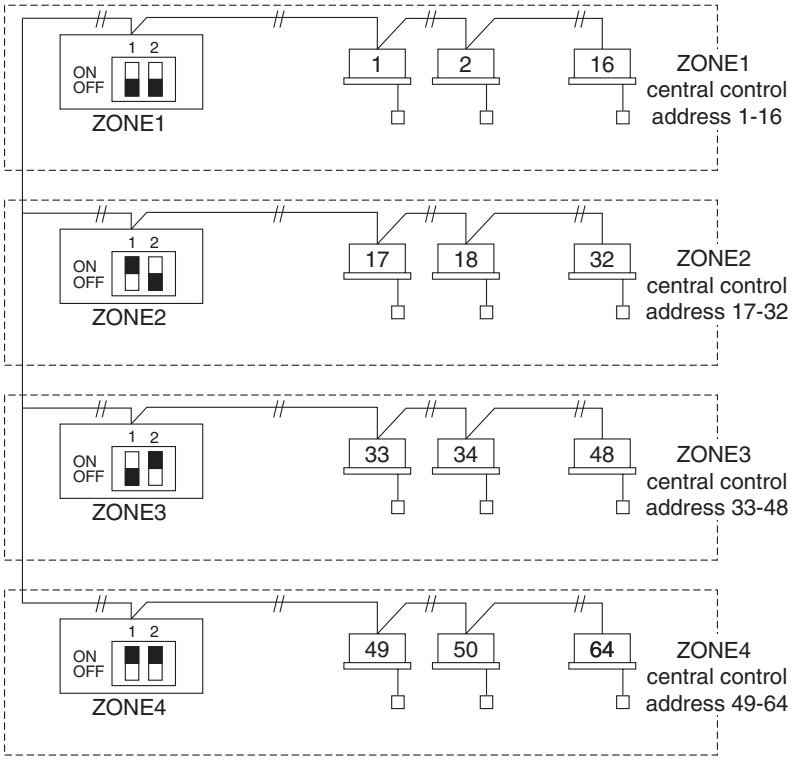


Fig. 3-4-14

● How to perform zone registration

To operate the ON/OFF controller properly, zone registration is required after finishing the test run (and after setting all indoor unit addresses)using one of the following methods.

(a) Zone registration using the remote controller
Refer to page 3-131

(b) Zone registration using the system controller
Refer to page 3-132

(c) Automatic zone registration using the system controller
Refer to page 3-133

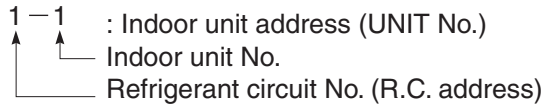
For methods (a) and (b), you should make a zone registration table manually before performing the registration as shown on the page 3-125.

For method (c), zone registration is executed automatically, proceeding from small indoor unit address and small central addresses to larger numbers in numerical order. For example:

Central address	1	2	3	4	5	6	
ZONE-group	1-1	1-2	1-3	1-4	1-5	1-6	
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1	

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines an R.C. address and indoor unit number as follows:



   This address is displayed on remote controller for UNIT No. when the UNIT button is pressed.

2. The central address represents the zone and group number. These addressed are assigned in ascending numerical order.

4. Central Controller

ZONE registration table

ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location	ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location
1 (1 2 ON OFF DIPSW)	1	1			3 (1 2 ON OFF DIPSW)	1	33		
	2	2				2	34		
	3	3				3	35		
	4	4				4	36		
	5	5				5	37		
	6	6				6	38		
	7	7				7	39		
	8	8				8	40		
	9	9				9	41		
	10	10				10	42		
	11	11				11	43		
	12	12				12	44		
	13	13				13	45		
	14	14				14	46		
	15	15				15	47		
	16	16				16	48		
2 (1 2 ON OFF DIPSW)	1	17			4 (1 2 ON OFF DIPSW)	1	49		
	2	18				2	50		
	3	19				3	51		
	4	20				4	52		
	5	21				5	53		
	6	22				6	54		
	7	23				7	55		
	8	24				8	56		
	9	25				9	57		
	10	26				10	58		
	11	27				11	59		
	12	28				12	60		
	13	29				13	61		
	14	30				14	62		
	15	31				15	63		
	16	32				16	64		

NOTE

1. Assign indoor unit addresses to the desired positions (central addresses) manually.
2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

4. Central Controller

(a) Zone registration using the remote controller
(Determination of central address)

- In this case, after confirming which indoor unit is connected to the remote controller and that the air conditioner in the OFF state, you set the central addresses one at a time.
- If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

(1) Press the [🔧] and [🏠] buttons at the same time of the remote controller for more than 4 seconds.

(2) Do not press [UNIT] button.

(3) Once in this mode, the UNIT No., CODE No., No. of SET DATA and SETTING indications will flash on the display as shown Fig. 3-4-15.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the [UNIT] button once.

(4) Set CODE No. to 03 using the [▲] and [▼] (🌡) buttons.

NOTE

CODE No. 03 must be selected to perform zone registration using the remote controller.

(5) Set the Central address which you want to assign to the indoor unit address using the [▲] and [▼] (🕘) buttons according to the zone registration table.

(6) Press the [SET] button. The CODE No. and Central address changes from flashing to ON state. If you make a mistake, then press the [CANCEL] button and reset the central address.

(7) Press the [🔧] button to finish zone registration.

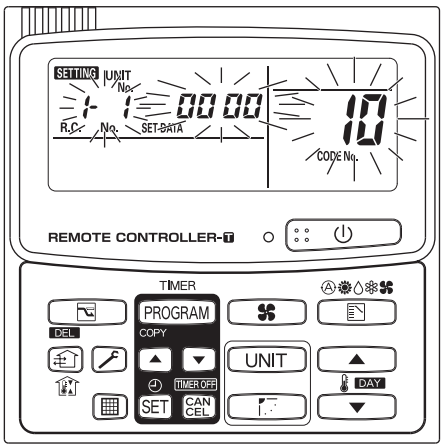
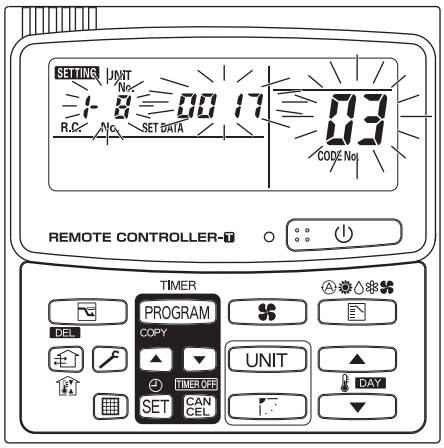


Fig. 3-4-15



For example, in this case
Indoor unit address: 1-8
Central address : 17 (ZONE 2, GROUP 1)

Fig. 3-4-16

(b) Zone registration using the system controller

- In this case, you set all Central addresses by system controller at once manually.

(1) Press the [wrench] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) After confirming that CODE No. C1 is displayed, press the [SET] button. Once in this mode, a change takes place as Fig. 3-4-17.

(3) Select the zone and group No. which you want to set with [ZONE] and [◀] [▶] (GROUP) buttons.
If already set, press the [CL] buttons.

(4) Set the unit No. (Indoor unit address) with [remote] and [indoor] buttons, according to the zone registration table.

R.C. No.. ..... [remote] button

Indoor unit No.. ..... [indoor] button

(5) Press the [SET] button.
GROUP No. turns ON and UNIT No. (Indoor unit address) changes from flashing to ON state. UNIT No. is registered to selected ZONE No. and GROUP No.
If you make mistake, then press the [CL] button and reselect the ZONE, GROUP and UNIT No.

(6) Register the other UNIT No. in the same way by following the steps (3) to (5).

(7) Finally, complete the registration by pressing the [wrench] button.
SETTING flashes for a few minutes, then OFF.

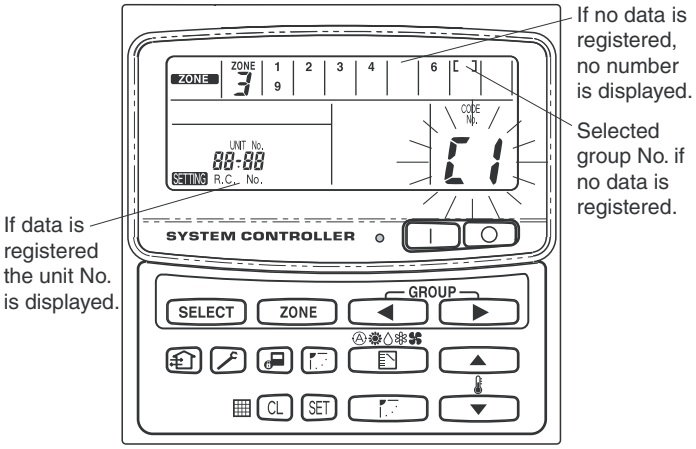
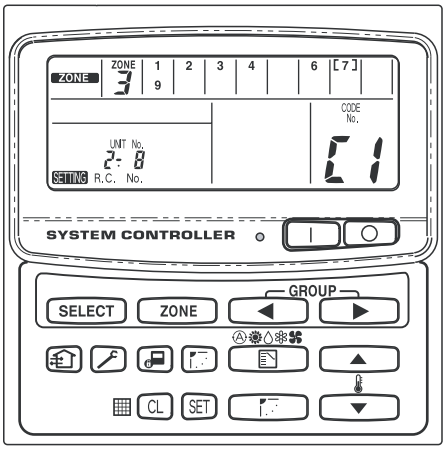


Fig. 3-4-17



For example, in the case at left
Zone 3, group No. 7
Unit No. (indoor unit address) 2-8

Unit No. 2-8 is registered to zone 3-group 7.

Fig. 3-4-18

4. Central Controller

(c) Automatic zone registration using the system controller

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE. No. C2 by pressing [▲] and [▼] ([🌡]) button and press the [SET] button.
C2 changes from flashing to ON state and automatic zone registration will start.

(3) Registered GROUP No. will be disappeared all.

(4) Central address will be assigned from small indoor unit address to large one in numerical order automatically.
Finishing automatic zone registration, SETTING changes from flashing to OFF.

(5) If the error is happened, the “CHECK” starts flashing and zone registration finishes at this time. Press the [CL] button.

(6) Finally, complete automatic zone registration mode by pressing the [🔧] button.
SETTING flashes for a few minutes, then OFF.

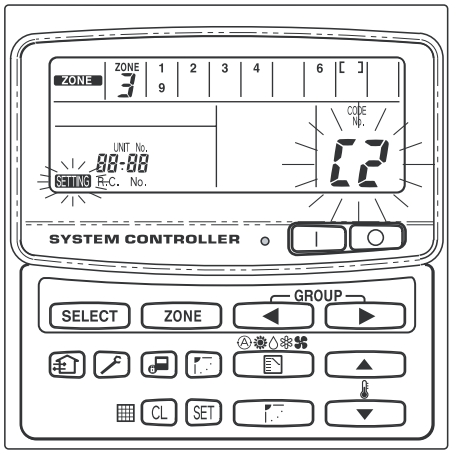


Fig. 3-4-19

3

4. Central Controller

● How to check overlapping of central address no.

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE No. C3 by pressing [▲] , [▼] (🌡) button and press the [SET] button.
C3 changes from flashing to ON state and SETTING will flash. Then auto overlap checking will start.

(3) If C3 changes from ON to flashing and SETTING stops flashing and disappears, there is no overlapping.
Then finally, complete the auto overlap checking mode by pressing the [🔧] button.

(4) If some of GROUP No., ZONE No. and UNIT No. flash, you should try again the zone registration.

① Select CODE No. C1 by pressing [▲] , [▼] (🌡) button and press the [SET] button.

② Select the flashing GROUP No. with ZONE and GROUP button. Then press the [CL] button and reselect the ZONE, GROUP and UNIT No.

③ Then finally, complete the auto overlap checking mode by pressing the [🔧] button.

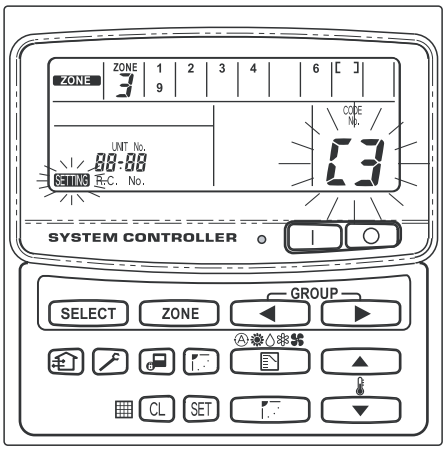


Fig. 3-4-20

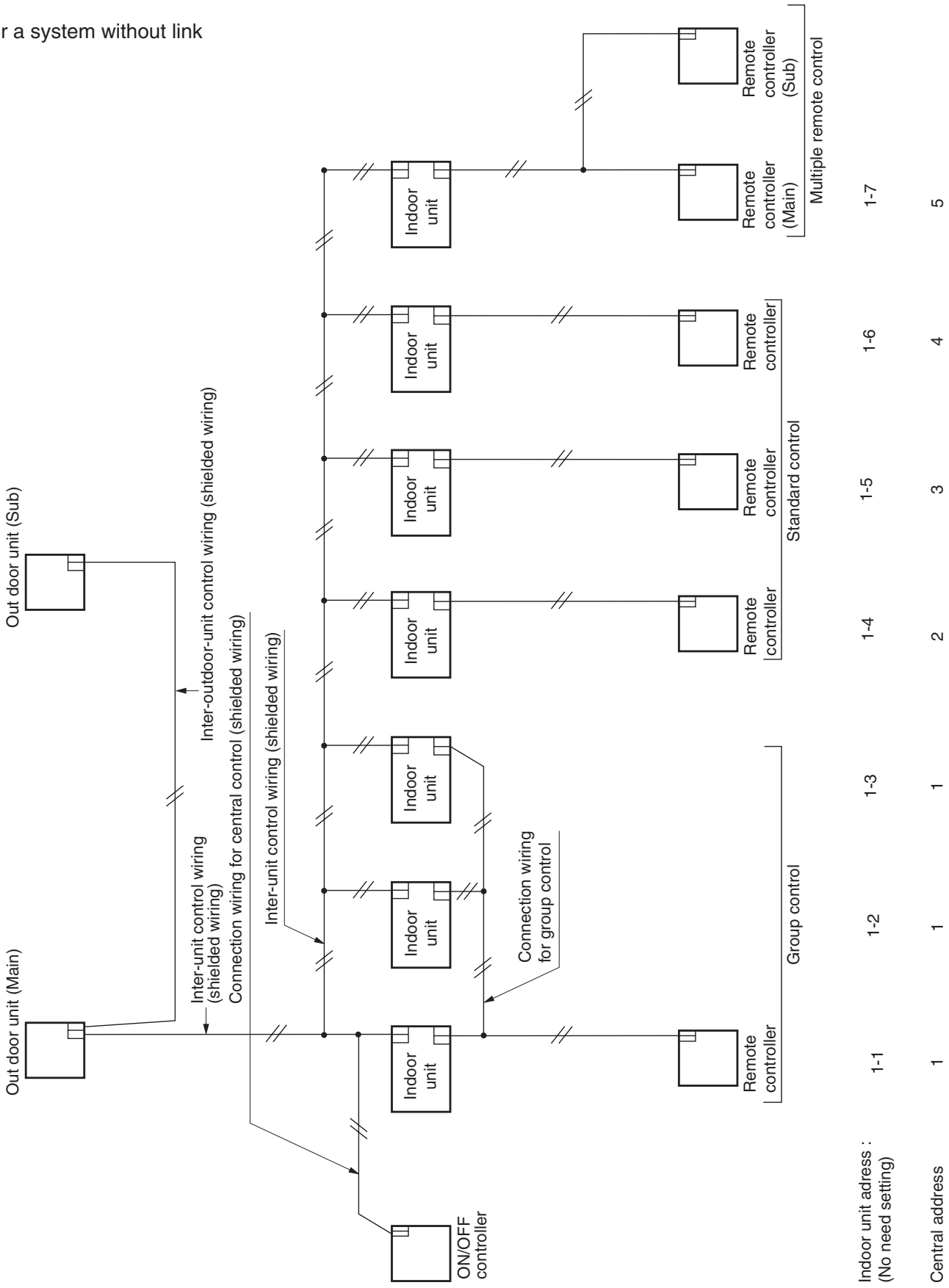
3

4. Central Controller

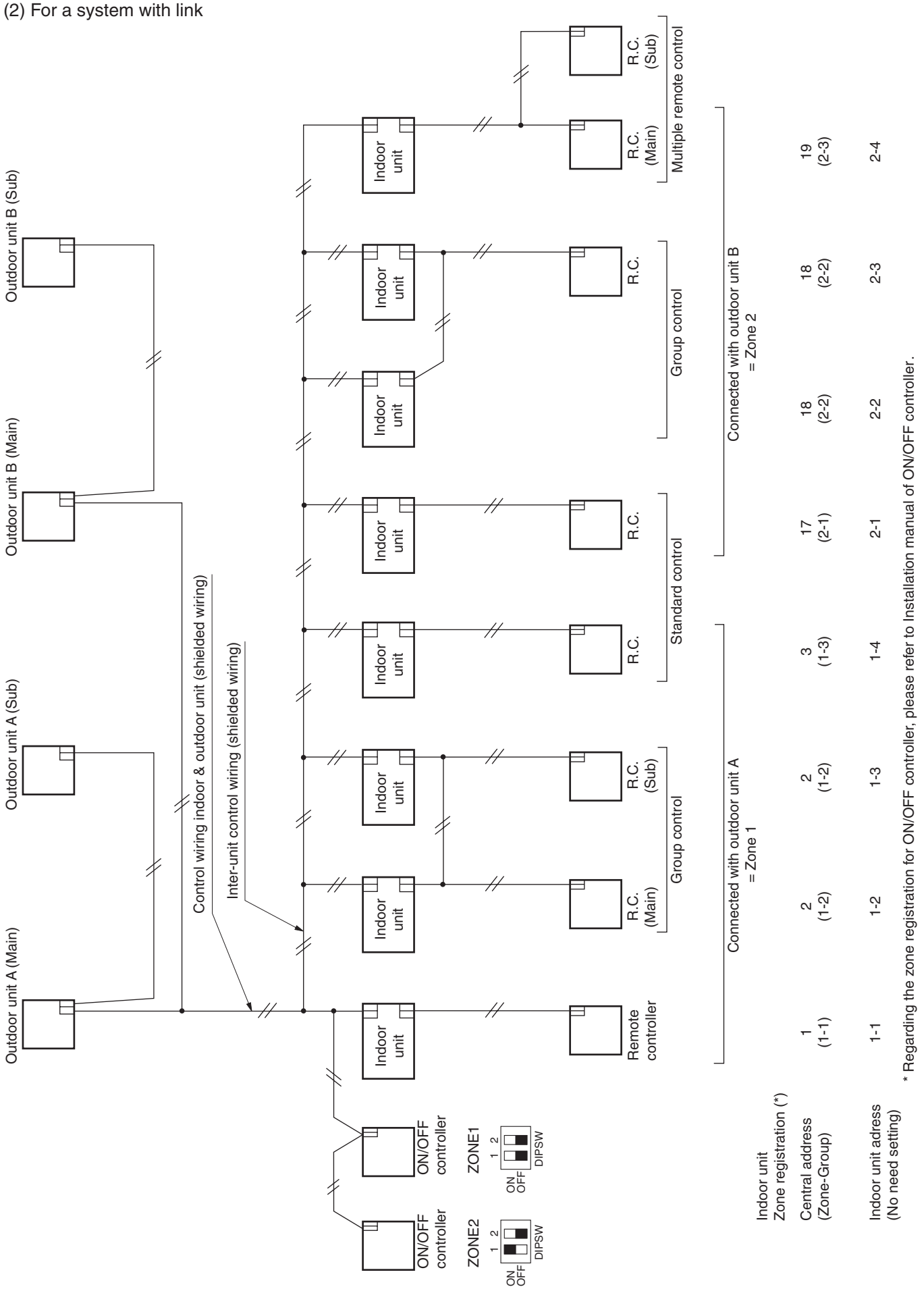
● System examples

The following diagrams show system examples and the correct setting of the switches on the PCB.

(1) For a system without link

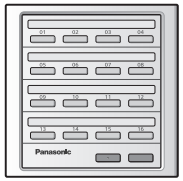


(2) For a system with link



* Regarding the zone registration for ON/OFF controller, please refer to Installation manual of ON/OFF controller.

Panasonic



Installation Instructions
ON/OFF Controller
Model No. **CZ-ANC3**

ENGLISH 2-13
Read through the Installation Instructions before you proceed with the installation.
In particular, you will need to read under the “Safety Precautions” on page 2.

FRANÇAIS 14-25
Lisez les instructions d'installation avant de commencer l'installation.
En particulier, vous devez lire la section « Consignes de sécurité » en page 14.

ESPAÑOL 26-37
Lea las Instrucciones de instalacion antes de proceder con la instalacion del equipo.
En concreto, deberá leer detenidamente la sección “Precauciones de seguridad” situada en la página 26.

DEUTSCH 38-49
Lesen Sie die Einbauanleitung, bevor Sie mit der Installation beginnen.
Insbesondere müssen die „Sicherheitsvorkehrungen“ auf Seite 38 gründlich durchgelesen werden.

ITALIANO 50-61
Leggere le Istruzioni di installazione prima di procedere con l'installazione.
Prestare particolare attenzione alla sezione “Precauzioni di Sicurezza” a pagina 50.

NEDERLANDS 62-73
Lees de installatie-instructies voordat u verder gaat met de installatie.
U moet in het bijzonder de “Veiligheidsvoorschriften” op pagina 62 lezen.

PORTUGUÊS 74-85
Leia cuidadosamente as instruções de instalação antes de prosseguir com a instalação.
Em particular, é necessário ler as informações na secção “Precauções de segurança” na página 74.

TÜRKÇE 86-97
Kuruluma başlamadan önce Kurulum Talimatlarını baştan sona okuyun.
Özellikle 86. sayfadaki “Güvenlik Önlemleri” kısmını okumanız gerekecektir.

POLSKI 98-109
Przed przystąpieniem do instalacji należy przeczytać instrukcje instalacyjne,
a w szczególności „Środki ostrożności” na stronie 98.

РУССКИЙ 110-121
Прежде чем приступать к установке, прочитайте инструкцию по установке.
В частности, следует прочитать раздел «Меры безопасности» на стр. 110.

УКРАЇНСЬКА 122-133
Перед початком установки уважно прочитайте інструкції.
Особливу увагу зверніть на розділ «Запобіжні заходи» на ст. 122.

ENGLISH
FRANÇAIS
ESPAÑOL
DEUTSCH
ITALIANO
NEDERLANDS
PORTUGUÊS
TÜRKÇE
POLSKI
РУССКИЙ
УКРАЇНСЬКА

CE Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

85464369966010

Panasonic Corporation
http://www.panasonic.com

H0517-0
CV6233339986

3-4-255

ENGLISH

Safety Precautions

Please Read Before Starting

- This controller must be installed by the sales dealer or installer.
  These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

⚠ **WARNING**	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
⚠ **CAUTION**	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This controller shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this controller, provide the Installation Instructions to the servicing personnel.

⚠ WARNING

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring.
  Improper connections and inadequate grounding can cause **accidental injury or death**.
- This controller is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD).
  Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
  Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.

WARNING

- Provide a power outlet to be used exclusively for this controller.
- Turn off the circuit breaker of the controllers before installation.
- Do not supply power to the controller until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clamper so that the power supply terminal board part is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the controller must be grounded.
- Select an installation location which is rigid and strong enough to support or hold the controller, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances.
  Modified or disassembled controller may cause fire, electric shock or injury.
- Do not clean inside the controller by users.
  Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.

CAUTION

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the controller at the following locations.
  - Areas where leakage of flammable gas may be expected
  - Places where large amounts of oil mist exist
  - Locations where external air may enter the room directly (This may cause “condensation”.)
  - Locations where high-frequency emissions are generated
  - Location where voltage fluctuation frequently occurs
- Do not wash with water.

NOTICE

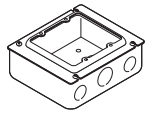
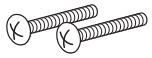
The English text is the original instructions. Other languages are translation of the original instructions.

CONTENTS

- Safety Precautions 2
- Specifications 4
- Supplied accessories 4
- Dimensions 5
- Installation Precautions 5
- Wiring 6
- Mounting 10
- Switches 11
- Test Operation 12
- Central Address Setting 13

Specifications

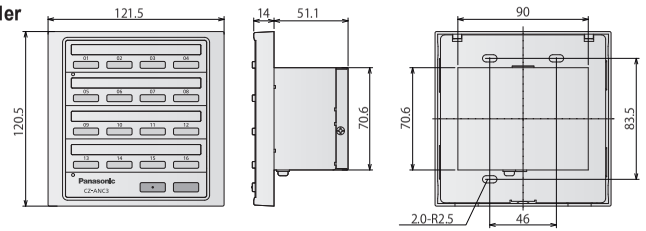
Model No.	CZ-ANC3
Dimensions	(H) 120.5 mm x (W) 121.5 mm x (D) 14 + 51.1 mm
Weight	500 g
Temperature/ Humidity range	0 ˚C to 40 ˚C / 20 % to 80 % (no condensation) *Indoor use only.
Power Source	Single phase 100-240 V ~ 50/60 Hz
Power consumption	Max. 4.0 W
Number of connected indoor units	Up to 16 groups (64 units)

Supplied accessories		
Operating Instructions (1) **Installation Instructions** (1) **Switch name label** (1)	**Switch box** (1) 	**Machine Screw** M4 × 25 (2) (For Switch Box) 

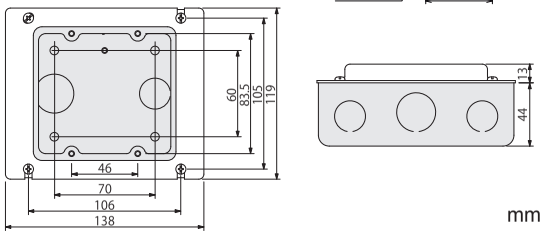
* Wiring are not included (field supplied item).

Dimensions

ON/OFF Controller



Swich box



mm

Installation Precautions

Installation location

- Avoid the following locations for installation.
  - Under direct sunlight • Location near heat source • Uneven surface
  - Locations where the controller will be splashed with water or affected by dampness or humidity
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller away from any sources of electrical noise.
- Install the controller to the locations where is suitable to the temperature for using or environment.
- When installing more than 1 controller next to each other, keep distance of 5 mm or more on the right and left and 50 mm or more on top and bottom.

General precautions on wiring

- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
  You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)
- Do not bury the inter-unit control wiring in the ground.
- Do not store the power supply wiring and other wiring in the same metal tube or bundle them together. (An operational error or noise may occur.)

Wiring

Before connecting wiring, be sure to turn the circuit breaker off. After all wiring arrangements are complete, turn the circuit breaker on.
If the power supply wiring is mistakenly connected to a terminal board other than the power supply terminal board, the devices to be connected to this controller or this controller will malfunction. After connecting wiring, confirm that the power supply wiring is properly connected.

Power supply wiring

- Be sure to use a dedicated line for power source.
- Be sure to earth this controller.
- Do not connect the earth wiring to those of gas pipe, water pipe, lighting rod, telephone, etc.

Type of wiring:
- Use a flexible wiring of 2 mm^2 (Recommended).
- Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).

Total Wire Length: 30 m or less

Power supply terminal screw: M4

Inter-unit control wiring

Type of wiring:
- Use a flexible shield wiring of 0.5 to 2 mm^2.

Total wire length:
- 1000 m or less

Number of connectable units and devices:
(Up to total of 100 units and devices can be connected.)

Indoor unit	Up to 64 units (*1)
Outdoor unit	Up to 30 units
Central control device	Up to 10 units

(*1) The number of indoor units includes the interface adaptor.

External I/O wiring

Type of wiring:
- Use a flexible wiring of 0.5 to 2 mm^2.

Total Wire Length:
- 100 m or less

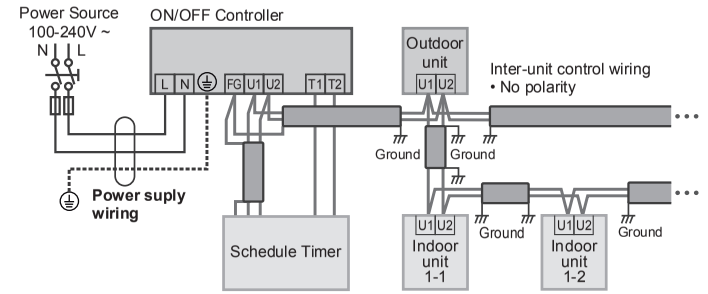
Attention

- When using the controller at a location susceptible to noise, use a shield wiring.

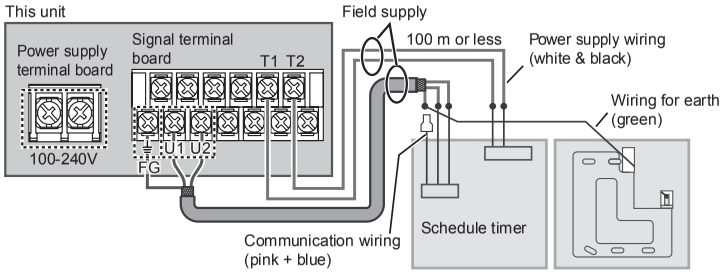
Basic wiring diagram

Connect the inter-unit control wiring as shown in the figure.

- When connecting interface adaptor, read the installation instructions supplied with each product.



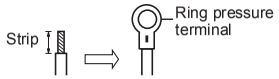
Schedule Timer wiring



How to attach the ring pressure terminal

For power supply wiring

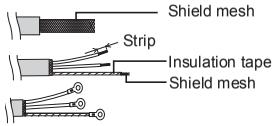
- Process the end of each wiring and attach the ring pressure terminal (field supplied item).



For shield wiring

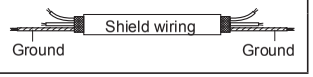
- Process the end of the each wiring and attach the ring pressure terminal (field supplied item).

① Remove wiring coat.
② Cover with the tape.
③ Attach ring pressure terminal.



Attention

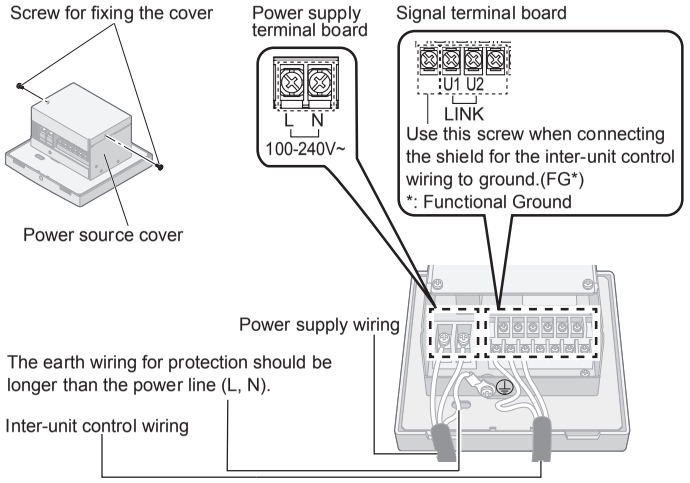
- Ground the shield on both sides of shield wiring, ohterwise an operation error from noise may occur.



Wiring (continued)

Connecting wiring

① Remove the 2 screws for fixing the cover, and remove the power source cover.
② Connect the power supply wiring to the power supply terminal board. Be sure to connect the earth wiring to the earth terminal.
③ Connect the inter-unit control wiring to the U1 and U2 terminals.
④ When connecting to external equipment, refer to “Connecting to external equipment” (P.9)
⑤ Attach the power source cover, and tighten the 2 screws for fixing the cover.



Note

- There is no polarity for the inter-unit control wiring.

Attention

- Do not run the Inter-unit control wiring through the same conduit as the power supply, or run close to the power supply line.
- Use different inter-unit control wiring and power supply wiring so they can be differentiated visually.

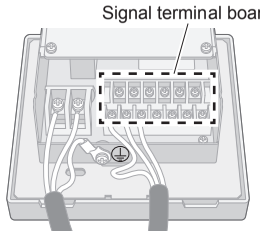
Symbols on the controller

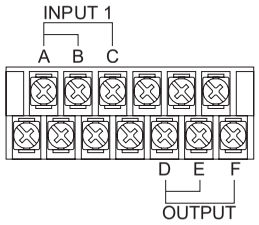
⏚ This symbol refers to “Protective earth”.

Connecting to external equipment

- Keep the signal input line lengths to 100 meters or less. For distances greater than this, use a relay.

Name	Input/Output item	ON/OFF controller side		External equipment side
		Condition	Terminal name	Circuit example
Contact input/output terminal	Status output	Non-voltage contact "a" Static (Relay output) Contact allowable voltage: Max. DC30 V Contact allowable current: Max. 0.5 A Minimum application load: DC5 V 1 mA	Output Alarm output (DO 1) Operation output (DO 2) Common1 (COM 1)	Digital input
	Control input	All stop: Voltage contact "a" Pulse (When all stop input is ON, the stop signal is sent periodically.) Pulse width: 300 msec or more All operation: Voltage contact "a" Pulse Pulse width: 300 msec or more Contact allowable voltage: DC24 V±10 % Contact allowable current: Max. 10 mA	Input 1 All stop input (Di 1) All operation input (Di 2) Common 2 (COM 2)	DC24 V COM





A. Common 2 (COM 2)
B. All stop input (Di 1)
C. All operation input (Di 2)
D. Common 1 (COM 1)
E. Alarm output (DO 1)
F. Operation output (DO 2)

Mounting

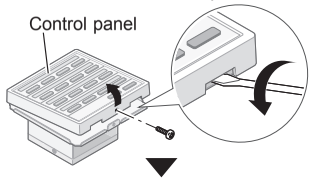
When mounting the bottom case (step **2**)

- Tighten the screws securely until they reach the bottom case. (Otherwise, loose screw heads may hit the PCB and cause malfunction when mounting the top case.)
- Do not over-tighten the screws. (The bottom case may be deformed, resulting in fall of the unit.)

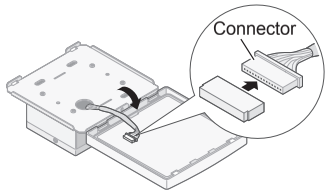
Embed the included switch box into the wall beforehand.

1 **Remove the screws for fixing the control panel, and remove the control panel.**

① Remove the control panel.



② Remove the connector.

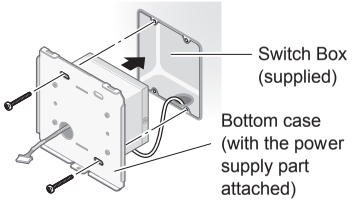


2 **Mount to the switch box.**

① Insert the controller to the switch box (supplied) that has been embedded in the wall.

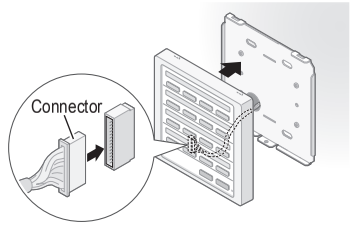
② Mount the bottom case. (with the power supply part attached) of the controller to the switch box (with small screws (supplied))

- Do not allow the connection to be exposed to the external force of wiring.

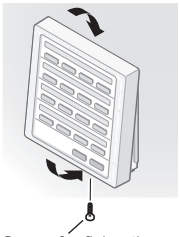


3 **Connect the connector, and attach the control panel.**

① Connect the connector.



② Attach it from above.

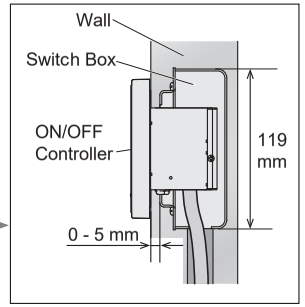


Do not allow the wires to come in contact with parts on the PCB. (Caught wires may destroy the PCB.)

③ Attach the screw for fixing the control panel.

Screw for fixing the control panel

Cross-section view (Embedded state)



Switches



*The factory defaults are as follows.
OFF : SW1·2·3·4·8
ON : SW5·6·7

[SW1•2] Zone address setting

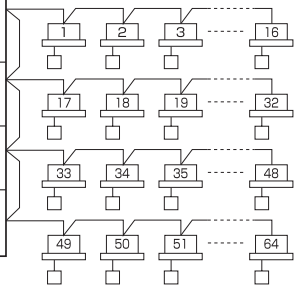
Select a zone from Zone 1 to 4 based on the group (Central address) to operate.

[SW3] ON/OFF controller Main/Sub setting (Main: OFF Sub: ON)

① When installing one ON/OFF controller in one zone, set this to Main (OFF).
② When installing two ON/OFF controllers in one zone, set one to Main (OFF) and the other to Sub (ON).

● Up to two ON/OFF controllers with Main and Sub combined can be connected for each zone.

Switches (SW1 • 2 • 3)	ON/OFF controller Main/Sub	
	Main (SW3 OFF)	Sub (SW3 ON)
Zone 1 Group 1 to 16 (SW1 : OFF SW2 : OFF)	OFF OFF OFF	OFF OFF ON
Zone 2 Group 17 to 32 (SW1 : ON SW2 : OFF)	ON OFF OFF	ON OFF ON
Zone 3 Group 33 to 48 (SW1 : OFF SW2 : ON)	OFF ON OFF	OFF ON ON
Zone 4 Group 49 to 64 (SW1 : ON SW2 : ON)	ON ON OFF	ON ON ON



[SW4] Central control Main/Sub setting (Main: OFF Sub: ON)

① When using only one ON/OFF controller, set this to Main (OFF).
② When using this unit in combination with other central control devices such as an intelligent controller or a system controller, setting this unit to Sub (ON) is recommended. Note that when using **"[SW5•6•7] Prohibition setting"**, set this to Main (OFF).
③ When using more than one ON/OFF controllers in a condition other than ②, set one unit to Main (OFF) and the others to Sub (ON).

Switches (SW5 • 6 • 7)	
Group 1 to 16 : Permitted	OFF OFF OFF
Group 1 to 16 : Prohibited	ON OFF OFF
Group 1 to 4 : Permitted Group 5 to 16 : Prohibited	OFF ON OFF
Group 1 to 8 : Permitted Group 9 to 16 : Prohibited	ON ON OFF
Group 1 to 12 : Permitted Group 13 to 16 : Prohibited	OFF OFF ON
Prohibition setting disabled	ON ON ON

[SW5•6•7] Remote control prohibition setting

The remote control operations (operation/stop) are prohibited for groups for which the prohibition setting is made. This can be used when **"[SW4] Switching Main/ Sub setting of the central control"** is set to Main (OFF).

[SW8] ALL ON/ALL OFF target group setting

Sets the target to operate/stop when the "ALL ON" or "ALL OFF" button is pressed.

1 Set this to OFF when all the groups in the zone selected for "[SW1•2] Zone address setting" are targeted.
2 Set this to ON when only groups for which the prohibition setting is made are targeted.

ENGLISH

Test Operation

(Preparation) Referring to the operating instructions for indoor units and outdoor units, perform the test operation beforehand.

(1) Turn on this unit.
(Button 16 of this unit blinks, and the indoor unit connection group is automatically checked.)

(2) Press the "ALL ON" button of this unit, and confirm the buttons (indicators) light up.
(The buttons light up in the ascending order of the button number at one-second intervals.)
Confirm that the number of illuminating buttons is the same as the number of connected groups.
*If not the same, see "[SW1•2] Zone address setting" and "Central address setting", and check the setting.
*When connecting a Interface Adaptor, etc., set the central address.

● If the buttons of this unit are blinking, check the following.

(1) If all the buttons from 1 to 16 are blinking fast (at 0.2-second intervals)
This unit is not recognising indoor units.
- Check if the indoor units are turned on.
- Check if the central address is correctly set.
- Check if the inter-unit control wiring is short-circuited or disconnected at some location.

(2) If the buttons blink fast (at 0.2-second intervals) for 15 seconds after this unit is operated.
The indoor units of blinking groups do not respond to the operation of this unit.
- Check if the indoor units are turned on.
- Check if the central address is correctly set.
- Check if the inter-unit control wiring is short-circuited or disconnected at some location.

(3) If each button is blinking slowly (at 1-second intervals)
The indoor units of blinking groups are in alarming status.
- Check the operation of indoor units.
- See the "Installation Instructions" of indoor/outdoor units, and perform the test operation.

Central Address Setting

*After the test operations for indoor units and outdoor units have finished, set the central address.

- This unit is not equipped with the central address setting function.
- If using the unit in combination with central control devices (system controller, intelligent controller, etc.) that can set the central address, set the central address using such devices. (See “Installation Instructions” supplied with central control devices.)
- In a case other than the above, use a wired remote controller to set the address for each group. Set the central address according to the following procedure. Turn on this unit again after the setting is complete.

Setting from wired remote controllers (CZ-RTC4)

Make the setting while stopped.

1 Press and hold the 2 buttons for several simultaneously.

[SELECT] [CLEAR]

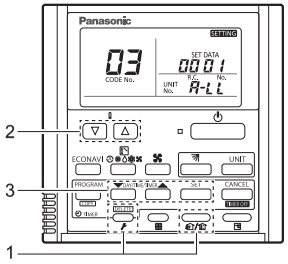
2 Select the Code no. 03.

[▽] [△]

3 Select the Set data.

▼DAY/TIME/TIMER▲ → SET

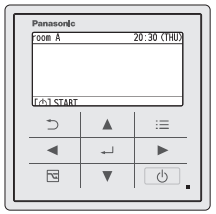
The indicator illuminates after blinking.
Press [SELECT].



Setting from wired remote controllers (CZ-RTC3, CZ-RTC5, CZ-RTC5A)

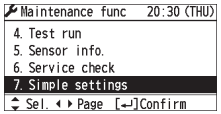
1 Press and hold the 3 buttons for 4 seconds or more simultaneously.

[↩], [↵], ▶



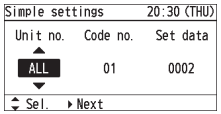
2 Select [Simple settings].

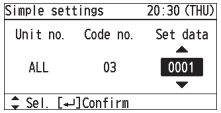
▲ ▼ → [↵]



3 Set.

Do not change the Unit No. from the initial setting.
Select the Code no. 03.
Change the setting data, and set the central address.
Press [↩] at the Unit No. selection position to finish the setting.



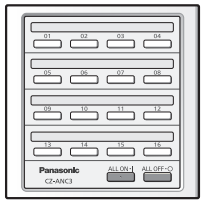


ENGLISH

Panasonic

Operating Instructions
ON/OFF Controller

Model No. **CZ-ANC3**



Mode d'emploi
Contrôleur marche/arrêt

Instrucciones de funcionamiento
Controlador de encendido/apagado

Bedienungsanleitung
Ein-/Ausschaltsteuerung

Istruzioni per l'uso
Dispositivo di controllo ON/OFF

Gebruikershandleiding
AAN/UIT controller

Instruções de funcionamento
Controlador de ligar/desligar

Çalıştırma Talimatları
AÇMA/KAPAMA Kontrol Cihazı

Instrukcja obsługi
Sterownik ON/OFF

Инструкция по эксплуатации
Центральный пульт управления Вкл/Выкл

Інструкція з використання
Пульт Вкл/Викл

		Page
Before operating the unit, read these operating instructions thoroughly and keep them for future reference.	ENGLISH	2
Avant d'utiliser l'appareil, lisez ce mode d'emploi dans son intégralité et conservez-le pour toute référence ultérieure.	FRANÇAIS	8
Antes de operar la unidad, lea atentamente estas instrucciones de funcionamiento y guárdelas para futuras consultas.	ESPAÑOL	12
Bevor Sie das Gerät in Betrieb nehmen, lesen Sie bitte diese Bedienungsanleitung aufmerksam durch und bewahren Sie sie für die künftige Verwendung auf.	DEUTSCH	16
Prima di utilizzare l'unità, leggere a fondo queste istruzioni per l'uso e conservarle per riferimento futuro.	ITALIANO	20
Lees deze gebruikershandleiding aandachtig voordat u het toestel gebruikt en bewaar hem voor toekomstig gebruik.	NEDERLANDS	24
Antes de utilizar a unidade, leia estas instruções de funcionamento por completo e guarde-as para futuras referências.	PORTUGUÊS	28
Üniteyi çalıştırmadan önce bu çalıştırma talimatlarını baştan sona okuyun ve ileride başvurmak üzere saklayın.	TÜRKÇE	32
Przed uruchomieniem urządzenia należy dokładnie przeczytać instrukcję obsługi i zachować ją do wykorzystania w przyszłości.	POLSKI	36
Перед использованием этого устройства внимательно прочитайте настоящую инструкцию по эксплуатации и сохраните ее для дальнейших справок.	РУССКИЙ	40
Перш ніж використовувати цей пристрій, уважно прочитайте цю інструкцію з використання. Збережіть її, щоб звертатися до неї в майбутньому.	УКРАЇНСЬКА	44

Panasonic Corporation
1006 Kadoma, Kadoma City, Osaka, Japan

Installation Instructions
Separately Attached.

85464609373010

Panasonic Corporation
http://www.panasonic.com

F0517-0
CV6233339979

ENGLISH

- Read the Operating Instructions carefully for safe use. This manual describes the Operating Instructions of the ON/OFF controller. Read this manual as well as operating instructions supplied with indoor units and outdoor units.
- **Be sure to read the "Safety precautions" (below) before using.**
- Keep this manual with operating instructions supplied with indoor units and outdoor units in a safe place.
- Be sure to keep this manual in a place easily accessible by users. In the case of user change, be sure to give this manual to the new user.

NOTICE
The English text is the original instructions. Other languages are translation of the original instructions.

Safety precautions

⚠ WARNING
This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION
This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

❗ Matters to be observed

🚫 Prohibited matters

⚠ WARNING

🚫 Do not use this appliance in a potentially explosive atmosphere.

🚫 In case of malfunction of this appliance, do not repair by yourself. Contact the sales or service dealer for repair.

❗ In case of emergency, remove the power plug from the socket or switch off the circuit breaker or the means by which the system is isolated from the mains power.



⚠ CAUTION

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Do not operate with wet hands.
- Do not wash with water.

ENGLISH

3-4-263

Note

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: To assure continued compliance, follow the attached installation instructions. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Operating precautions

- Do not locate in the following types of places.
  - Where there is moisture, oil, or vibration/ In direct sunlight/Near heat sources/Where condensation forms (These can cause malfunctions.)
  - Where noise occurs (This can cause incorrect operation.)
- Do not clean with benzene or thinners or wipe with chemical cloths. (This can cause discolouration or malfunction.)
  - When the unit is very dirty, dampen a cloth in a weak neutral detergent solution, wring thoroughly, and wipe. Wipe with a dry cloth afterwards.

Features

■Number of connectable units

A maximum of 16 groups and 64 indoor units can be connected to one ON/OFF controller.

■Control function

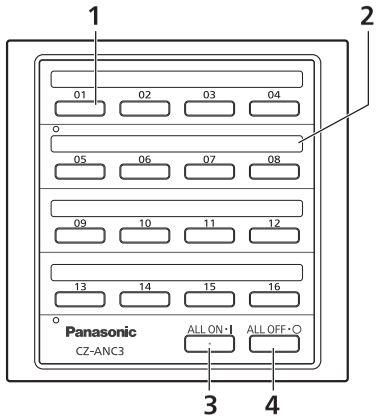
ON/OFF (individual or all at once)

■Start up control

Operation of each group starts at intervals of 1 to 2 seconds when operation is started all at once.

- By connecting a commercially available schedule timer, you can operate weekly programmes.

Parts and their functions



1 ON/OFF button

Press to start or stop individual groups of indoor units.
The lamp lights during operation (green).

2 Name plate

Stick a label here to indicate the room or the area.

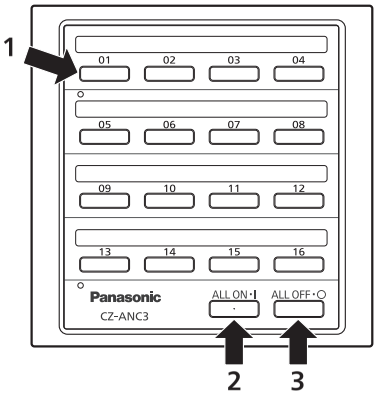
3 ALL ON button

Press to start all air conditioners.

4 ALL OFF button

Press to stop all air conditioners.

Using the unit



1 To start or stop individual groups of indoor units

Press ON/OFF button corresponding to the group of indoor units.

2 To start indoor units in groups numbered between 1 and 16 at the same time

Press the ALL ON button.
The units start operating at intervals of 1 to 2 seconds, starting with group number 1.

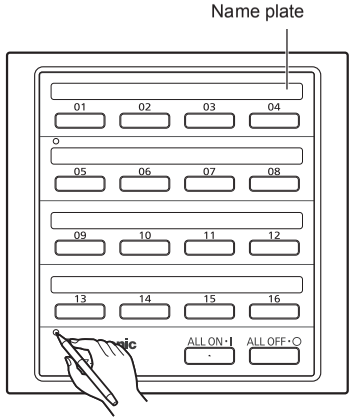
3 To stop indoor units in groups numbered between 1 and 16 at the same time

Press the ALL OFF button.

- You cannot set the operating mode or temperatures on this unit. Perform those operations from the wired remote controller, system controller, etc.

Using the name plate

These let you know which rooms or areas the air conditioners you can control are in, and you can see the operational status with the operation indicator lamps.



1 Push a pointy object into the hole on the left of the transparent cover to remove the cover.

2 Enter the name of the room or the area on the included switch display label with a pen, then stick on the name plate.

Things to be aware of

If the buttons of this unit are blinking, check the following.

1 If all the buttons from 1 to 16 are blinking fast (at 0.2-second intervals)

This unit is not recognising indoor units.

2 If the buttons blink fast (at 0.2-second intervals) for 15 seconds after this unit is operated

The indoor units of blinking groups do not respond to the operation of this unit.

3 If each button is blinking slowly (at 1-second intervals)

The indoor units of blinking groups are in alarming status.

- If the above symptoms persist, contact the dealer.

Specifications

Model No.	CZ-ANC3
Dimensions	(H) 120.5 mm x (W) 121.5 mm x (D) 14 + 51.1 mm
Weight	500 g
Temperature/ Humidity range	0 °C to 40 °C / 20% to 80% (no condensation) *Indoor use only.
Power Source	Single phase 100–240 V ~ 50/60 Hz
Power consumption	Max. 4.0 W
Number of connected indoor units	Up to 16 groups (64 units)

ENGLISH

Operation Manual

Air Conditioning
Intelligent Management System

CZ-CSWAC2

Distribution Ratio Software

P-AIMS

Thank you for purchasing our monitoring and control system.
Before using the system, be sure to read this manual carefully. After reading it, store it, in a convenient location for easy reference.

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Operation Manual

Air Conditioning
Intelligent Management System

CZ-CSWAC2
Distribution Ratio Software

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4. Central Controller

Note

■Precautions on Using This Product

★IMPORTANT★

- Before you can use the P-AIMS system, you need to first perform a work procedure called "license certification."
  Please perform the license certification referring to "6.License certification".
- Duplication of all or part of this software and documentation without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- This software and manual are not to be reproduced, in whole or in part, without permission.
- In principle, each set of this software is purchased for use on a single computer.
- Please note that we bear no responsibility for any effects resulting from the use of this software and manual.
  Panasonic will not be liable for any claim based on errors in calculations of distribution ratios and utility usage caused by faults in this equipment or software.
- The specifications of this software, and the content of this manual, are subject to change without notice, for the sake of improvement.
- This software is used to calculate distribution ratios and charges according to the load ratios estimated for each indoor unit.
  It is not based on the Measurement Act, so it cannot be used for public transactions and similar purposes.
- The content of this manual is limited to explanation of how to use this software.
  It does not cover the usage methods for the operated machinery and optional features, or for the OS etc., so refer also to the relevant manuals for those elements.
- The screen image examples presented in this manual are intended to illustrate the explanation of layouts, and do not represent actual operating conditions. The tenant names displayed are also fictional.
- Displays and operations may differ from the examples in this manual, depending on versions of Excel and the OS used.
- Refer to "Please Read Before Use" for the warranty terms for this software.
- Panasonic will not be liable for any violation of the rights of any third party stemming from use of information in this manual, or for violation of other rights.
- Microsoft, Windows XP and Microsoft Excel are trademarks of Microsoft Corporation in the United States and other countries.
  Other product names are trademarks or registered trademarks of the corresponding companies.
  Other products are copyrights of the corresponding companies.

1. Introduction

This distribution ratio software (referred to below as "the system") is intended to calculate distribution ratios, total values and charges in Air Conditioning Intelligent Management System (referred to below as the P-AIMS system).

This system is installed on the personal computer which runs the P-AIMS System (basic software).
It gathers data for each distribution group and tenant name, and calculates distribution ratios.

Data can be output as CSV files, which are readable by Microsoft Excel. Automatic output timing can be coordinated with the monthly cut-off day, but output is possible at any time.

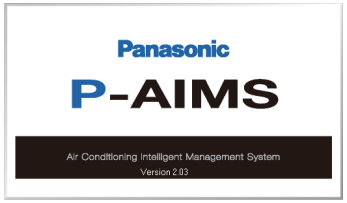
2. Startup and exit

2-1. Startup

1. Double click on the P-AIMS shortcut on the desktop.

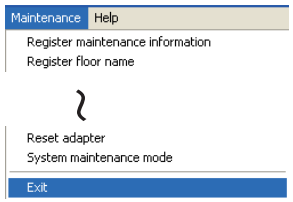


The window below appears. The system starts up and the Status/Operation screen is displayed.

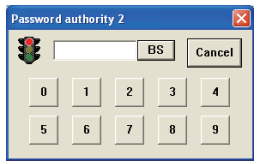


2-2. Exit

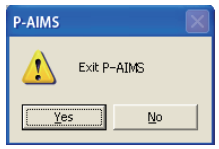
1. From the Menu bar, select “Maintenance” - “Exit”.



2. The Password authority 2 screen is displayed. Input the password.



3. The System Exit screen is displayed. Click on the Yes button.



3. Quick reference

Menu List

Main menu

1. Layout
2. List display
3. Schedule
4. Print
5. Distribution ratio
6. Demand
7. BACnet
8. Facility Control
9. Web
10. Maintenance

	Sub menu	
1. Layout	Layout (options)	
2. List display	Status/Operation	
	Filter sign & I/D unit information	
	O/D unit information	
	Operation/Status change log	
	Alarm list & alarm log	
3. Schedule	Schedule/results	
	Mode settings (Calendar)	
	Schedule operation time settings	
	Update schedule	
4. Print	Print screen	☞p4
	Excel output	☞p4
	Auto EXCEL output setting	☞p5
	Print list	☞p21
	List print preview	☞p21
5. Distribution ratio	T/S ON operation time	☞p9
	Distribution ratio calculation	☞p15
	Accumulated value	☞p23
	Maintenance	
	* · Distribution ratio settings	☞p28
	* · Register distribution group name	☞p32
	* · Register tenant name	☞p34
	* · Accumulated value master data	
	* · I/D unit settings	☞p36
6. Demand	Demand (optional)	
7. BACnet	BACnet (optional)	
8. Facility Control	Facility Control (optional)	
9. Web	Web (optional)	
10. Maintenance	* Register maintenance information	
	* Register floor name	
	* Register control group name	
	* Register schedule group name	
	* Register operator information	
	R/C prohibition settings	
	Clock settings	
	* Data backup/restore	
	* ·Data backup	
	* ·Restore data	
	* ·Cancel data restore	
	* ·Auto backup settings	
	* Register event	
	* Register I/D unit high/low-limit temperature	
	* Auxiliary settings	
	* O/D unit master data settings	
	* I/D unit master data settings	
	* Reset adapter	
	* System maintenance mode	
	* Exit	

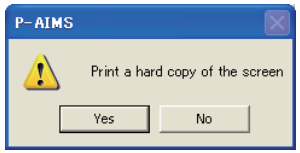
* indicates the security code protection screen.

4. Using the system

4-1. Print

4-1-1. Print screen

[Procedure]
On the menu bar, select “Print” - “Print screen”.



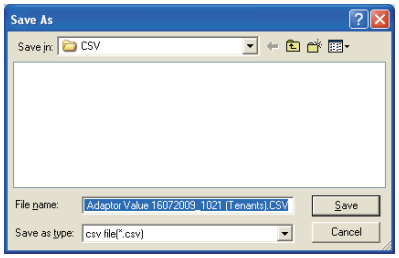
Print the currently-displayed screen.
This menu cannot be selected on screens that cannot be printed.

Click on the Yes button to print the screen.
Click on the No button to exit without printing.

4-1-2. Excel output

[Procedure]
On the menu bar, select “Print” – “Excel output”.

Currently displayed data can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications. The data currently displayed on the screen becomes the file, so make sure the data to place in the file is displayed on the screen.



The file name is assigned automatically.

TS ON Adaptor Value 16072009 _ 1021(Tenants).CSV
Name DDMMYYYY hhmm

* This file is for T/S ON Adaptor Value.

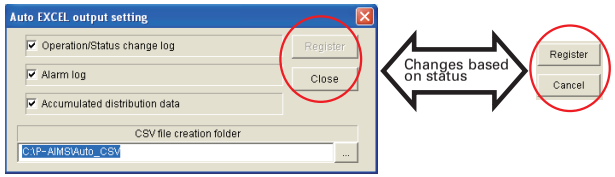
Click on the Save button to save the file to the folder specified under "Save in".
Click on the Cancel button to exit without saving.

* Unless a different save folder has been specified, the saved file is saved to the folder Auto_CSV in the folder to which the P-AIMS system was installed (e.g. C:\P-AIMS).

4-1-3. Setting for automatic Excel output

[Procedure]
On the menu bar, select “Print” - “Auto EXCEL output setting”.
(Password level 1)

"Operation/Status change log" and "Alarm log" can be saved automatically, every day, in CSV format, which can be displayed in Microsoft Excel. Data is saved after midnight, so the data up to the previous day
can be checked.



Operation/Status change log :Specify the file to save the Operation/Status change log to.

Alarm log :Specify how to save the alarm log files.

Accumulated distribution data :Specify how to save files related to distribution ratios.

Register :Registers the set content.

Cancel :Reverts to the previously registered content.

Close :Closes the window.

... :Changes the backup creation folder.

4-1-3-1. Settings for saving the operation/status log

To automatically save the "Operation/status change log" file, click on Operation/Status change log, and add the check mark. Saving is enabled with the check mark added.
Click again to remove the check mark.
The file name is assigned automatically. (Files are saved for each date).

Operation status change log 15072009 1.CSV
Name DDMMYYYY Serial number

(* The serial number increments to 2 when there are over 60,000 items for the first file. Up to 400,000 items can be saved per day).

4-1-3-2. Settings for saving the alarm log

To automatically save the "Alarm log" file, click on Alarm log, and add the check mark. Saving is enabled with the check mark added. Click again to remove the check mark.
The file name is assigned automatically. (Files are saved in one-month units).

Alarmlog 072009.CSV
Name MMYYYY

4-1-3-3. Settings for saving distribution ratio data

To automatically save the "Distribution ratio-related" files, click on Accumulated distribution data, and add the check mark. Saving is enabled with the check mark added. Click again to remove the check mark.
The file name is assigned automatically.

Accumulated value Total value 14062009 to 13072009.CSV
Name Start date Cut-off date *1

Accumulated value Adaptor value 16072009 _ 1026.CSV
Name DDMMYYYY hhmm *2

Distribution Ratio calculation (***) 14062009 to 13072009.CSV
Name Start date Cut-off date *1

Tenant total (***) 14062009 to 13072009.CSV
Name Start date Cut-off date *1

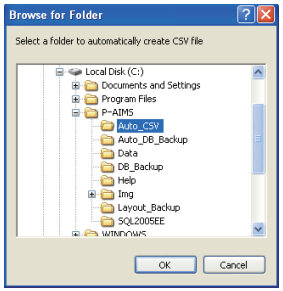
Weigh. factor balance total (***) 14062009 to 13072009.CSV
Name Start date Cut-off date *1

Balance total (***) 14062009 to 13072009.CSV
Name Start date Cut-off date *1

TS ON operation time-Adaptor Value 16072009 _ 1026.CSV
Name DDMMYYYY hhmm *2

* The (***) portion within the file name is one of four patterns: Regular hours, Out of hours, Specified day and All hours.
* *1 means that the results of collating data for one month are placed in a file, on every day after the cut-off date.
*2 means data is placed in the file every day at the time displayed in the file name.

4-1-3-4. Changing the CSV file creation folder for automatic Excel output



Click on the [...] button to display the "Browse for Folder" screen, which can be used to change the folder in which files are saved.

Click on the [OK] button to apply the selected save destination and return to the Auto Backup Settings screen.

Click on the [Cancel] button to return to the Auto Backup Settings screen without doing anything.

4-1-3-5. Registering settings

Click on the [Register] button to register the set content.

4-1-3-6. Deleting settings

Click on the [Cancel] button to delete the set content and revert to the previously registered content.

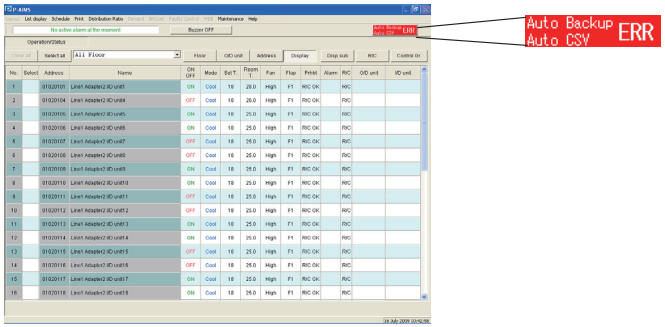
4-1-3-7. Deleting

Click on the [Close] button to close the Auto Backup Settings screen.

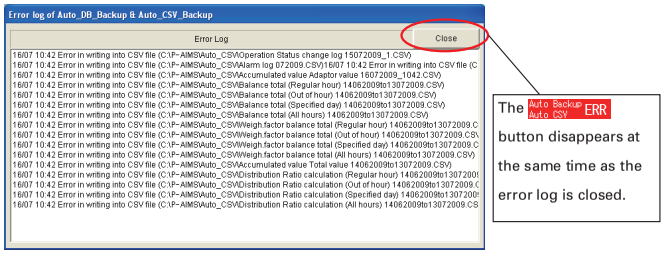
* The [Cancel] and [Close] buttons change to the [Cancel] button when settings are made.
  Clicking on the [Register] and [Cancel] buttons change them to the [Close] button.
* Unless a different save folder has been specified, automatic backup files are saved to the folder Auto_DB_Backup in the folder to which the P-AIMS system was installed (e.g. C:\P-AIMS).

4-1-3-8. What to do when data could not be saved

If an error occurs while the backup file is being saved, a red button marked "Auto Backup, Auto CSV ERR" is displayed in the upper right of the screen.



Click on the [Auto Backup Auto CSV ERR] button to display the "Error log of Auto_DB_Backup & Auto_CSV_Backup" screen and the content of the error.



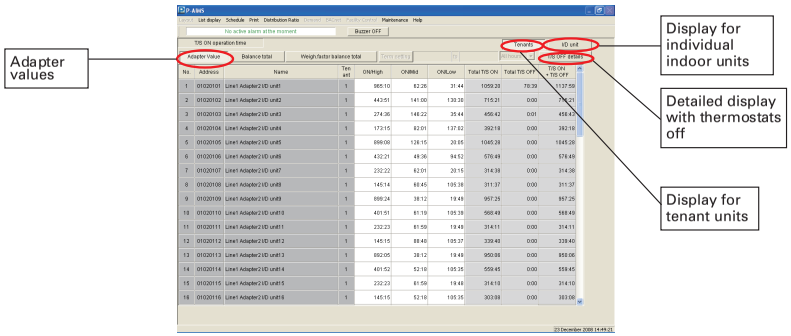
* If this Error button is displayed, an error may have occurred on the storage disk. Take appropriate action, with reference to the instruction manual for the device concerned.

4-2. Operation time with thermostat on

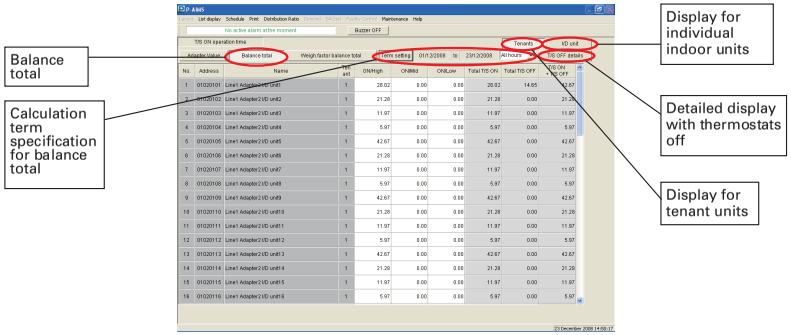
[Procedure]
On the menu bar, select “Distribution ratio” - “T/S ON operation time”.

Thermostat data held by the adapter or indoor unit, or thermostat on/off times for the air conditioner are indicated. The time for each fan speed with the thermostat on is balanced in units of xx minutes, and the cumulative total of those balance values can be tabulated, as can the products of the values set for thermostat on time conversion coefficients of various settings multiplied by the fan speed conversion values.

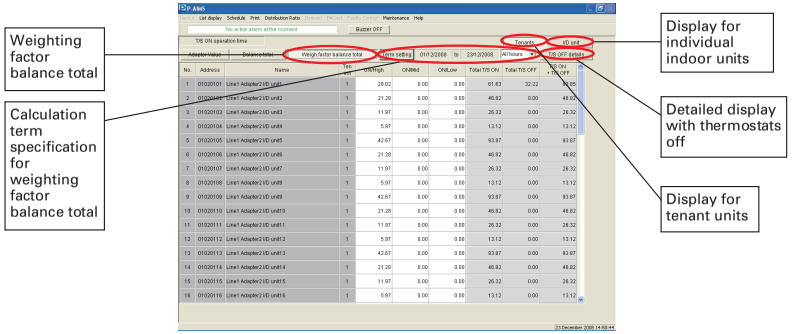
• Adapter values
The thermostat on/off data held by each indoor unit communication adapter can be checked.



• Balance total
The balance is taken in units of xx minutes for each thermostat on fan speed held in the adapter or indoor unit, and the cumulative value of the balance values is displayed.



• Weighting factor balance total
The value set under Distribution ratio setting – Total data – Conversion factor, indoor unit capacity and cumulative time at each fan speed, are multiplied, then sumed up and displayed.



Adapter Value	:Displays thermostat times.
Balance total	:Displays thermostat time balance total values.
Weigh.factor balance total	:Displays the weighting factor balance total values for thermostat times.
Term setting	:Use to specify the term for which to display values.
Tenants / I/D unit	:Selects the display order.
T/S OFF details	:Displays details of thermostat off times.

Key

• Address	:Displays the addresses of indoor units.
• Name	:Displays indoor unit names or tenant names.
• Tenant	:Displays tenant numbers.
• ON/High	:Displays the time of operation with the thermostat on and high fan speed.
• ON/Mid	:Displays the time of operation with the thermostat on and medium fan speed.
• ON/Low	:Displays the time of operation with the thermostat on and low fan speed.
• Total T/S ON	:Displays the total time of operation with the thermostat on and high, medium and low fan speed.
• OFF/High	:Displays the time of operation with the thermostat off and high fan speed. (If thermostat off detailed display is used)
• OFF/Mid	:Displays the time of operation with the thermostat off and medium fan speed. (If thermostat off detailed display is used)
• OFF/Low	:Displays the time of operation with the thermostat off and low fan speed. (If thermostat off detailed display is used)
• Total T/S OFF	:Displays the total time of operation with the thermostat off and high, medium and low fan speed.
• T/S ON + T/S OFF	:Displays the total operation time at all fan speeds, with the thermostat both on and off.
• Electric heater ON	:Displays the time of operation with the electric heater ON.

* Use Distribution ratio – Maintenance – Indoor unit settings on the menu bar to assemble tenant groups and sort their display order.
* The fan speed conversion coefficients for weighting factor balance totals are set using Distribution ratio - Maintenance - Distribution ratio settings screen on the menu bar.
  • Weighting factor balance :The total of balances calculated from the conversion coefficients for each fan speed and the capacities of indoor units, only for thermostat On (high, medium, low fan speed) time.
  Weighting factor = (fan speed x fan speed conversion value) x indoor unit capacity
* The Adapter value display uses the same time (hhmm) as the adapter, but the Balance total and Weighting factor balance total displays use the time with minutes converted to the equivalent number of hours.
  For example 3:30 becomes 3.50. (The same is true for Excel output, so this method is used to facilitate time calculations when the data is loaded into Excel).

4-2-1. Display method

4-2-1-1. Selecting the display type

The thermostat times are displayed when the [Adapter Value] button has been clicked on and remains depressed.

The thermostat time balance total value for the specified term is displayed when the [Balance total] button has been clicked on and remains depressed.

The weighting factor balance total value for thermostat time in the specified term is displayed when the [Weigh.factor balance total] button has been clicked on and remains depressed.

* Any button can be selected. It is not possible to select multiple buttons at the same time.

4-2-1-2. Sorting lists

Click on one of the sort buttons to change the display order of a list. The currently pressed button is the one which determines the sort order.

The list is displayed in tenant units when the [Tenants] button has been clicked on and remains depressed.

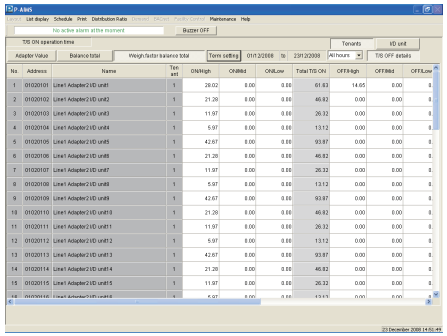
The list is displayed for individual indoor units when the [I/D unit] button has been clicked on and remains depressed.

Click on the buttons to change the list orders.

* Any button can be selected. It is not possible to select multiple buttons at the same time.
* The order for sorting by tenant units is to display in order of tenant number.

4-2-1-3. Detailed display with thermostats off

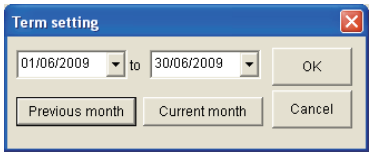
Details of thermostat off time are displayed on the list when the [T/S OFF details] button has been clicked on and remains depressed.



* It is possible to use this in combination with adapter value, balance total and weighting factor balance total.

4-2-1-4. How to specify the display range term

Click on the [Term setting] button to display the Term setting screen.



Click on the [▼] buttons on the right of the date display spaces to display the calendar.
Click on the calendar dates to select the term of data items to display.
Refer to "4-3. Calendar" in the basic software operation manual for the calendar operation method.

Specify the start and end dates.

Alternatively, click on the [Previous month] or [Current month] button.

[Previous month] : The term is set to the month leading up to the cut-off date of the preceding month.

[Current month] : The term is set to the period from the day after the preceding cut-off date to the present.

Specify the display term and click on the [OK] button to begin data collation.



No other operations can be performed during data collation.

Once data collation is complete, the balance total or the weighting factor balance total for the term is displayed.

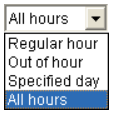
To close the Term setting screen, click on the [Cancel] button.

4-2-1-5. Specifying the time range

Click on the ▼ button on the right of the term setting space to display the list of display types.



Select the type to display.



Regular hour	: The time value set as the regular hours range setting on the Distribution Ratio Setting screen.
Out of hour	: The value for time other than that set as the regular hours range setting on the Distribution Ratio Setting screen.
Specified day	: Days displayed in red on the calendar on the Distribution Ratio Setting screen. (0:00-24:00)
All hours	: All hours (including regular hours, out of hours and specified days)

Once data collation is complete, the balance total or the weighting factor balance total for the term is displayed.

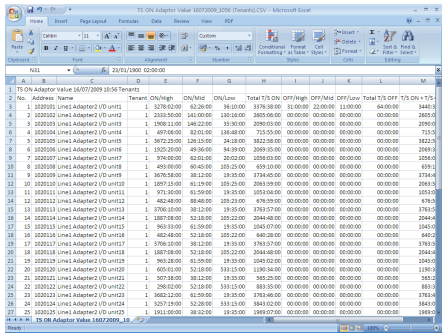
* If data has been collated for a specified term, the displayed data can be switched just by changing the display type.

4-2-1-6. Excel output

Currently displayed history can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications.
Refer to "4-1-2 Excel output" for the operation method.
The file name is assigned automatically.

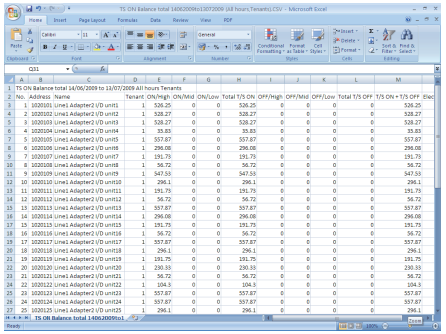
• Adapter values

TS ON Adaptor Value 16072009 _ 1056(Tenants).CSV
Name DDMMYYYY hhmm



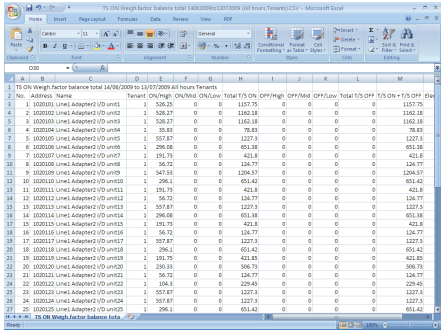
• Balance total

TS ON Balance total 14062009to13062009 (All hours, Tenants).CSV
Name Specified display term Display type



• Weighting factor balance total

TS ON Weigh.factor balance total 14062009to13072009 (All hours, Tenants).CSV
Name Specified display term Display type



* Even if the screen display is set to display only T/S ON data, the file output as CSV will include T/S OFF data.
* The worksheet name used for Excel can have up to 31characters. If the CSV file name exceeds 31characters, it is not possible to display all of them as the worksheet name.
* In Excel, it is not possible to calculate for times exceeding 10,000 hours, so balance total and weighting factor balance total are handled as numerical values. The unit is "hours".

4-3. Distribution ratio calculation

[Procedure]
On the menu bar, select “Distribution ratio”– “Distribution ratio calculation”.

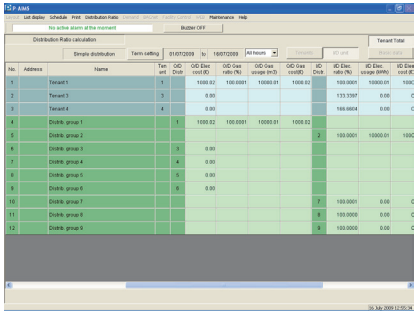
The distribution ratio calculation for the air conditioner within the specified term is displayed. There are two types of distribution ratio calculation: Simple distribution and Load distribution. To switch between Simple distribution and Load distribution, select “Distribution ratio” - “Maintenance” - “Distribution ratio settings” from the menu bar and select Distrib. mode in the Distribution ratio settings dialog box.

* Simple distribution
With simple distribution, the distribution can be set for outdoor unit electricity and for indoor unit electricity. Make settings under “Distribution ratio” - “Maintenance” - “Distribution ratio settings” on the menu bar. Gas distribution for outdoor units is performed automatically.
* Load distribution
With load distribution, it is not possible to set electricity distributions for individual indoor units. We recommend use of simple distribution if it is necessary to distribute electricity between indoor units.

4-3-1. Screen display

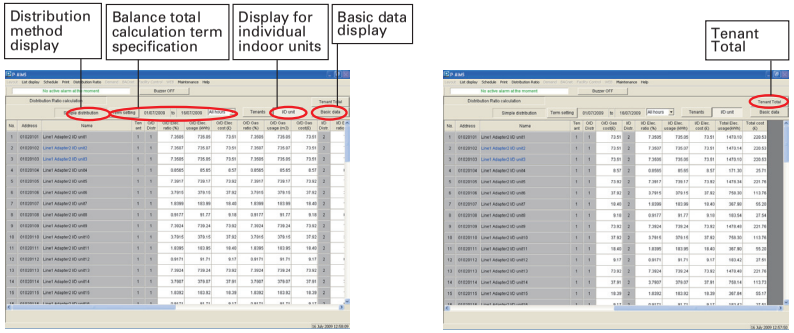
4-3-1-1. Simple distribution

• Tenant calculation
If multiple distribution groups are registered for a given tenant, the same tenant name is displayed for each distribution group, so it is necessary to recalculate for each tenant. Click on the Tenant Total button to calculate for each tenant.

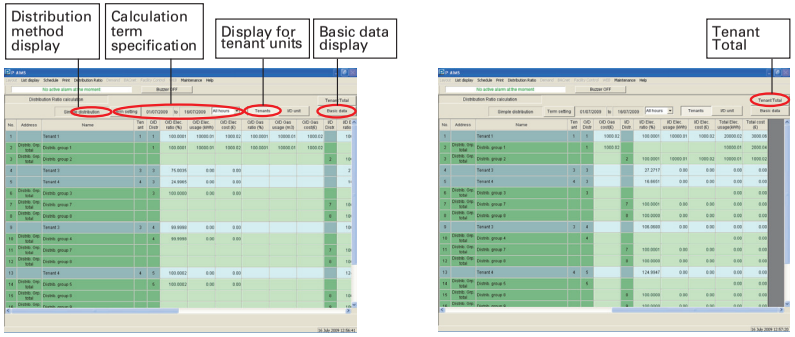


* On the Tenant Calculation screen, it is not possible to display tenant units, individual indoor units and basic data.

• Individual indoor units
Distribution ratios for electricity and gas are displayed for individual indoor units.



• Tenant units
Distribution ratios for electricity and gas are displayed for tenant units.



Term setting :Use to specify the term for which to display values.
Tenant Total :Calculate in tenant units.
Tenants I/D unit :Selects the display order.
Basic data :Displays basic data.

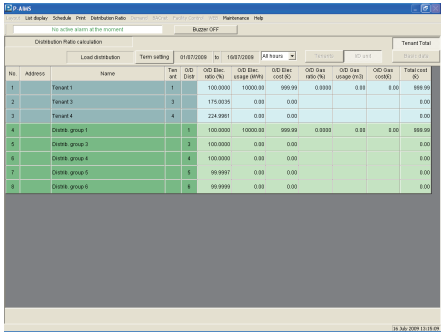
Key
Simple distribution
• Address :Displays the addresses of indoor units.
• Name :Displays indoor unit names or tenant names.
• Tenant :Displays tenant group numbers.
• O/D Distr. :Displays distribution group numbers for outdoor units.
*1 • WF:T/S ON time :Displays weighted thermostat On operation times. (When basic data is displayed)
*1 • WF:T/S ON/OFF :Displays the total weighted thermostat On and Off operation times. (When basic data is displayed)
*2 • O/D Elec. ratio (%) :When used with PAC, the distribution ratio for each distribution group is calculated on the basis of thermostat On operation time. With GHP systems, the distribution ratio for each distribution group is calculated on the basis of weighted thermostat On and Off times.
*2 • O/D Elec. usage (kWh) :The electricity used during thermostat On time is calculated from the electricity distribution ratio.
*2 • O/D Elec. cost (£) :The amount of electricity used is multiplied by the price rate of electric power to calculate the charge. (Calculated for charges within the same price band).
*3 • O/D Gas ratio (%) :The distribution rate for each distribution group is calculated, on the basis of the thermostat On operation time, and displayed. (Only for GHP systems)
*3 • O/D Gas usage (m^3) :The amount of gas used is calculated from the distribution ratio within the thermostat On operation time. (Only for GHP systems)
*3 • O/D Gas. cost (£) :Calculated by multiplying the gas usage by the price rate of gas. (Calculated for charges within the same price band).

*4 • I/D Distr :Displays distribution group numbers for indoor units.
*4 • I/D Elec. ratio (%) :The distribution ratio for each indoor distribution group is calculated on the basis of weighted thermostat On and Off times.
*4 • I/D Elec. usage (kWh) :The electricity used during thermostat On time is calculated from the indoor electricity distribution ratio.
*4 • I/D Elec. cost (£) :The amount of electricity used indoors is multiplied by the price rate of electric power to calculate the charge.(Calculated for charges within the same price band).
*4 • Total Elec. Usage (kWh) :The total electricity used by the outdoor units and indoor units is displayed.
• Total cost (£) :The total of the electricity charge and gas charge is displayed.

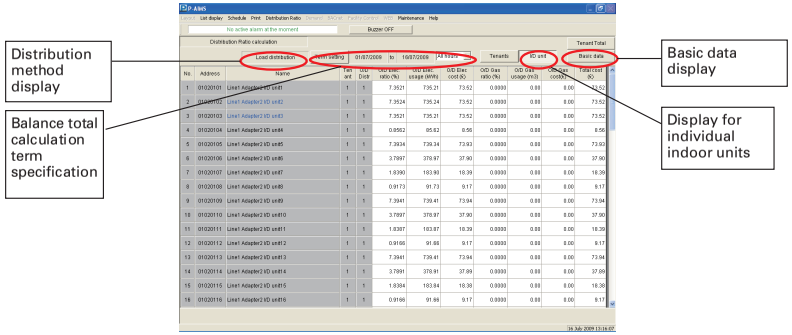
*1: This is displayed when the Basic data button is pressed.
*2: This is displayed when Yes is selected for Outdoor electricity distribution under Distribution ratio settings.
*3: This is displayed if GHP is used.
*4: This is displayed when Yes is selected for Indoor electricity distribution under Distribution ratio settings.
* Use "Distribution ratio" - "Maintenance" - "I/D unit master data settings" screen to assemble the indoor unit included within tenant groups.

4-3-1-2. Load distribution

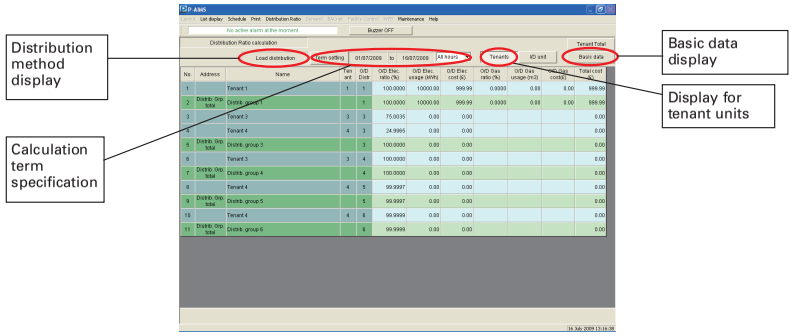
• Tenant calculation
If multiple distribution groups are registered for a given tenant, the same tenant name is displayed for each distribution group, so it is necessary to recalculate for each tenant. Click on the Tenant Total button to calculate for each tenant.



• Individual indoor units
Distribution ratios for electricity and gas are displayed for individual indoor units.



• Tenant units
Distribution ratios for electricity and gas are displayed for tenant units.



Term setting :Use to specify the term for which to display values.
Tenant Total :Calculate in tenant units.
Tenants I/D unit :Selects the display order.
Basic data :Displays basic data.

Key
Load distribution
• Address :Displays the addresses of indoor units.
• Name :Displays indoor unit names or tenant names.
• Tenant :Displays tenant group numbers.
• O/D Distr :Displays distribution group numbers for outdoor units.
*1 • Electric operation :Displays the electrical operation capacity.
*1 • Gas operation capacity :Displays the gas operation capacity.
• O/D Elec ratio (%) :Distribution ratios are calculated for each distribution group, based on the load distribution specification of each PAC Espa, PAC Multi and GHP.
• O/D Elec usage (kWh) :The electricity used during thermostat On time is calculated from the electricity distribution ratio.
• O/D Elec cost (£) :The amount of electricity used is multiplied by the price rate of electric power to calculate the charge. (Calculated for charges within the same price band).
*2 • O/D Gas ratio (%) :Distribution ratio for each distribution group are calculated on the basis of load distribution specifications. (Only for GHP systems)
*2 • O/D Gas usage (m^3) :The amount of gas used is calculated from the gas distribution ratio. (Only for GHP systems)
• O/D Gas cost (£) :Calculated by multiplying the gas usage by the price rate of gas. (Calculated for charges within the same price band).
• Total cost (£) :The total of the electricity charge and gas charge is displayed.

*1: This is displayed when the Basic Data button is pressed.
*2:This is displayed if GHP is used.
* :Use Distribution ratio - Maintenance - I/D Unit Settings screen to assemble the indoor unit included within tenant groups.

4-3-2. Display method

4-3-2-1. Selecting the display type

When the [Tenant Total] button has been clicked on and remains depressed, the total distribution calculation ratios are displayed for tenant units.

When the [Tenant Total] button has been clicked and does not remain depressed, the distribution ratio is calculated depending on the pressed status of the following buttons.

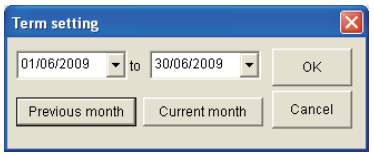
When the [Tenants] [I/D unit] button has been clicked on and the "I/D unit" remains depressed, the distribution calculation ratios are displayed for indoor units.

When the [Tenants] [I/D unit] button has been clicked on and the "Tenants" remains depressed, the distribution calculation ratios are displayed for tenant units.

* When you first access this screen, the display shows the previously specified term.
* If the display type is switched after the display term has been specified, it will be possible to display tenant total, indoor units and tenant units for the specified term.

4-3-2-2. How to specify the display range term

Click on the [Term setting] button to display the Term Setting screen.



Click on the [▼] buttons on the right of the date display spaces to display the calendar.
Click on the calendar dates to select the term of data items to display.
Refer to "4.3 Calendar" in the basic software opration manual for the calendar operation method.

Specify the start and end dates.

Alternatively, click on the [Previous month] or [Current month] button.

[Previous month]: The term is set to the month leading up to the cutoff date of the preceding month.

[Current month]: The term is set to the period from the day after the preceding cutoff date to the present.

Specify the display term and click on the [OK] button to begin data collation.



No other operations can be performed during data collation.

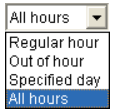
Once data collation is complete, the balance total or the weighting factor balance total for the term is displayed. To close the Term Setting screen, click on the [Cancel] button.

4-3-2-3. Specifying the time range

Click on the [▼] button on the right of the term setting space to display the list of display types.



Select the type to display.



Regular hour	: The time value set as the regular hour range settings on the Distribution Ratio Setting screen.
Out of hour	: The value for time other than that set as the regular hours range settings on the Distribution Ratio Setting screen.
Specified day	: Days displayed in red on the calendar on the Distribution Ratio Setting screen. (0:00-24:00)
All hours	: All hours (including regular hours, out of hours and special days)

The results are displayed once data calculation is complete.

* If data has been calculated for a specified term, the displayed data can be switched just by changing the display type.

4-3-3. Printing

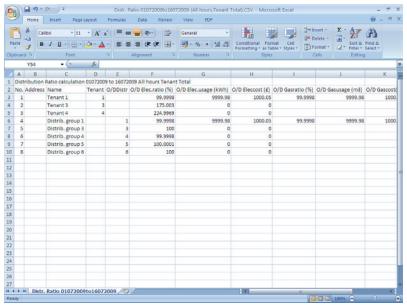
4-3-3-1. Print screen

Refer to "4-1-1 Print screen" for details of how to operate this screen.

4-3-3-2. Excel output

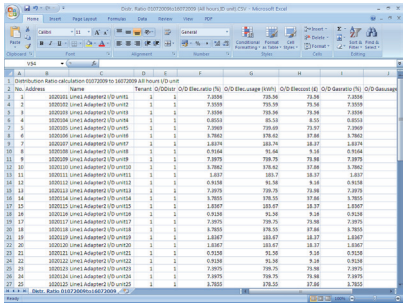
Currently displayed history can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications.
Refer to "4-1-2 Excel output" for the operation method.
The file name is assigned automatically.
• Tenant calculation

Distr. Ratio 01072009to16072009 (All hours, Tenant Total).CSV
Name Specified display term Display type



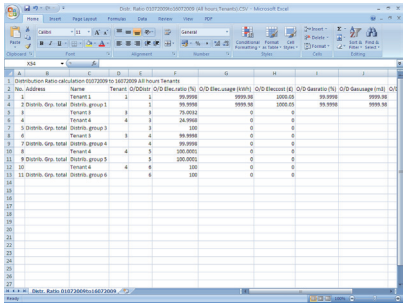
• Individual indoor units

Distr. Ratio_01072009to16072009 (All hours, ID unit).CSV
Name Specified display term Display type



• Tenant units

Distr. Ratio 01072009to16072009 (All hours, Tenants).CSV
Name Specified display term Display type



4-3-3-3. Print list

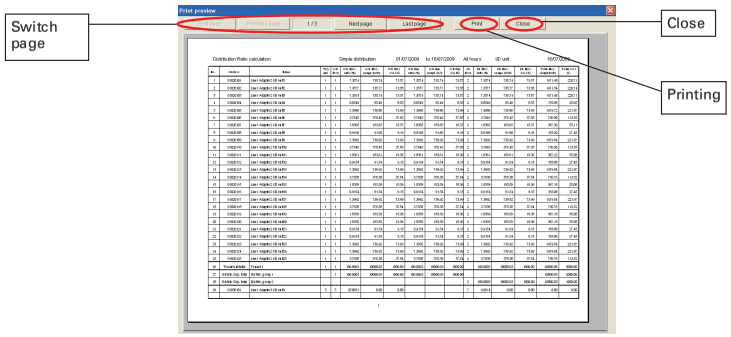
[Procedure]
On the menu bar, select "Print" – "Print list".
This is only enabled on the I/D unit distribution ratio calculation screen.

This prints out the table of I/D unit distribution ratio calculation, as displayed on the screen. The printed range is the entire page. Other tables cannot be printed.

4-3-3-4. List print preview

[Procedure]
On the menu bar, select "Print" – "List print preview".
This is only enabled on the I/D unit distribution ratio calculation screen.

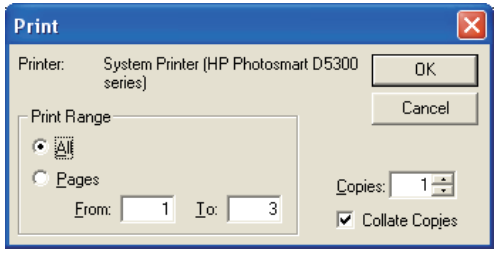
This displays a print preview of the table of I/D unit distribution ratio calculation, as displayed on the screen. Other tables cannot be printed.



First page	: Move to the first page.
Previous page	: Move to the preceding page.
1 / 3	: The current displayed page number / the total number of pages
Next page	: Move to the next page.
Last page	: Move to the last page.
Print	:Specify a range to print out.
Close	:Closes the window.

• Printing

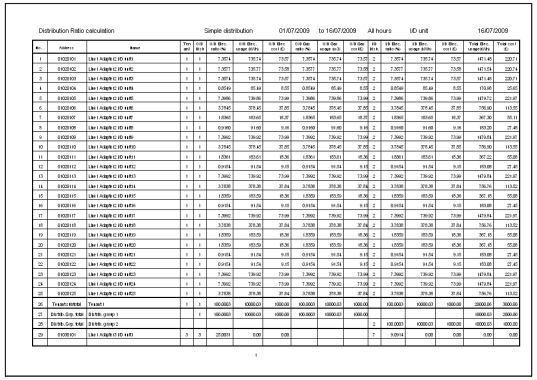
Click on the Print button to display the dialog box for specifying the print range.
The dialog box can be used to specify the range that will be printed.



The default printer (******) will use (******) to print.
Print all pages or specify which pages to print in the Print Range.
Under Copies, specify the number of copies to print.

Click on the [OK] button to start printing.
Click on the [Cancel] button to close the dialog box.

• Form printing

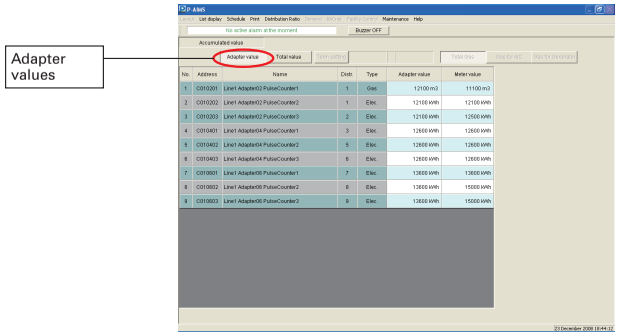


4-4. Accumulated value

[Procedure]
On the menu bar, select “Distribution ratio” – “Accumulated value”.

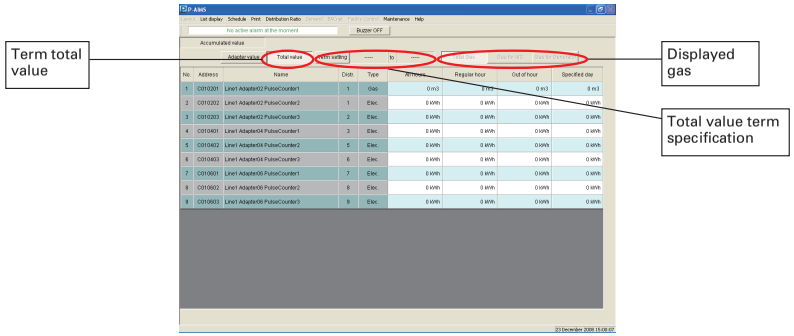
The accumulated values from the electricity and gas meters connected to the adapter are displayed.

• Adapter values
This displays the current value of the adaptor's accumulated pulses.



Key
• Address :Displays the addresses of indoor units.
• Name :Displays the names of accumulated pulse meters.
• Distr. :Displays distribution group numbers.
• Type :Displays the types of pulse meter.
• Adapter value :Displays the current values of the adapters on the pulse meter.
• Meter value :This displays the value with the addition of balance data between an arbitrary value for the pulse meter and the adapter value.

• Total value
This displays the total value of accumulated pulses on the adapter over the specified term.



Key
• Address :Displays the addresses of indoor units.
• Name :Displays the names of accumulated pulse meters.
• Distr :Displays distribution group numbers.
• Type :Displays the types of pulse meter.
• All hours :Displays the meter values for all hours (regular hours, out of hours and special days) within the specified term.
• Regular hour :Displays the time value set as the Regular hour range settings on the Distribution Ratio Setting screen.
• Out of hour :Displays the time value set as the out of Regular hour range settings on the Distribution Ratio Setting screen.
• Specified day :Displays days for which the calendar display is set to red on the Distribution Ratio Setting screen.
(0:00-24:00)

* Register accumulated value masters under “Distribution ratio” - “Maintenance” - “Accumulated value” screen on the menu bar.
* The current value is updated at 15-minute intervals.
* Meter values are displayed as the total of an arbitrary value plus balance data.
* Make settings for special days and regular hours under “Distribution ratio” - “Maintenance” - “Distribution Ratio Settings” screen on the menu bar.

4-4-1. Display method

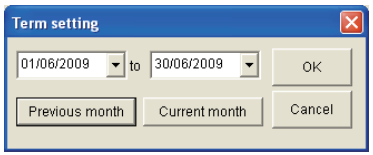
4-4-1-1. Selecting the display type

The adaptor values and meter values are displayed when the [Adapter Value] button has been clicked on and remains depressed.
The total of meter values for the specified term is displayed when the [Total value] button has been clicked on and remains depressed.

* Any button can be selected. It is not possible to select multiple buttons at the same time.

4-4-1-2. Term setting (term total value)

Click on the [Term setting] button to display the Term setting screen.



Click on the [▼] buttons on the right of the date display spaces to display the calendar.
Click on the calendar dates to select the term of data items to display.
Refer to "4.3 Calendar" in the basic software operation manual for the calendar operation method.

Specify the start and end dates.

Alternatively, click on the [Previous month] or [Current month] button.

[Previous month]: The term is set to the month leading up to the cutoff date of the preceding month.

[Current month]: The term is set to the period from the day after the preceding cutoff date to the present.

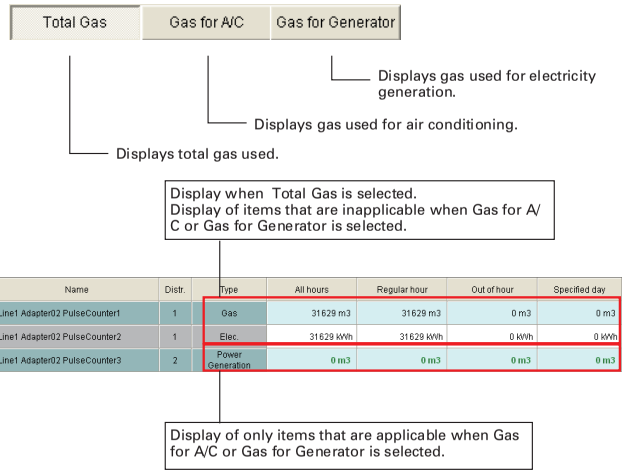
Specify the display term and click on the [OK] button to begin data collation.



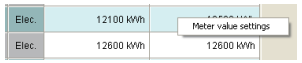
No other operations can be performed during data collation.

Once data collation is complete, the balance total or the weighting factor balance total for the term is displayed. To close the Term Setting screen, click on the [Cancel] button.

4-4-1-3. Display selection for the gas calculation method

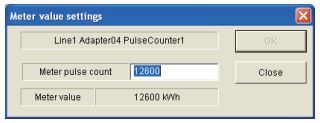


4-4-2. Changing the meter value



Move the cursor to the row to change the meter value for, then right click to display the Meter Value Settings menu and click on it.

The password screen appears, so input password level 2.



The Meter value settings screen appears. Use it to change the Meter pulse count.

After completing the change, click on the [OK] button to update the data.

Click on the [Cancel] button to revert to the data from before the change.

Click on the [Close] button to close the Meter value settings screen.

4-4-3. Printing

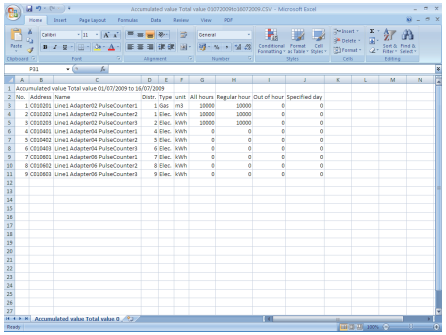
4-4-3-1. Print screen

Refer to "4-1-1 Print screen" for details of how to operate this screen.

4-4-3-2. Excel output

Currently displayed history can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications.
Refer to "4-1-2 Excel output" for the operation method.
The file name is assigned automatically.

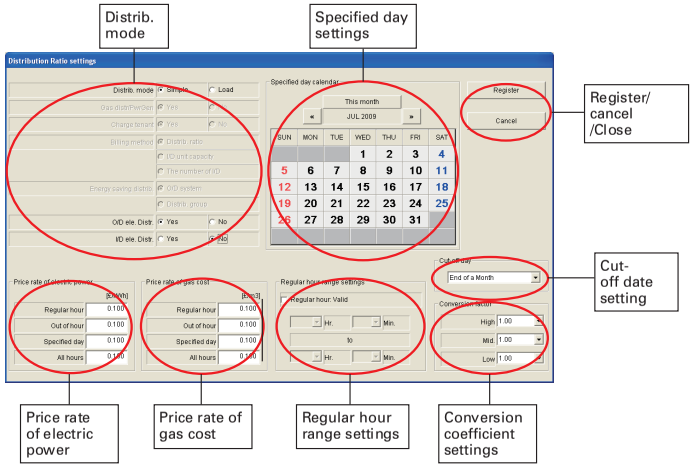
Accumulated value Total value 01072009to16072009.CSV
Name Display type Specified display term



4-5. Distribution ratio setting

[Procedure]
On the menu bar, select “Distribution ratio” – “Maintenance” - “Distribution ratio settings”.
(Password level 1)

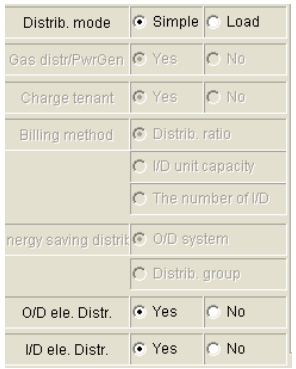
Make settings for Distribution mode, Specified days, Regular hour range setting, Cut-off days, Conversion factors and charge Price rate.



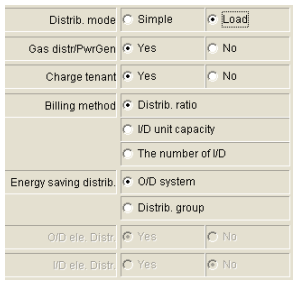
4-5-1. Setting distribution method

Set the distribution method. If the air conditioner is compatible with new distribution, loaded distribution can be selected for the calculation, but calculation will be disabled if it is selected with a non-compatible air conditioner. In that case, select simple distribution. For details of the distribution methods, refer to the distribution ratio calculation methods in the Reference appendix to the manual.
For more information, contact your dealer or service provider.

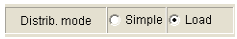
When Simple Distribution is selected



When Loaded Distribution is selected



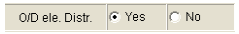
4-5-1-1. Selecting distribution method



: Select simple distribution or load distribution.

4-5-1-2. Settings for simple distribution

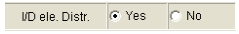
The following can be selected when simple distribution is used.



: Sets whether or not to use simple distribution for outdoor unit electricity.

Yes : Use simple distribution for outdoor unit electricity.

No : Do not use simple distribution for outdoor unit electricity.



: Sets whether or not to use simple distribution for indoor unit electricity.

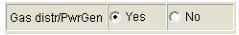
Yes : Use simple distribution for indoor unit electricity.

No : Do not use simple distribution for indoor unit electricity.

* The distribution of electricity for indoor units and outdoor units can be calculated separately for individual distribution groups.(This function is only for simple distribution).

4-5-1-3. Settings for load distribution

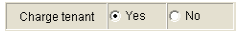
The following can be selected when load distribution is used.



: Select whether or not to distribute gas used for power generation.

Yes : Gas for air conditioning and gas for power generation will be separated.

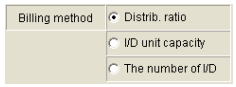
No : All gas will be treated as air conditioning gas, without distinction between gas for air conditioning and gas for power generation.



: Select whether or not to bill tenants for gas used for power generation.

Yes : Gas used for power generation will also be calculated for the tenants.

No : Gas used for power generation will not be calculated for the tenants.
(In that case, the amount of gas used for power generation will not be calculated, and will be at the expense of the owner.



: Specify the distribution method to use for gas for power generation. Add gas for air conditioning to the power generation gas distributed to tenants.

Distrib. ratio

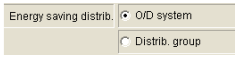
: Assign it to each tenant proportionally to their distribution ratio.

I/D unit capacity

: Assign it to each tenant proportionally to the total capacity of indoor units included for that tenant. If the tenant has a smaller number of units, but of larger capacity, it will be assigned more than others.

The number of I/D

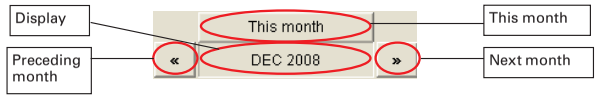
: Assign it to each tenant proportionally to the total number of indoor units included for that tenant. This method is unrelated to the size of indoor units. Even if the indoor units are of high capacity, the amount assigned to the tenant will be smaller than others if the number of units is lower.



: Select whether operating efficiency improvements achieved by running energy-saving model, such as 3-way systems or ice heat accumulation, should be shared only within the system concerned or shared throughout the distribution group, which also includes ordinary model.

4-5-2. Editing specified day

4-5-2-1. Changing the calendar



Click on the « button to display the preceding month.

Click on the » button to display the next month.

Click on the This month button to return to the current month.

4-5-2-2. Setting specified day

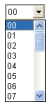
To set a day as a specified day, click on the day. Its color will change to 30. Click again to cancel the setting. The color for that day reverts to 30.

4-5-3. Setting the regular hour range settings

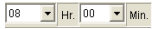
4-5-3-1. Setting enable/disable for the regular hour range

To enable the setting for the regular hour range, click on Regular hour: Valid, and add the check mark. Click there again to remove the check mark, disabling the setting.

4-5-3-2. Setting times for Regular hour



Set the start and end times for Regular hours.
To set times, click on the button next to the hour or minute of the



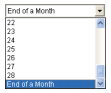
.

A dropdown list of 0–23 is displayed for the hour, and of 0, 30 for the minutes. Use them to select the right time.



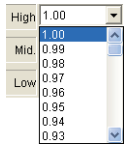
4-5-4. Setting accumulated data

4-5-4-1. Setting the cut-off day



Set the monthly cut-off day for accumulated data. Click on the button to the right of the cut-off day to display a drop-down list offering 1–28 and month end. Select the right date.
If the cut-off date is set to "20", one month's data is from the 21st of the preceding month to the 20th of the current month, and the accumulated data is calculated accordingly.
* Among the accumulated distribution data set under Automatic Excel Output, the files related to cut-off date are created on the day after the cut-off date set here.

4-5-4-2. Setting conversion factor



When calculating the distribution for the weighting factor balance total, applying weighting according to fan speeds.
Click on the ▼ button to the right of High, Mid. and Low.
Drop down lists showing the range 1.00–0.50 in steps of 0.01 are displayed, so select the relevant coefficients.
For example, if High is set to 1.00 and Mid. to 0.80, the distribution calculation would apply a 20% lower weighting to operation at medium fan speed than to operation at high fan speed.

4-5-5. Registering unit prices

4-5-5-1. Registering Price rate of electric power

Set Price rate of electric power. The distribution ratios, calculated using simple distribution or Load distribution, are multiplied by the electricity usage calculated from the power quantity from the pulse meter, and then by the electricity unit price to produce the charge for each tenant.
Unit price can be set in the range 0.000–9.999£/kWh.
If the time zone totals calculation function is used for the calculation, separate unit prices are set for regular hours, out of hours, and specified days, so it is possible to set, for example, a slightly higher rate for out of hours usage, to vary the level of billing with the time zone. Conversely, if the unit price was set for "All hours", a single calculation can be performed, regardless of time zones.
The results of these two calculation types are displayed together in the "All hours" list.

4-5-5-2. Registering Price rate of gas cost

Set the unit price for gas charges. The distribution ratios, calculated using simple distribution or Load distribution, are multiplied by the gas usage calculated from the gas quantity from the pulse meter, and then by the gas unit price to produce the charge for each tenant.
Unit price can be set in the range 0.000–9.999£/m^3.
If the time zone totals calculation function is used for the calculation, separate unit prices are set for regular hours, out of hours, and special days, so it is possible to set, for example, a slightly higher rate for out of hours usage, to vary the level of billing with the time zone. Conversely, if the unit price was set for "All hours", a single calculation can be performed, regardless of time zones.
The results of these two calculation types are displayed together in the "All hours" list.

4-5-6. Registering settings

4-5-6-1. Registering settings

Click on the [Register] button to register the set content.

4-5-6-2. Deleting settings

Click on the [Cancel] button to delete the set content and revert to the previously registered content.

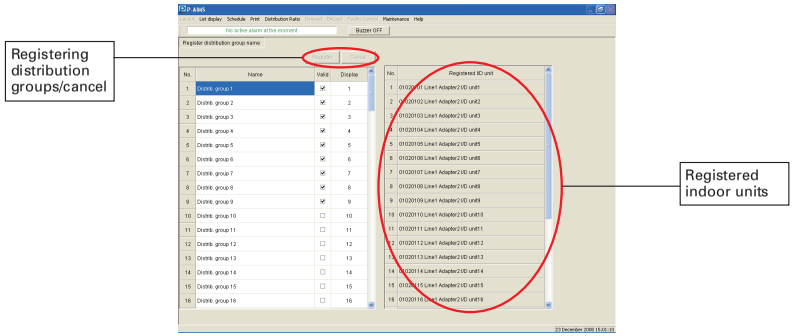
4-5-6-3. Deleting

Click on the [Close] button to close the Distribution Ratio Settings screen.

4-6. Register distribution group name

[Procedure]
On the menu bar, select "Distribution ratio"– "Maintenance" - "Register distribution group name".
(Password level 1)

Distribution groups can be added and deleted. Distribution groups must be registered on this screen before they can be selected on the Accumulated Value master and the Indoor Unit master.



[Register] :Register settings.
[Cancel] :Revert to the previously registered state.

Key
- Name :Displays distribution group names.
- Valid :Sets enabled/disabled.
- Display :Displays the order in which the distribution groups are displayed.
- Registered I/D unit :This displays the names and other information on the indoor units that have been registered to the distribution group concerned.

* If the display order numbers are the same, tenants in the same distribution group will be displayed ahead of other tenants. In that case, the display order will be as specified in the tenant name registration.

4-6-1. Editing distribution groups

4-6-1-1. Editing distribution group names

To register distribution group names, input the registered names in the item cells to register. The previously displayed name is deleted and replaced by the new name.
To edit, double click on the item cell to revise. The cursor is displayed in the selected item cell, enabling editing.

4-6-1-2. Enabling/disabling registration

Valid ☑ To enable registration, a check mark, as illustrated on the left, must be added to this enabled cell.
(Click to add the check mark. Click again to remove the check mark.

4-6-1-3. Registering display orders

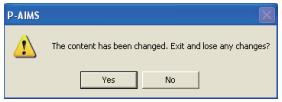
When a distribution group is registered to another master, the pulldown list is displayed. Input the display order on the list.
("0" means display at the end of the list.

4-6-2. Saving and revising edited distribution groups

After editing, the Register and Cancel buttons are enabled.
Once you have finished editing the distribution group, click on the Register button at top of the screen.
The edited distribution group is saved.
Click on the Cancel button to return the edited distribution group to its previous state, without registering changes. Added and deleted items are also restored to their previous states.

4-6-3. Change confirmation

If you have changed the distribution groups and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

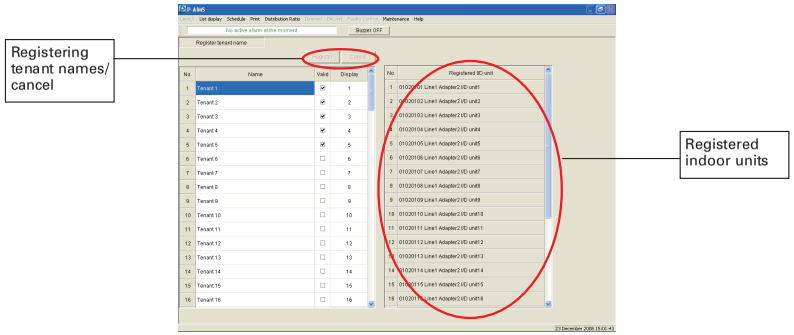


Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

4-7. Register tenant name

[Procedure]
On the menu bar, select "Distribution ratio"– "Maintenance" - "Register tenant name".
(Password level 1)

Register tenant names.



Register :Register settings.
Cancel :Revert to the previously registered state.

Key
- Name :Displays the name of the billed party (the tenant) for the invoice.
- Valid :Sets enabled/disabled.
- Display :Indicates the order in which tenants are displayed on the list screen.
- Registered I/D unit :Displays the names and other information on the indoor units that have been registered to the tenant name concerned.

* If the display order numbers for the distribution group are the same, the tenant in the same distribution group will be displayed ahead of the other tenant.
In that case, the display order will be as specified in the tenant name registration.

4-7-1. Editing tenants

4-7-1-1. Editing tenant names

To register tenant names, input the registered names in the item cells to register. The previously displayed name is deleted and replaced by the new name.
To edit, double click on the item cell to revise. The cursor is displayed in the selected item cell, enabling editing.

4-7-1-2. Enabling/disabling registration

Valid ☑ To enable registration, a check mark, as illustrated on the left, must be added to this enabled cell.
(Click to add the check mark. Click again to remove the check mark.

4-7-1-3. Registering display orders

When a distribution group is registered to another master, the pulldown list is displayed. Input the display order on the list.
("0" means display at the end of the list.

4-7-2. Saving and discarding edited tenants

After editing, the Register and Cancel buttons are enabled.

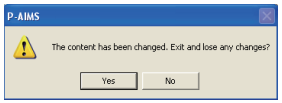
Once you have finished editing the tenant, click on the Register button at top of the screen.
The edited tenant is saved.

Click on the Cancel button to return the edited tenant to its previous state, without registering changes.

Added and deleted items are also restored to their previous states.

4-7-3. Change confirmation

If you have changed the tenants and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

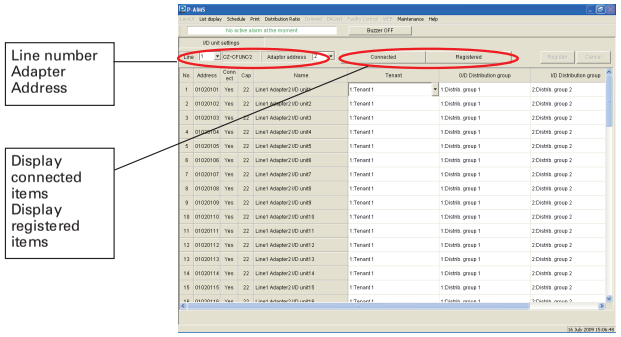


Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

4-8. Indoor unit settings

[Procedure]
On the menu bar, select “Distribution ratio” – “Maintenance” - “I/D unit settings”.
(Password level 2)

Set associations between indoor units, distribution groups and tenants. Also set the current added values etc. for electric heaters and indoor fans.



Line 1 CZ-CFUNC2 Adaptor address 1 :Specify communication line numbers and adaptor addresses.

Connected :Only displayed when the connection column is "Yes".

Registered :Only those that are registered in the I/D unit master data settings are displayed.

Register :Register settings.

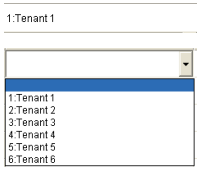
Cancel :Revert to the previously registered state.

Key

- Address : Displays the addresses of indoor units.
- Connect : Displays "Yes" for data that is connected to indoor units.
- Cap. : Displays the capacities of indoor units.
- Name : Displays the names of indoor units.
- Tenant : Specify associations with tenant names.
- O/D distribution group : Specify associations with distribution groups for outdoor units.
- I/D distribution group : Specify associations with distribution groups for indoor units. (This is displayed when “Yes” is selected for indoor distribution under Distribution ratio settings).
- Elec. heater : Specify electric heater capacities.
- I/D fan : Specify current added values for fans of indoor units.
- Fix cap. : Specify the capacities of indoor units.

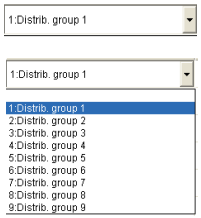
4-8-1. Registering indoor units

4-8-1-1. Registering tenants



To specify tenants registered under Register Tenant Name, click on the tenant column for the indoor unit concerned, to display a combo box.
Click on the button on the right to display the pulldown menu, then click on the relevant tenant.
The pulldown menu displays the tenants registered under Register Tenant Name.
The same procedure can be used to make changes.

4-8-1-2. Registering distribution groups



To specify distribution groups registered under Register Distribution group name, click on the distribution group column for the indoor unit concerned, to display a combo box.
Click on the button on the right to display the pulldown menu, then click on the relevant distribution group.

The pulldown menu displays the distribution groups registered under Register Distribution Group Name.
The same procedure can be used to make changes.

4-8-1-3. Registering electric heater capacities

Specify the electric heater capacities of indoor units that are equipped with electric heaters. Input capacities in kW units. They are used in loaded distribution calculations.

4-8-1-4. Registering indoor fans

When calculating loaded distribution, input the indoor fan current added values required for calculating the fan power of indoor units.
The initial value is set to "0.02".

4-8-1-5. Registering fixed capacities

The capacities of indoor units are acquired automatically and displayed in the Cap column. There are some models from which the data cannot be acquired automatically, so input the capacities of those in kW units. If the value in the Fix cap. column is "0", the data in the Cap. column will be used to calculate distribution.

4-8-1-6. Enabling/disabling registration



To enable registration, a check mark, as illustrated on the left, must be added to this enabled cell.
(Click to add the check mark. Click again to remove the check mark.

4-8-2. Saving and discarding edited indoor unit settings

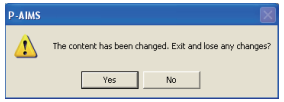
After editing, the Register and Cancel buttons are enabled.
Once you have finished editing the indoor unit settings, click on the Register button at top of the screen.
The edited tenant is saved.

Click on the Cancel button to return the edited tenant to its previous state, without registering changes.

Added and deleted items are also restored to their previous states.

4-8-3. Change confirmation

If you have changed the indoor unit settings and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

5. Supplementary Information

- Personal Computers
  Use a personal computer exclusively for the P-AIMS System.
  Sharing the PC with any other system could cause problems.

- Data backup
  The PC used with the P-AIMS System could break down, so you are advised to back up data to an external hard drive or other storage. For more information, contact your dealer or service provider.
  NOTE: When the drive name of an external hard disk drive is changed, it is not possible to back up.

- Power outages
  We recommend use of a UPS device (uninterruptible power supply) to protect the P-AIMS in the event of a power outage. For more information, contact your dealer or service provider.

- Please note that we will not provide compensation in the following circumstances:
  Any fault caused by a third party becoming aware of a password.
  Any fault caused by sharing a PC between P-AIMS and another application.

- Acquisition of accumulated data
  When accumulated data is acquired, it passes through two communication lines, from the indoor unit group to the AMY adapter, and from there to the P-AIMS system. Please note, it is possible that regular hours data may be received as out of hours data, due to the timing of communications and any related delays.

- Limitations on changing settings
  Some types of air conditioners are limited in the settings which they support.
  For example, cooling-only air conditioners cannot be set to heating.
  Floor-type models typically support only high fan speeds.
  Ceiling mounted models do not have flaps, and therefore cannot change the fan direction.
  You should be aware of the limitations of the air conditioner models in your system.
  For more information, contact your dealer or service provider.

- Standby power
  The system performs distribution calculations on the basis of indoor unit operating time.
  Therefore it does not count power consumed while stopped (on standby).
  For example, if no units are operated over the course of a month, no standby power consumption is distributed to any tenant. However if a unit is operated for even one minute, then all of the standby power consumption is distributed to the corresponding tenant.
  For load distribution, distribution is made with standby power added.

- Only alarm codes are displayed in the notification bar and alarm log display.
  The content of an alarm can vary for different models, even if the alarm code is the same.
  Consult the documentation of the various models to determine the content of the alarm.

- Because of data transmission delay, the totals and distribution data displayed by the system for different time zone (regular hours, out of hours, special days) may not be counted in a completely accurate fashion.

- Cut off processing for the previous day is performed every day for a few minutes after midnight. The system may not respond to user input during this processing.
- After the settings of an indoor unit are changed from the P-AIMS System, the display may revert temporarily to the former settings. This is more likely to occur with all-unit operations. The cause is communications delay, not any malfunction in the system. If you wait a few minutes, the display will show the correct information.

- When errors occur while operating during a thunderstorm or because of electromagnetic interference.
  Power the terminal off and then on again.
  As a rule, the system should be powered off only in cases such as the above.
  Correct management of air conditioning is not possible when the system is powered off.

- About distribution ratios and energy usage
  The formulas used by this system to calculate air conditioning distribution ratios and energy usage are only approximations. They normally do not yield the same amounts that appear on bills from electric and gas utilities.
  Depending on operating conditions, there may be a margin of error between distribution ratios and actual air conditioning amounts.
  There may also be a small margin of error between the following, due to the rounding algorithms used in distribution ratio calculations.
  · “Distribution ratios of tenants in a group” and “100.0000%”
  · “Total of distribution ratios” and “Overall tenant distribution ratio”
  · “Total of usage by each tenant” and “Total usage indicated by pulse meters”
  · “Total of usage during regular hour, out of hours, and specified days time zones” and “Total of all hours time zones”
  This product does not measure energy directly, but uses the ratios of loads estimated for each indoor unit to calculate distribution (proportional allocation). The results of the calculations should be regarded as approximations.

- About operating time totals
  Air conditioning distributions and air conditioner operating times are calculated only for periods in which the system is powered on and in which there are no communications errors between the system and the air conditioners.
  Therefore, no totals are accumulated for times when the system is powered off or in which communications errors occur.
  You should be aware that errors in distribution ratios will become larger if conditions like the above continue for a longer period of time.

■ Situations in which major errors are likely to occur in calculations of distribution ratios etc.
In some of the semi-central-type and floor-type air conditioners and older models with electric heaters, major errors are likely to occur in calculations of air conditioning distribution ratios and other figures.
Also, if pan-type humidifiers with high power consumption are used, the distribution calculation does not reflect humidification operation time, so major errors result.
For more information, contact your dealer or service provider.

■ Setting the current date and time
The current date and time should be set on a regular basis, since the clock of an ordinary PC can gain or lose up to about two minutes per month.

■ Passwords
Passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.
If you forget your password, contact your dealer or service provider.

■ Interface adaptors (sold separately)
Interface adaptors (CZ-CAPC2)
You can use on/off local adaptors to connect equipment that can be turned on and off (fans, room air conditioners and so on) to the system.
However, note that the following limitations apply.
For details, refer to the documentation of the equipment or contact your dealer or service provider.

▶ About distribution calculations **Important**
[1]Fan speed data
Accumulated operation time for each fan speed is fixed at medium fan speed.
Accumulated time for thermostat On is counted as fixed to Medium fan speed even when a thermostat On signal input is connected to the local adapter.
[2]Indoor unit capacity value
Values cannot be loaded automatically.
Contact your dealer or service provider about settings.
[3]Product type
It is not possible to distinguish between PAC and GHP models.
Contact your dealer or service provider about settings.
[4]Distribution between indoor units
They are only compatible with simple distribution. No load distribution can be made.
Contact your dealer or service provider for details.

▶ As long as it conforms to the contact specifications of the interface adaptors, any type of equipment can be connected to the system. However, you should avoid connecting equipment whose operation can have grave consequences for life or property.

6. License Certification

Before you can use the Distribution Ratio Software for P-AIMS system, you need to first perform a work procedure called "license certification."

To perform license certification, make an inquiry by sending the inquiry key to the inquiry e-mail address below. You will be registered as a user and issued a release key, and then receive a reply.

<Contact Information>
Product ID Issuance Desk,

E-mail address: cmc_productid_desk@gg.jp.panasonic.com

When you make an inquiry, send the following information together with the inquiry in order to be registered as a user and issued a release key.

(1) Product name
(2) Company name/contact person
(3) Phone number
(4) E-mail address
(5) Inquiry key

* If you do not input a release key, you will no longer be able to use the system after 30 days elapses. Obtain a release key and perform license certification as soon as possible.
* Make an inquiry as soon as possible because it may sometimes take several days to be issued a release key.

License Certification Procedure

The procedure from after the P-AIMS system is installed up until the end of license certification is described below.

(1) Check the inquiry key from the License Certification screen.

(2) Send the inquiry key to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com).
Also notify us of the product name, company name/contact person, phone number, and e-mail address.

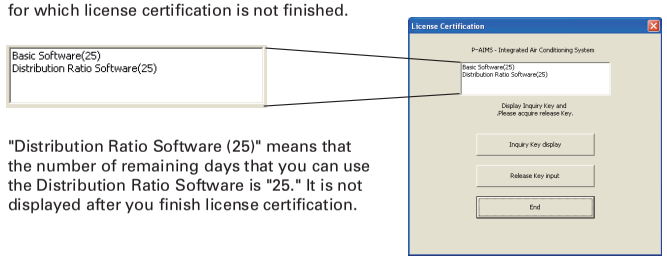
(3) A release key is issued.
You are registered as a user and a release key is issued. A reply is sent to the registered mail address.

(4) Input the release key from the License Certification screen.

(5) The license certification procedure is finished.

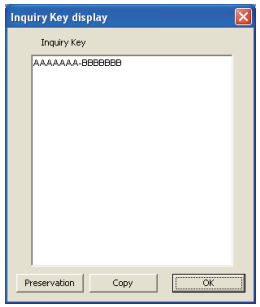
Performing License Certification

1. A License Certification screen such as the following appears when you start a P-AIMS systems for which license certification is not finished.



"Distribution Ratio Software (25)" means that the number of remaining days that you can use the Distribution Ratio Software is "25." It is not displayed after you finish license certification.

* After you start a P-AIMS system for which license certification is not finished, the License Certification screen will appear at 9:00 a.m. and 3:00 p.m. This screen is not displayed after you finish license certification.
If you install optional software, the License Certification screen will appear until license certification is finished for all of the software.

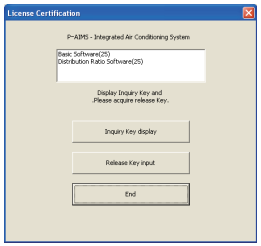


2. If you click the Inquiry Key display button in the License Certification screen, the Inquiry Key display screen appears, and the inquiry key is displayed in the screen.
Send the key displayed in this screen to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com) by e-mail.
At the same time, also notify us of the following items.
(1) Product name (required)
(2) Company name/contact person
(3) Phone number
(4) E-mail address (required)
You will be registered as a user and issued a release key.

Preservation :Clicking this button saves the inquiry key as a text file. Follow the instructions on the screen to save the text file. Enter the product name, company name/contact person, phone number, and e-mail address in this saved text file, and send the text file to the Product ID Issuance Desk by e-mail.

Copy :Clicking this button copies the inquiry key to the Windows clipboard. Paste the inquiry key into your mail.

OK :Clicking this button closes the Inquiry Key display screen.





3. When you receive the release key, restart the P-AIMS system. See "2. Startup and shutdown" for how to restart the P-AIMS system, and then restart the system.

   If license certification is not finished for the P-AIMS system, the License Certification screen on the right appears before the P-AIMS system restarts.
   Click the Release Key input button to display the Release Key input screen, and enter the release key.

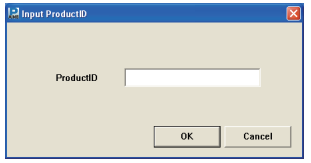
* If you install multiple P-AIMS system software, the same number of license certifications is required. In such a case, the number of release keys sent will be the same as the number of inquiry keys.
  Enter all of the received release keys sequentially, and perform license certification. (There is no set order for entering release keys, so they can be entered in any order.)

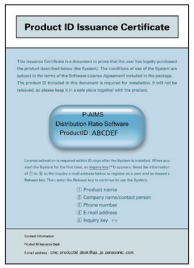
License certification is finished once all of the release keys have been entered.
Click the End button. The License Certification screen closes, and the P-AIMS system starts.

* The P-AIMS system will start even if you click the End button without entering the release key. You can use the system as is until license certification is finished. (The system can be used for a period of 30 days.)

7. Preparation

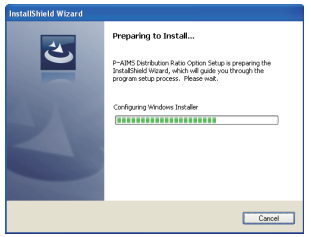
7-1. Installation



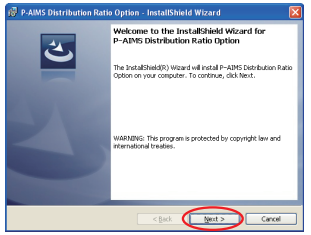


1. First, stop the P-AIMS system.
   Insert the Fare Calculate Software CZ-CSWAC2 CD of the air-conditioning integrated system (P-AIMS system) you purchased into the CD-ROM drive. The program on the CD-ROM starts automatically and makes preparations for installation. If installation does not start, double-click "Setup.exe" of the CD-ROM drive to start it.
   Enter the Product ID in the Input Product ID screen that appears.
   For the Product ID, see the "Product ID Issuance Certificate" supplied with the software.

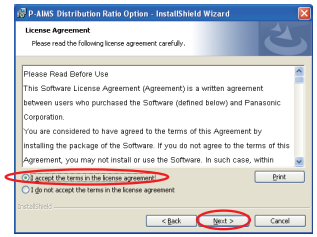
* Keep the "Product ID Issuance Certificate" in a safe place. The Product ID is required to install the air-conditioning integrated system. The "Product ID Issuance Certificate" will not be reissued.



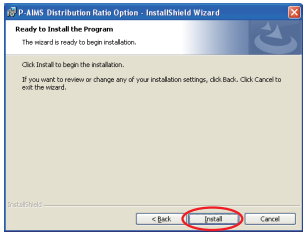
2. The InstallShield(R) Wizard prepares to install the P-AIMS system.



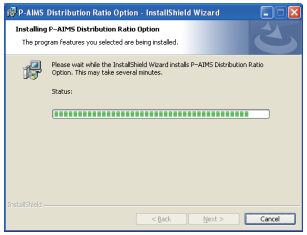
3. After a short while, the "The InstallShield(R) Wizard will install P-AIMS Distribution Ratio Option on your computer. To continue, click Next." message appears. Click the Next > button.



4. Next, the License Agreement screen appears. Carefully read the license agreement, and click "I accept the terms in the license agreement" if you agree to the terms of the license agreement. The Next > button becomes active. Click the Next > button. (The software cannot be installed if you do not agree to the terms of the license agreement.)

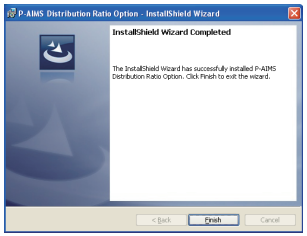


5. The “The wizard is ready to begin installation. Click Install to begin the installation.” message appears. Click the Install button.



6. The installation of the P-AIMS system begins.

   Please wait a while.

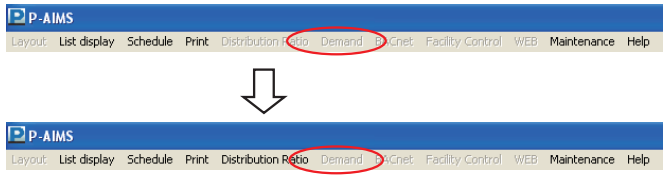


7. When the P-AIMS system setup is finished, the installation complete screen appears. Click the Finish button to complete the installation.

* When installing the Distribution Ratio software, it is possible to install this system without stopping the P-AIMS system, but the functions of the Distribution Ratio software will not be added. Restart the P-AIMS system.

7-2. Display after restart

After the system restarts, the fee calculation functions are enabled and the menu item Distribution ratio is selectable.



7-3 Settings

Once installation is complete, you must make registrations and settings such as “Distribution ratio setting,” “Register distribution group name,” “Register tenant name,” “Accumulated value master data,” and “I/D unit master data.”Refer to the explanations in the corresponding sections for information on these settings.

Entrust the registration of "Accumulated value master data" and "I/D unit settings" to the place of purchase or the service company.

Reference

■ Distribution ratio calculation (for simple distribution)

This section explains how air conditioning consumption distribution ratio and charges etc. are calculated by the P-AIMS system. The P-AIMS system is a common product for both electric package air conditioners (PAC) and gas heat pump air conditioners (GHP), so distribution ratios and air conditioning consumption are calculated by different methods for PAC and GHP.

1. Parameters as listed below are used for calculations:
   - ① RHHi : Accumulated operation time for indoor unit i (High fan speed)
   - ② RHi : Accumulated operation time for indoor unit i (Medium fan speed)
   - ③ RLi : Accumulated operation time for indoor unit i (Low fan speed)
   - ④ SHHi : Thermostat ON accumulated time for indoor unit i (High fan speed)
   - ⑤ SHi : Thermostat ON accumulated time for indoor unit i (Medium fan speed)
   - ⑥ SLi : Thermostat ON accumulated time for indoor unit i (low fan speed)
   - ⑦ PSi : Capacity of indoor unit i (equivalent kW value)
   - ⑧ αHH : Weighting coefficient for high fan speed (0.50-1.00).
   - ⑨ αH : Weighting coefficient for medium fan speed (0.50-1.00).
   - ⑩ αL : Weighting coefficient for medium fan speed (0.50-1.00).

* ①-③ are the sums of thermostat On accumulated operation time and thermostat Off accumulated operation time at each fan speed.
④-⑥ are the thermostat On accumulated operation times at each fan speed.

2. Distribution ratio calculation formulae
   Use the following formulae to find suitable power consumption indices for indoor unit i.

(1)Outdoor unit distribution

For a PAC system

The convenient outdoor power consumption index TEOi for indoor unit i is
TEi =(SHHi×αHH+SHi×αH+SLi×αL)× PSi
The convenient outdoor energy consumption index TGi for indoor unit i is
TGi=0

For GHP systems

The convenient outdoor power consumption index TEOi for indoor unit i is
TEi =(RHHi×αHH+RHi×αH+RLi×αL)× PSi
The convenient outdoor energy consumption index TGi for indoor unit i is
TGi =(SHHi×αHH+SHi×αH+SLi×αL)× PSi

(2)Indoor unit distribution

Common for both PAC and GHP

The convenient outdoor power consumption index TEIi for indoor unit i is
TEIi =(RHHi×αHH+RHi×αH+RLi×αL)× PSi
The outdoor electricity consumption index TOTALOe and outdoor gas consumption index TOTALg, and indoor electricity consumption index TOTALIe for the distribution group as a whole are the totals of TEOi, TGi and TEIi for all indoor units in the group (m units).
TOTALOe=TEO1+TEO2+·····+TEOm
TOTALg=TG1+TG2+·····+TGm
TOTALIe=TEI1+TEI2·····+TEIm

Therefore, the outdoor electricity consumption distribution ratio REOi, outdoor gas consumption distribution ratio RGi and indoor electricity consumption distribution ratio REIi for indoor unit i are the ratios of the consumption indices between the indoor unit concerned and the group as a whole, so

REOi(%)=TEOi ÷ TOTALOe × 100
RGi(%)=TGi ÷ TOTALg × 100
REIi(%)=TEIi ÷ TOTALIe × 100

(Distribution groups can be set separately for outdoor units and indoor units.)
Outdoor electricity usage distribution ratio NEOj, outdoor gas usage distribution ratio NGj and indoor electricity usage distribution ratio NEIj in tenant units can be calculated as follows, where n is the number of indoor units belonging to tenant j.

NEOj(%)=REO1+REO2+·····+REOn
NGj(%)=RG1+RG2+·····+RGn
NEIj(5)=REI1+REI2+·····+REin

*Distribution ratios are rounded at the fifth decimal place and shown to the fourth decimal place.

3. Air conditioning usage calculation method
   - ① NEOj : Outdoor electricity usage distribution ratio (%) for tenant j.
   - ② NGIj : Outdoor gas distribution ratio (%) for tenant j.
   - ③ NEIj : Indoor electricity usage distribution ratio (%) for tenant j.
   - ④ PeO : Accumulated outdoor electricity usage value for the group concerned.
   - ⑤ PeI : Accumulated indoor electricity usage value for the group concerned.
   - ⑥ Pg : Accumulated outdoor gas value for the group concerned.
   - ⑦ @E : Unit charge for electricity charges (£) (0.000-9.999).
   - ⑧ @G : Unit charge for gas charges (£) (0.000-9.999).

Air conditioning usage for each tenant is found by allocating the usage for the group as a whole according to the distribution ratio for each tenant, so in the following formulae, MMEj is the electricity usage and MMGj is the gas usage for tenant j.

MMEOj(kwh)=PeO×NEOj
MMGj(m^3)=Pg×NGj
MMEIj(kwh)=PeI×NEIj

Outdoor electricity usage charge MEOj, outdoor gas usage charge MGj, and indoor electricity usage charge MEIj for tenant j are

MEOj(£)=MMEOj×@E
MGj(£)=MMGj×@G
MEIj(£)=MMEIj×@E

4. Screen Display
   NEOj (%) is displayed in the outdoor electricity distribution ratio space.
   NGj (%) is displayed in the outdoor gas distribution ratio space.
   NEIj (%) is displayed in the indoor electricity distribution ratio space.

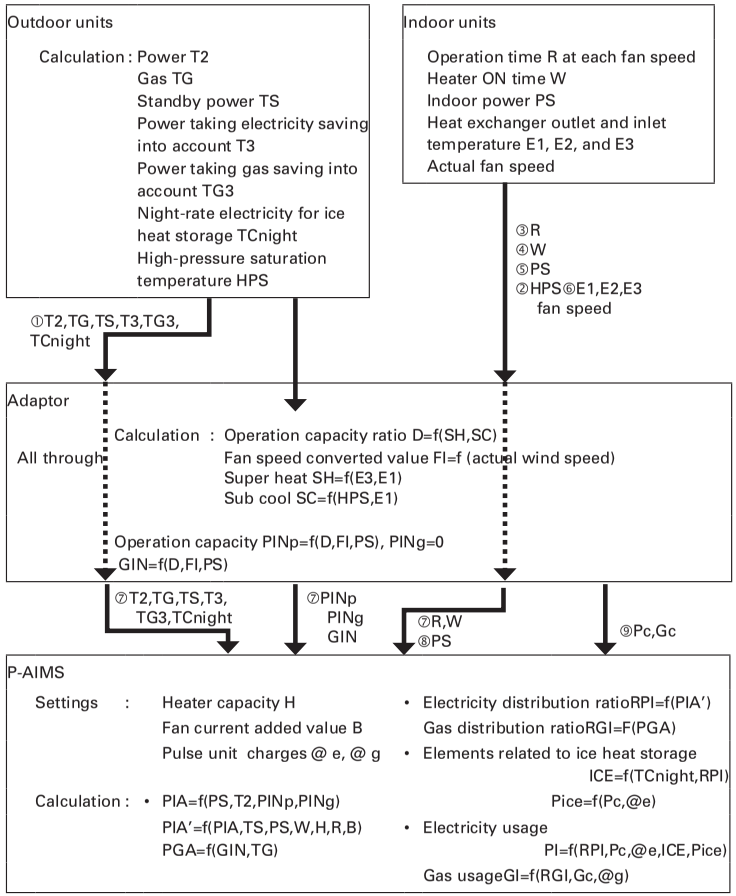
   MMEOj (kWh) is displayed in the outdoor electricity usage space.
   MMGj (m^3) is displayed in the outdoor gas usage space.
   MMEIj (kWh) is displayed in the indoor electricity usage space.

   MEOj (£) is displayed in the outdoor electricity charge space.
   MGj (£) is displayed in the outdoor gas charge space.
   MEIj (£) is displayed in the indoor electricity charge space.

   MEOj(£) + MGj(£) + MEIj (£) Is displayed in the total charge space.

■ Distribution ratio calculation (for loaded distribution)

1. Data flow chart



"f" means function. For example:
Operation capacity ratio D=f(SH,SC)
means that the operation capacity ratio is calculated using super heat SH and sub cool SC.

2. Distribution ratio calculation method
The following parameters are used.

① NEj : Electricity distribution ratio (%) for tenant j
② NGj : Gas distribution ratio (%) for tenant j
③ PE1 : Accumulated pulse value from electricity meter 1 for the group concerned.
④ PE2 : Accumulated pulse value from electricity meter 2 for the group concerned.
⑤ PG : Accumulated pulse value from the gas meter for the group concerned.
⑥ @E : Unit charge for electricity usage (£/kWh) (0.000-9.999).
⑦ @G : Unit charge for gas usage (£/m^3) (0.000-9.999).

③, ④ and ⑤ are the accumulated pulse counter values of the electricity and gas meters registered for the use of the group concerned.
When multiple pulse meters are registered for a single distribution group, the totaled values each for electricity and for gas are used.

⑥ and ⑦ are user-specified currency values indicating the £ equivalent of a unit of usage input from the pulse meter.

The usage charge for each tenant is found by allocating the usage charge for the distribution group as a whole according to the distribution ratio for each tenant, so in the following formulae, MEj is the electricity usage charge and MGj is the gas usage charge for tenant j.

MEj(£)=(PE1 × @E)× NEj
MGj(£)=(PG1 × @G)× NGj

For PAC systems, NGj=0%, so MGj is Y0.
However, for a HOT system,

MGj(£)=(PG1 × @G)× NGj

Note

User memo space

If you fill this out at the time of purchase, it is convenient when ordering repairs etc.

Serial No.	
Date of installation	
Dealer	Telephone No. ( )

Operation Manual

Air Conditioning

Intelligent Management System

CZ-CSWBC2

BACnet™ Software

P-AIMS

Thank you for purchasing our monitoring and control system.
Before using the system, be sure to read this manual carefully. After reading it, store it, in a convenient location for easy reference.

Contents

Precautions on Using This Product i
1. Introduction 1
2. Startup and exit 2
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Precautions on Using This Product

IMPORTANT

- Before you can use the BACnet Software for the P-AIMS system, you need to first perform a work procedure called “license certification”.
  Please perform the license certification referring to “6.License certification”.
- Duplication of all or part of this software and documentation without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- In principle, each set of this software is purchased for use on a single computer.
- Panasonic bears no responsibility whatsoever for any damage or loss to the user or any third party that may arise from the use of this software or documentation. Furthermore, Panasonic bears no responsibility whatsoever for any hindrance to BACnet communication caused by faults in this software etc.
- The specifications of this software and contents of this manual are subject to change without notice.
- The content of this manual is limited to the explanation of how to use this software.
  It does not cover usage methods for the operating computer or optional features, or for the OS etc., so refer also to the relevant manuals for those elements.
- Displays and operations may differ from the examples in this manual depending of the OS version used.
- Refer to “Please Read Before Use” for the warranty terms for this software.
- Panasonic will not be liable for any violation of the rights of any third party stemming from use of information in this manual, or for violation of other rights.
- Microsoft, Windows XP and Microsoft Excel are trademarks of Microsoft Corporation in the United States and other countries.
- BACnet is a trademark of the American Society of Heating, Refrigerating and Air-Conditioning Engineers.
  Other product names are trademarks or registered trademarks of the corresponding companies.
  Other products are copyrights of the corresponding companies.

1. Introduction

BACnet™ Software is a communication control software for air conditioning units connected via the BACnet/IP, which is designed to provide a building automation service with increased added value for Air Conditioning Intelligent Management System (referred to below as the P-AIMS system). This software uses the international standard building automation communication protocol BACnet (ISO 16484-5) for communication between building equipments.

This instruction manual describes the operation and setting methods as well as the specifications of BACnet/IP. However, this manual does not contain details on other basic communication functions that are shared with the “Basic Software Instruction Manual”. Therefore, please also refer to the CZ-CSWKC2 “Basic Software Instruction Manual” and the instruction manuals for other optional software as well as this manual.

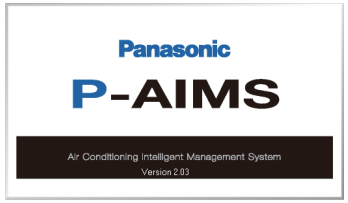
2. Startup and exit

2-1. Startup

1. Double click on the P-AIMS shortcut on the desktop.



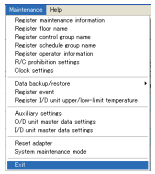
The following window appears:



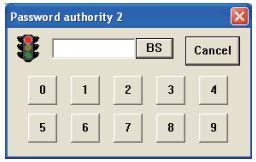
The system starts up and the Status/Operation screen is displayed.

2-2. Exit

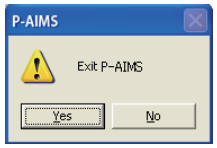
1. From the Menu bar, select “Maintenance” - “Exit”.



2. The Password Input screen is displayed. Input the password.



3. The System Exit screen is displayed. Click on the Yes button.



3. Quick Reference

Menu List

Main menu

1. Layout
2. List display
3. Schedule
4. Print
5. Distribution ratio
6. Demand
7. BACnet
8. Facility Control
9. Web
10. Maintenance

Sub menu		
1. Layout		Layout (options)
2. List display		Status/Operation
		Filter sign & I/D unit information
		O/D unit information
		Operation/Status change log
		Alarm list & alarm log
3. Schedule		Schedule/results
		Mode settings (Calendar)
		Schedule operation time settings
		Update schedule
4. Print		Print screen
		EXCEL output
	*	Auto EXCEL output setting
		Print list
		List Print preview
5. Distribution ratio		Distribution ratio (optional)
6. Demand		Demand (optional)
7. BACnet	*	BACnet basic settings
	*	BACnet indoor unit number settings
	*	BACnet setting CSV output
	*	Create exception schedule
		T/S ON operation time ☞p5
	*	I/D unit settings (capacity)
	*	BACnet maintenance settings ☞p6
8. Facility Control		Facility Control (optional)
9. Web		Web (optional)
10. Maintenance	*	Register maintenance information
	*	Register floor name
	*	Register control group name
	*	Register schedule group name
	*	Register operator information
	*	R/C prohibition settings
		Clock settings
		Data backup/restore
	*	·Data backup
	*	·Restore data
	*	·Cancel data restore
	*	·Auto backup settings
	*	Register event
	*	Register I/D unit high/low-limit temperature
	*	Auxiliary settings
	*	O/D unit master data settings
	*	I/D unit master data settings
	*	Reset adapter
	*	System maintenance mode
	*	Exit

* indicates the security code protection screen.

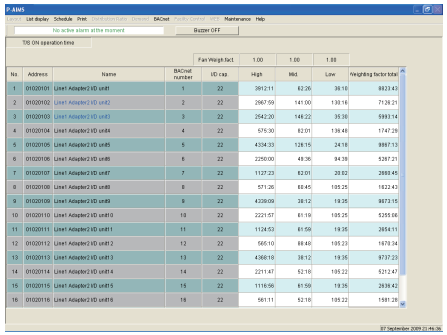
4. Using the system

4-1. BACnet

4-1-1. Operation time with thermostat on

[Procedure]
On the menu bar, select “BACnet” – “T/S ON operating time”.

The BACnet number, I/D unit capacity, high, mid., low, and weighting factor total are displayed.



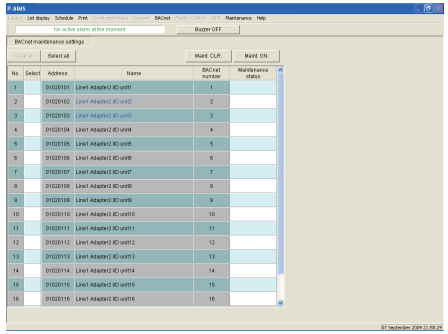
· BACnet number :Number assigned to the indoor unit by BACnet communication with the central monitor.
· I/D cap. :Displays the capacity of the indoor unit. (Weighted value)
· High, Mid., Low :Operating time of each mode.
· Weighting factor total :Total weighted operating time; this value is output on BACnet.
· Fan weigh.fact. :Displays the weighted valued for each fan speed.

* To return to the Status/Operation screen, select List Display - Status/Operation from the menu.

4-1-2. BACnet Maintenance Settings

[Procedure]
From the menu bar, select “BACnet” – “BACnet maintenance settings”.

These maintenance settings are used to temporarily stop monitoring an indoor unit with a BACnet indoor unit number during construction work or if a fault has occurred with the unit. Cancelling maintenance can also be performed from this screen.



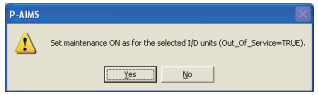
· BACnet number :Number assigned to the indoor unit from BACnet communication with the central monitor.
· Maintenance status :Displays the maintenance setting status.

4-1-2-1. Setting Method

1. Click the I/D unit to be set to add a check to the selection column.



2. When [Maint. ON.] is clicked, the “Set maintenance ON as for the selected I/D units (Out_Of_Service= TRUE)” message is displayed.



[Yes] :Settings are performed.
[No] :Settings are not performed.

3. When the settings are performed, “Executing maintenance...” is displayed in the maintenance status column.

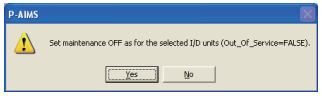


4-1-2-2. Cancellation Method

1. Click the indoor unit to be cancelled to add a check mark to the selection column.



2. When Maint. CLR. is clicked, the "Set maintenance OFF as for the selected I/D units (Out_Of_Service=FALSE)" message is displayed.



Yes :Settings are performed.

No :Settings are not performed.

5. Supplementary Information

- This system is installed on the computer that is running the CZ-CSWKC2 basic software. Please refer to this along with the Supplementary Information section of the CZ-CSWKC2 basic software instruction manual.

- Selecting Objects (Control Items)
  If the maximum 256 air conditioning units are connected and the number of object specifications is increased, the processing speed decreases because the number of objects to be controlled increases. If faster processing speeds are required, it is necessary to increase the number of BACnet computers to reduce the number of air conditioning units connected to each.

- Restarting P-AIMS
  When shutting down and restarting the P-AIMS system, wait for more than 10 seconds after shutdown before restarting the system. When BACnet is operating, the programs that are performing various operations require time to shut down, and may not restart if the system is restarted too soon.

- BACnet Standby Time
  Approximately 10 seconds ~ 5 minutes time is required for BACnet connection to start after P-AIMS is started (differs depending on the number of air conditioners connected). We do not recommend restarting unless absolutely necessary.

- Instance Number
  The instance number is assigned to each item (function) that is controlled on each air conditioning unit. The number decided by the central monitor manufacturer cannot be changed without permission from the central monitor manufacturer. Changing this number may cause malfunctions such as communication errors.

- Vendor ID
  ID of the BACnet device vendor. Each vendor obtains a different vendor ID. The vendor ID for Sanyo Electric CO., Ltd. is 146.

- BACnet™
  BACnet™ is the abbreviation for the Building Automation and Control networking protocol, and is the protocol for the building automation system proposed by ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers).
  Furthermore, for details on the BACnet/IP specifications stipulated by ASHRAE, refer to the specifications published by ASHRAE, or the BAS standard interface specifications (IEIE/P-003 2000) and addendum (IEIEJp-A) published by the Institute of Electrical Installation Engineers of Japan.

References
1. ANSI/ASHRAE 135-1995 BACnet:A Data Communication Protocol for Building Automation and Control Networks, 1995
2. ANSI/ASHRAE Standard 135-2001 BACnet:A Data Communication Protocol for Building Automation and Control Networks, 2001
3. Institute of Electrical Installation Engineers of Japan BAS Standard Interface Specifications (IEIEJ-P-0003:2000), 2000
4. Institute of Electrical Installation Engineers of Japan BAS Standard Interface Specifications(IEIEJ-P-0003:2000-a), 2002

6. License Certification

Before using the BACnet Software in the P-AIMS system, you need to first perform a work procedure called “License Certification”.

To perform license certification, make an inquiry by sending the inquiry key to the inquiry e-mail address below. You will be registered as a user and issued a release key, and then receive a reply.

<Contact Information>
Product ID Issuance Desk,

E-mail address: cmc_productid_desk@gg.jp.panasonic.com

When you make an inquiry, send the following information together with the inquiry in order to be registered as a user and issued a release key.

(1) Product name
(2) Company name/contact person
(3) Phone number
(4) E-mail address
(5) Inquiry key

* If you do not input a release key, you will no longer be able to use the system after 30 days elapses. Obtain a release key and perform license certification as soon as possible.
* Make an inquiry as soon as possible because it may sometimes take several days to be issued a release key.

License Certification Procedure

The procedure from after the P-AIMS system is installed up until the end of license certification is described below.

(1) Check the inquiry key from the License Certification screen.

(2) Send the inquiry key to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com).
Also notify us of the product name, company name/contact person, phone number, and e-mail address.

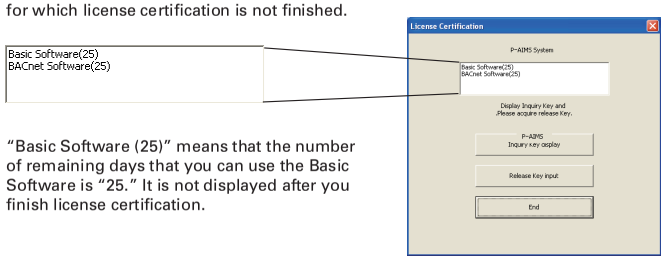
(3) A release key is issued.
You are registered as a user and a release key is issued. A reply is sent to the registered mail address.

(4) Input the release key from the License Certification screen.

(5) The license certification procedure is finished.

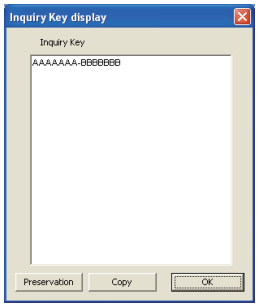
Performing License Certification

1. A License Certification screen such as the following appears when you start a P-AIMS systems for which license certification is not finished.



“Basic Software (25)” means that the number of remaining days that you can use the Basic Software is “25.” It is not displayed after you finish license certification.

* After you start a P-AIMS system for which license certification is not finished, the License Certification screen will appear at 9:00 a.m. and 3:00 p.m. This screen is not displayed after you finish license certification.
If you install optional software, the License Certification screen will appear until license certification is finished for all of the software.

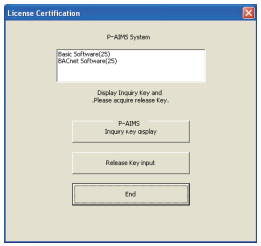


2. If you click the Inquiry Key display button in the License Certification screen, the Inquiry Key display screen appears, and the inquiry key is displayed in the screen.
Send the key displayed in this screen to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com) by e-mail.
At the same time, also notify us of the following items.
(1) Product name (required)
(2) Company name/contact person
(3) Phone number
(4) E-mail address (required)
You will be registered as a user and issued a release key.

Preservation :Clicking this button saves the inquiry key as a text file. Follow the instructions on the screen to save the text file. Enter the product name, company name/contact person, phone number, and e-mail address in this saved text file, and send the text file to the Product ID Issuance Desk by e-mail.

Copy :Clicking this button copies the inquiry key to the Windows clipboard. Paste the inquiry key into your mail.

OK :Clicking this button closes the Inquiry Key display screen.





3. When you receive the release key, restart the P-AIMS system. See "2. Startup and shutdown" for how to restart the P-AIMS system, and then restart the system.

   If license certification is not finished for the P-AIMS system, the License Certification screen on the right appears before the P-AIMS system restarts.

   Click the Release Key input button to display the Release Key input screen, and enter the release key.

* If you install multiple P-AIMS system software, the same number of license certifications is required. In such a case, the number of release keys sent will be the same as the number of inquiry keys.
  Enter all of the received release keys sequentially, and perform license certification. (There is no set order for entering release keys, so they can be entered in any order.)

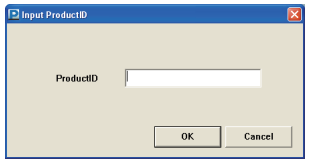
License certification is finished once all of the release keys have been entered.

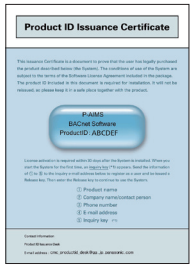
Click the End button. The License Certification screen closes, and the P-AIMS system starts.

* The P-AIMS system will start even if you click the End button without entering the release key. You can use the system as is until license certification is finished. (The system can be used for a period of 30 days.)

7. Preparation

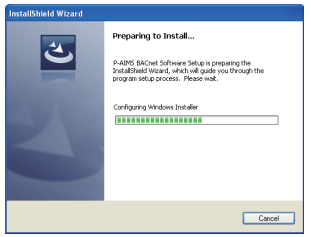
7-1. Installation



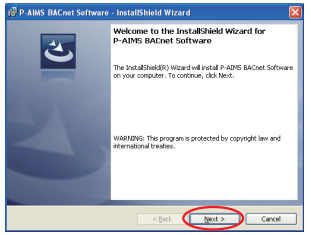


1. First, stop the P-AIMS system. Insert the BACnet Software CZ-CSWBC2 CD for your total air conditioning system (P-AIMS system) into the CD-ROM drive. The program on the CD-ROM starts automatically and makes preparations for installation. If installation does not start, double-click "Setup.exe" of the CD-ROM drive to start it.
   Enter the Product ID in the Input Product ID screen that appears.
   For the Product ID, see the "Product ID Issuance Certificate" supplied with the software.

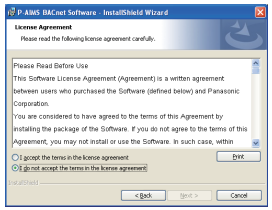
* Keep the "Product ID Issuance Certificate" in a safe place. The Product ID is required to install the air-conditioning integrated system. The "Product ID Issuance Certificate" will not be reissued.



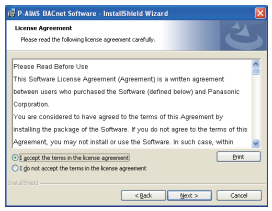
2. The InstallShield(R) Wizard prepares to install the P-AIMS system.

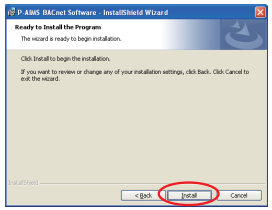


3. After a short while, the "The InstallShield(R) Wizard will install P-AIMS BACnet Software on your computer. To continue, click Next." message appears. Click the Next > button.

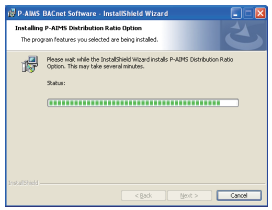


4. Next, the License Agreement screen appears. Carefully read the license agreement, and click “I accept the terms in the license agreement” if you agree to the terms of the license agreement.
The Next > button becomes active.
Click the Next > button. (The software cannot be installed if you do not agree to the terms of the license agreement.)



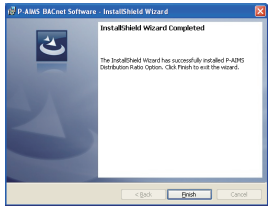


5. The “The wizard is ready to begin installation. Click Install to begin the installation.” message appears. Click the Install button.



The installation of the P-AIMS system begins.

Please wait a while.

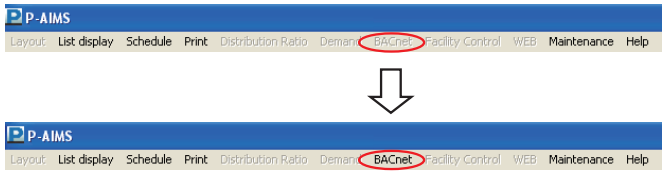


6. When the P-AIMS system setup is finished, the installation complete screen appears.
Click the Finish button to complete the installation.

* When installing the BACnet Software, it is possible to install this system without stopping the P-AIMS system. However, the BACnet Software functions are not added. In this case, restart the P-AIMS system.

7-2. Display at restart

After restart, the BACnet functions become active and “BACnet” can be selected in the menu.



7-3 Settings

After installation is completed, registration and settings such as “BACnet basic settings” and “BACnet indoor unit number settings” are required.

Entrust the registration of “BACnet basic settings” and “BACnet indoor unit number settings” to the place of purchase or a service company.

4. Central Controller

User memo space

If you fill this out at the time of purchase, it is convenient when ordering repairs etc.

Serial No.	
Date of installation	
Dealer	Telephone No. ( )

Operation Manual

Air Conditioning
Intelligent Management System

CZ-CSWGC2

Layout Display Software

P-AIMS

Thank you for purchasing our monitoring and control system.
Before using the system, be sure to read this manual carefully. After reading it, store it, in a convenient location for easy reference.

3-4-305

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Operation Manual

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■Precautions on Using This Product

★IMPORTANT★

- Before you can use the P-AIMS system, you need to first perform a work procedure called "license certification."
  Please perform the license certification referring to "6.License certification".
- Duplication of all or part of this software and documentation without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- This software and manual are not to be reproduced, in whole or in part, without permission.
- In principle, each set of this software is purchased for use on a single computer.
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  Panasonic will not be liable for any claim based on errors in calculations of distribution ratios and utility usage caused by faults in this equipment or software.
- The specifications of this software, and the content of this manual, are subject to change without notice, for the sake of improvement.
- This software is used to calculate distribution ratios and charges according to the load ratios estimated for each indoor unit.
  It is not based on the Measurement Act, so it cannot be used for public transactions and similar purposes.
- The content of this manual is limited to explanation of how to use this software.
  It does not cover the usage methods for the operated machinery and optional features, or for the OS etc., so refer also to the relevant manuals for those elements.
- The screen image examples presented in this manual are intended to illustrate the explanation of layouts, and do not represent actual operating conditions. The tenant names displayed are also fictional.
- Displays and operations may differ from the examples in this manual, depending on versions of Excel and the OS used.
- Refer to "Read Before Using This System" for the warranty terms for this software.
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1. Introduction

This layout display software (referred to below as "the system") is intended to present the allocation of air conditioners and other devices in Air Conditioning Intelligent Management System (referred to below as "the P-AIMS system") in layout diagrams and operate them.

This system is installed on the personal computer which runs the P-AIMS System (basic software).

The system displays the layout of the building managed by the P-AIMS system and displays the operation status of the indoor units installed there,
set temperatures and room temperatures. It can also control operations such as run, stop and mode changes.

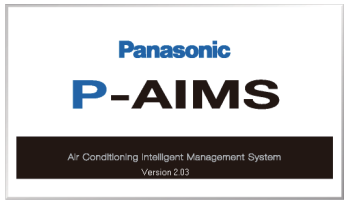
2. Startup and exit

2-1. Startup

1. Double click on the P-AIMS shortcut on the desktop.



The window below appears. The system starts up and the Status/Operation screen is displayed.

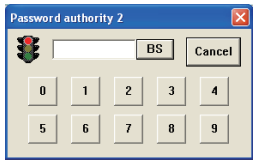


2-2. Exit

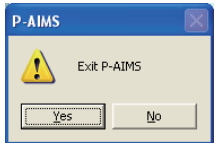
1. From the Menu bar, select Maintenance - Exit.



2. The Password authority 2 screen is displayed. Input the password.

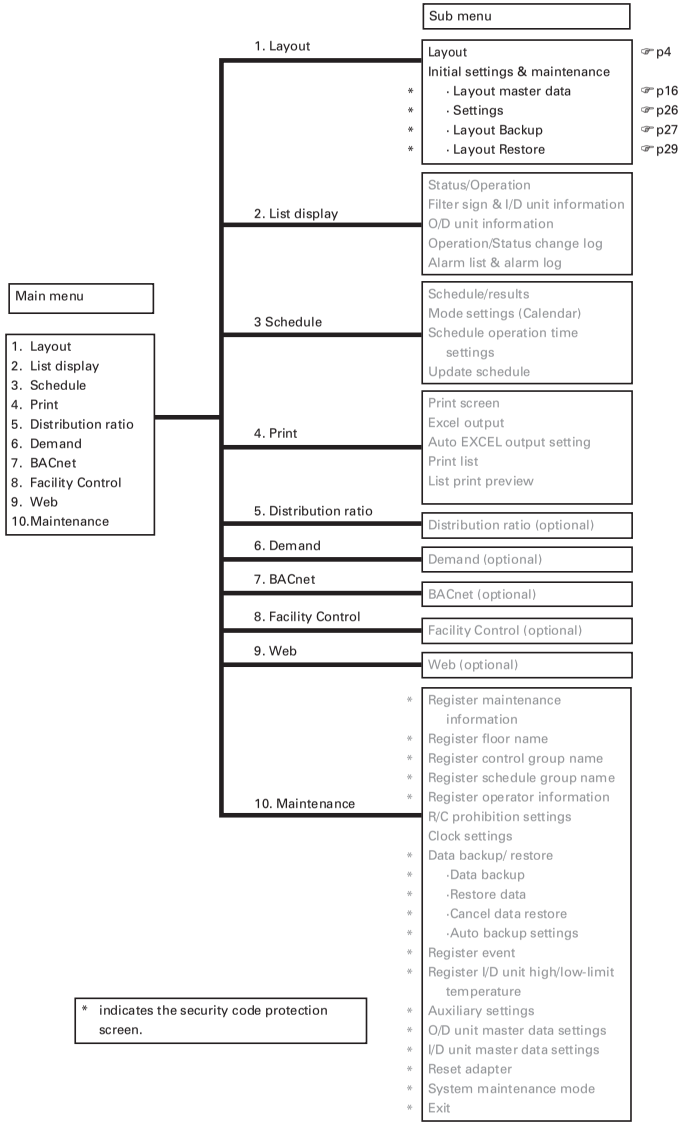


3. The System Exit screen is displayed. Click on the Yes button.



3. Quick reference

Menu List

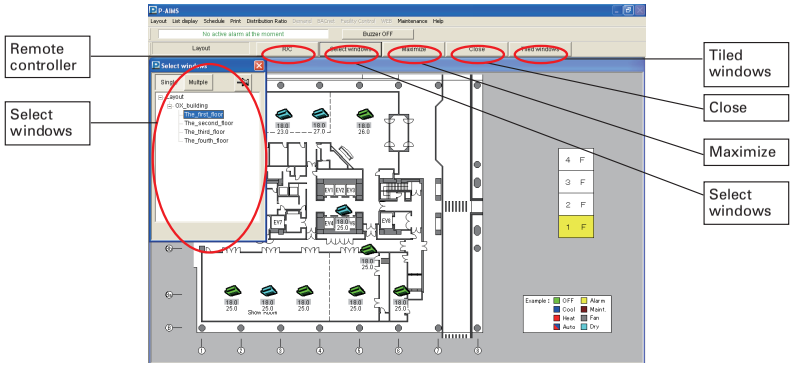


4. Using the system

4-1. Layout Display

[Procedure]
Select Layout - Layout from the menu bar.

This displays layout diagrams for monitoring the status of indoor units. The operation, mode, set temperatures, room temperatures, fan speeds, flaps, central control, alarms and other items can be monitored. Indoor units can also be controlled to start and stop.



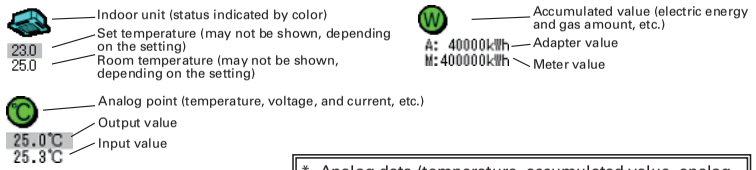
R/C :Displays the remote control units that control the operations of indoor units

Select windows :Displays the Select windows screen for selecting layout screens.

Maximize :Maximizes the layout screen.

Close :Closes and deletes the displayed layout diagram.

Tiled windows :Arranges the displayed layout diagram.

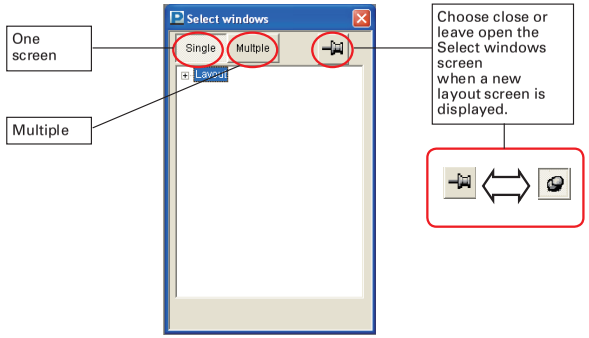


* Analog data (temperature, accumulated value, analog point, etc.) is not displayed depending on the settings.

* Icons for indoor unit, outdoor unit, Accumulated value, and Analog input/ output etc. vary depending on the unit used.
* For the accumulated value operations, optional Distribution ratio software is required. For the analog point operations, optional Facility control software is required. For more information, please contact your dealer or service provider.

4-1-1. Screen selection method

Display the layout screen by selecting it from the Select windows screen.
If no layout diagram has been specified before the Layout operation is used, the Select windows screen is displayed. The Select windows screen can also be displayed by clicking on the Select windows button.



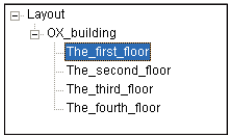
Single : Displays the layout screen as one-screen display. When a screen is selected, the previous screen is closed, and only the newly-selected one is displayed.

Multple : Displays multiple layout screens. Up to four layout screens can be displayed. Screens in excess of the maximum cannot be displayed.

: The Select windows screen closes when a new layout screen is displayed. This is convenient for displaying one screen at a time.

: The Select windows screen remains open even when a new layout screen is displayed. This is convenient for displaying multiple layout screens, or for checking them one by one.

4-1-1-1. Layout screen selection method



① Double click on Layout.
Alternatively, click on ⊞.
'OX_building', the group name, is displayed.
② Double click on 'OX_building'.
Alternatively, click on the ⊞.
1F to 4F are displayed for the name.
③ Click on 'The_first_floor'.
Display the layout for 'OX_building 1F'.

* After you have displayed 'Layout' and 'OX_building' once, the next time you will only have to click on '2F' to display the layout for 'The_second_floor'.

4-1-1-2. How to display layout screen one at a time

Click on the Single button so that the Single button remains pressed. Every time a layout screen is selected on Select windows screen, the previous layout screen closes and the newly-selected one is displayed.

When the  button is displayed, the Select windows screen closes when a new layout screen is displayed.

When the  button is displayed, the Select windows screen remains open even when a new layout screen is displayed. More screens can be selected.

Click on the  button in the top right of the select windows screen to close it.

4-1-1-3. How to display multiple layout screens

Click on the Multple button so that the Multple button remains pressed. Even when a layout screen is selected on Select windows screen, the previous layout screen stays open and the newly-selected one is displayed. However, once four screens are open, no more can be displayed.

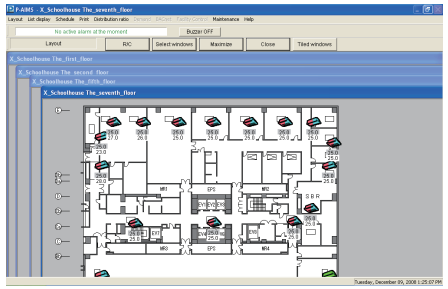
When the  button is displayed, the Select windows screen closes when a new layout screen is displayed.

When the  button is displayed, the Select windows screen remains open even when a new layout screen is displayed. More screens can be selected.

Click on the  button in the top right of the Select windows screen to close it.

4-1-1-4. Operation method when multiple layout screens are displayed

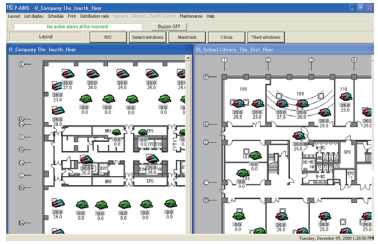
When multiple layout screens are displayed successively, each is displayed in a slightly different position from the one before, as illustrated below.



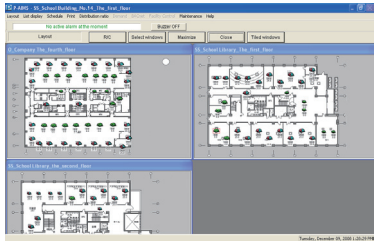
Click on the Maximize button to maximize the layout screen that is focused (the one that has blue title bar) to arrange the layout screens tidily. When one screen is maximized, all the others are closed.

Click on the Close button to close the layout screen that is focused (the one that has blue title bar).

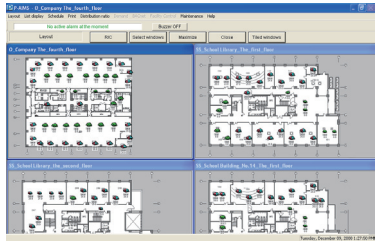
Click on the Tiled windows button to change the display method to suit the number of layout screens on display.



(For two screens)



(For three screens)



(For four screens)

4-1-2. Start/stop control method

Indoor units, digital points, and analog points can be controlled to start and stop.

4-1-2-1. How to select an I/D unit (digital point)

To control start/stop, move the mouse cursor to the target indoor unit (digital point) and click it. The clicked indoor unit (digital point) is displayed with a check mark. Click the icon again to clear the check mark. To select multiple indoor units (digital points), drag the mouse over the area to include the target indoor units (digital points) as illustrated in the left side diagram below. Indoor units (digital points) in the dragged area are displayed with check marks. Perform the same operation to clear the check marks.



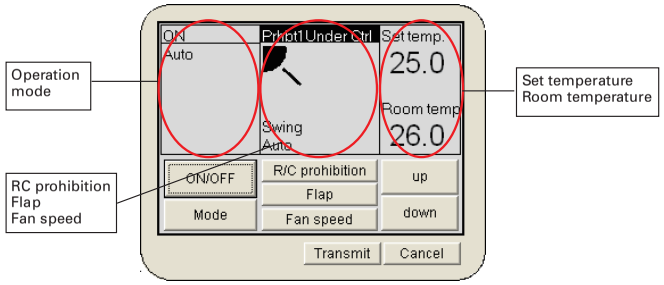
*This illustration only shows indoor units

* If an indoor unit with check mark is included among multiple indoor units in the dragged area, the check mark for that indoor unit is cleared.
* Digital points can be selected using the same method.
* Indoor units and digital points cannot be selected at the same time.

4-1-2-2. Start/stop control method (indoor unit)

Click the R/C button on the upper part of the screen while the indoor unit is selected to display the following R/C screen. On this R/C screen, the operation, mode, set temperatures, fan speeds, flaps, and central control can be changed. Click the Cancel button to close the R/C screen without transmitting settings.

* When the R/C button is clicked without selecting any indoor units, the R/C screen does not appear.
* When multiple indoor units are selected, the indoor unit operation status is not displayed.



ON/OFF :Switches between “ON” and “OFF” every time it is clicked.

Mode :Switches between “Auto”, “Heat”, “Cool”, “Fan”, and “Dry” every time it is clicked.

R/C prohibition :Switches between “RC OK (blank)”, “RC Prohibition 1” to “RC Prohibition 7” every time it is clicked.

* RC Prohibitions 1 to 4 are for CZ-CFUNC2.

Flap :Switches between “swing” and “F1” to “F3” every time it is clicked.

Fan speed :Switches between “Auto”, “High”, “Mid”, and “Low” every time it is clicked.

up
down :Changes the room temperature setting.
*The setting temperature range can be changed on the screen displayed by selecting “Maintenance” - “Register I/D unit high/low-limit temperature”.

Transmit :Transmits set content to the I/D unit.

4-1-2-3. Start/stop control method (digital point)

Click the R/C button while a digital point is selected to display the ON/OFF screen.

Click the button to close the ON/OFF screen.

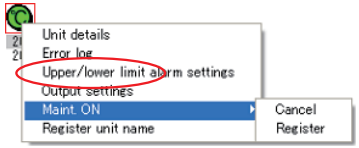


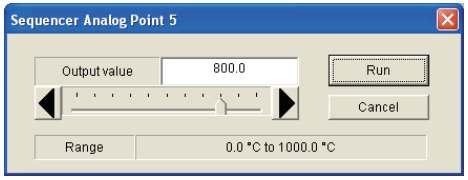
ON :Click this button to transmit the start signal and close the screen.

OFF :Click this button to transmit the stop signal and close the screen.

4-1-2-4. Start/stop control method (analog point)

Use this method to change the output value of the analog output.
Display the popup menu for the analog point as shown in “4-1-3-3. How to display popup menu”. Click “Output value settings” in the menu to display the “Output value settings” screen. Change the output value.





Then click the Run button to set the analog output value and close the screen.

Click the Cancel button to close the screen without changing the value.

4-1-3. Layout operation method

The operations for the indoor unit, outdoor unit, accumulated value, facility control unit (collectively displayed as unit) displayed in the Layout screen are as follows:

4-1-3-1. How to confirm unit names

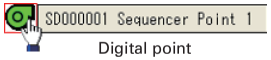
To check the names of the units, hold the [Ctrl] key down and move the mouse pointer over the desired unit. This causes the address number and the name of the unit displayed when the pointer is changed to



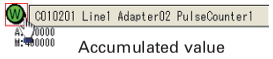
Outdoor unit



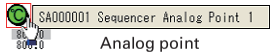
Indoor unit



Digital point



Accumulated value



Analog point

* Icons for indoor unit, Accumulated value, Digital point, and Analog point, etc. vary depending on the unit used.

4-1-3-2. How to confirm analog data such as temperature

I/D unit displays temperature, distribution ratio displays accumulated value, and analog point displays analog data such as temperature and current. To hide these analog data, follow the setting procedure described in 4-3. Settings. In this case, to display the analog data temporarily, hold the [Shift] key down and move the mouse pointer over the desired unit, then the analog data is displayed when the pointer is changed to



Indoor unit



Accumulated value



Analog input/output

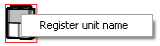
* Icons for I/D unit, Accumulated value, and Analog point, etc. vary depending on the unit used.

4-1-3-3. How to display popup menu

The mouse pointer is usually presented by but when a unit is selected, the pointer changes to . Right click to display the Popup menu as illustrated below.



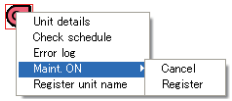
Indoor unit



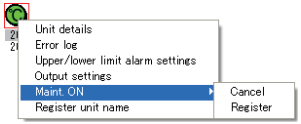
Outdoor unit



Accumulated value



Digital point



Analog point

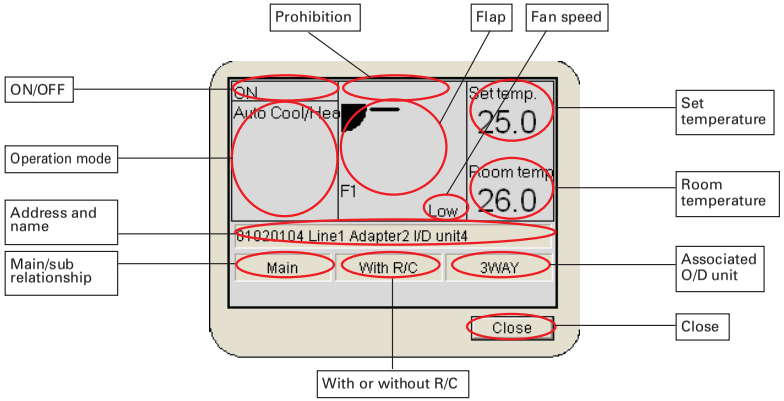
* Popup menus for analog point and digital point vary depending on the point status set. The displays in this section are of the most common status.

4-1-3-4. Popup menu "Unit details"

Click on the Unit details in the popup menu to display the "Unit details" screen. The "Unit details" screen vary depending on the indoor unit, accumulated value, digital point, and analog point.
Details of the each unit are as follows.

4-1-3-4-1. Indoor unit

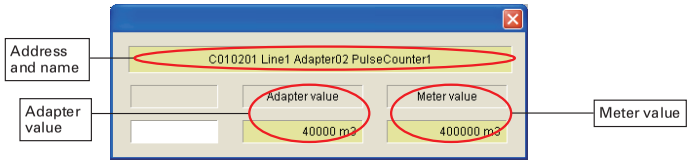
Displays details of the operation status of the I/D unit.



Click on the Close button to close the "Unit details" screen.

4-1-3-4-2. Accumulated value

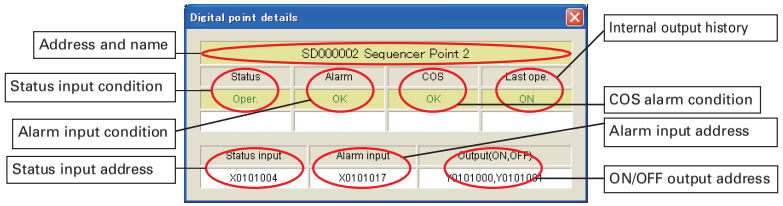
Displays the detail status of the accumulated value.



Click on the button to close the "Accumulated value details" screen.

4-1-3-4-3. Digital point

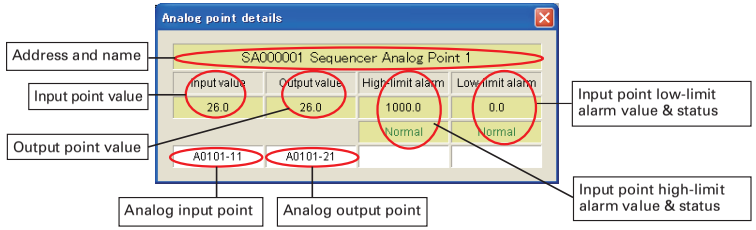
Displays the detail status of the digital point.



Click on the button to close the "Digital point details" screen.

4-1-3-4-4. Analog point

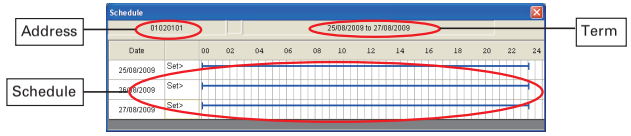
Displays the detail status of the analog point.



Click on the button to close the "Analog point details" screen.

4-1-3-5. Popup menu "Check schedule"

This menu is for indoor units and digital point (output) units.
It displays the operation schedule for the corresponding unit on the current date and the next two days.
Click on the Check schedule in the popup menu to display the "Schedule" screen.



Click on the date on the "Schedule" screen to show the "Detailed schedule" screen for the date concerned, as illustrated on the right.

Click on the button to close the "Schedule" and "Detailed schedule" screens.



4-1-3-6. Popup menu "Error log"

This menu displays the error logs for I/D units, digital point, and analog point. Click on the Error log in the popup menu to show the "Error log" screen.

Key

- Alarm code : Displays alarm codes at the times alarms are issued/restored.
- Alarm date : Displays dates and times when alarms are issued/restored.
- Alarm : Displays occurrence/restoration status of alarms.

Click on the button to close the "Error log" screen.

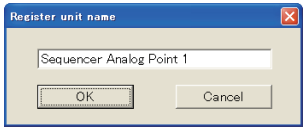


4-1-3-7. Popup menu “Maint. ON”

Indoor units, digital point, and analog point issue alarms. Alarms can be temporarily suspended for mechanical work or device malfunctions. When you Register, alarm will not be issued when an error occurs. When you Cancel, the alarm function is restored. Start/stop control and alarm display are disabled for devices registered for maintenance.
Click on the Maint. ON in the popup menu, then click on the Cancel or Register in the sub-menu to specify Cancel or Register.

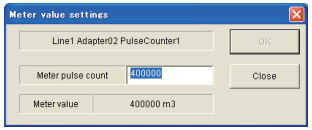
4-1-3-8. Popup menu “Name registration”

Use this menu to change names for any unit. When the Password screen is displayed by clicking the menu, enter (Password level 2). When the “Name registration” screen is displayed, change the name.
After changing the name, click on the OK button to change the name and close the screen.
Click on the Cancel button to close the screen without changing the name.



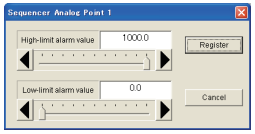
4-1-3-9. Popup menu “Meter value settings”

Use this menu to change the meter value in the accumulated value. When the password screen is displayed by clicking the menu, enter (Password level 2).
When the “Meter value settings” screen is displayed, change the Meter pulse count.
After changing, click on the OK button to change the data.
Click on the Cancel button to restore the data before the change.
Click on the Close button to close the “Meter value settings” screen.



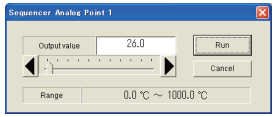
4-1-3-10. Popup menu “High/low-limit alarm settings”

Use this menu to change the high/low-limit alarm value of the analog input. When the password screen is displayed by clicking the menu, enter (Password level 2).
When the “High/low-limit alarm settings” screen is displayed, change the high-limit alarm value or low-limit alarm value.
After changing, click on the Register button to change the data and close the screen.
Click on the Cancel button to close the screen without changing the data.



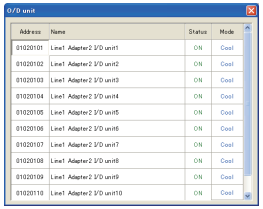
4-1-3-11. Popup menu “Output value settings”

Use this menu to change the output value of the analog output. When the “Output value settings” screen is displayed by clicking the menu, change the Output value.
After changing, click on the Run button to change the analog output value and close the screen.
Click on the Cancel button to close the screen without changing the value.



4-1-3-12. How to check the configuration of inddor units connected to an outdoor unit

Click on an outdoor unit to display a configuration list of all the connected indoor units. Modes and operation status of connected indoor units can be checked.



Key

- Address : Displays the address numbers of indoor units.
- Name : Displays the names of the indoor units.
- Status : Displays ON, OFF, alarm and maintenance.
- Mode : Displays the operation modes of indoor units.

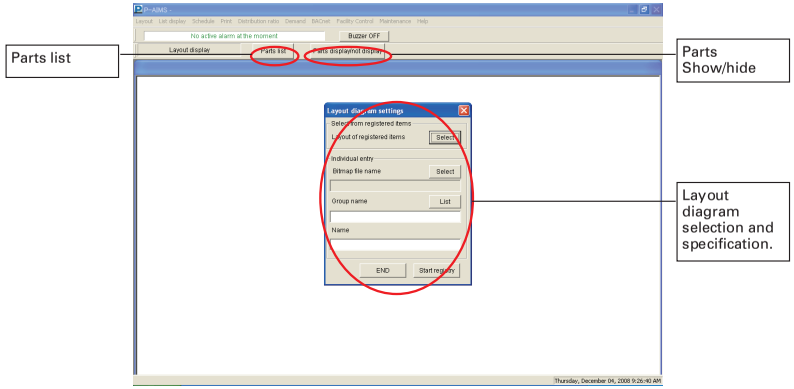
Click on the button to close the “O/D unit” screen.

* For the operations of accumulated value, analog point, or digital point, optional Distribution ratio software or Facility control software is required. For more information, please contact your dealer or service provider.

4-2. Layout Master

[Procedure]
Select Layout - Initial settings & maintenance - Layout master data from the menu bar.
(Password level 1)

Layout master data can be used to allocate indoor unit and outdoor unit parts to layout displays and make additions and deletions.



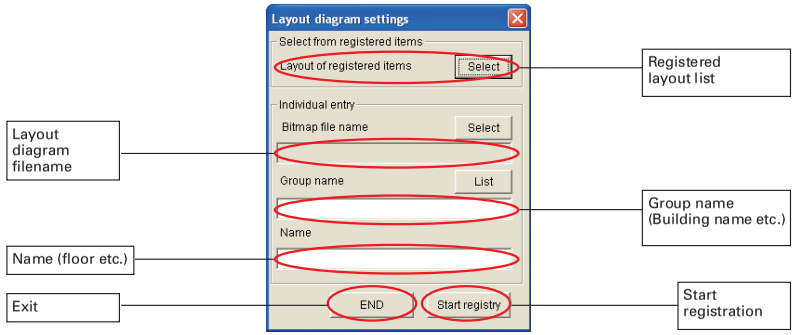
Parts list : Displays a list of all registered parts.

Parts display/not display : Displays or closes the Parts screen every time it is clicked.

* Bitmap files are usable as layout diagrams.
Contact your dealer or service provider about creating, altering or adding bitmap files, and related operations.

4-2-1. Registering layout diagrams

Register the positions of indoor units etc. to previously-created layout displays.



---------Select from registered items ---------

Select : Displays a list of registered layout diagrams.

---------Individual entry--------

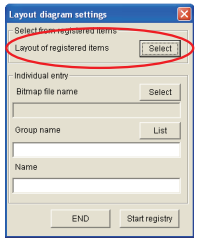
Select : Displays the Select bitmap screen for selecting layout diagram filenames.

List : Displays the previously-registered Select group screen.

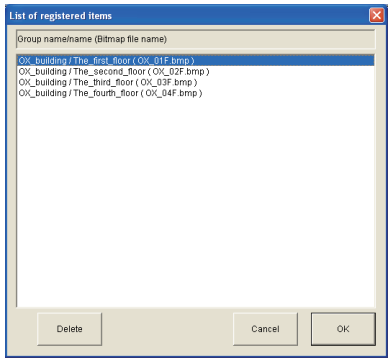
Start registry : Begins registration of indoor units etc. to the layout display.

END : Closes the Layout master data.

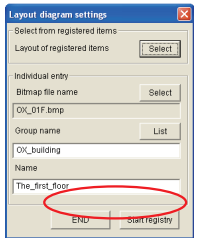
4-2-1-1. How to select registered layout diagrams



① On the Layout diagram settings screen, click on the Select button inside the Select from registered items frame.
Display the List of registered items screen.



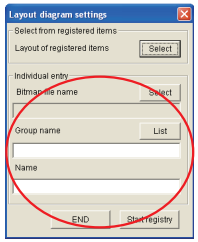
② From the group names and item names on the List of registered items screen, click to select the layout diagram concerned. Selected items are highlighted.
Click or double click on the OK button to close the List of registered items screen and display the bitmap filenames, group names and names for the selected layout diagram on the Layout diagram settings screen.



③ Click on the Start registry button to switch to the registration screens for indoor and outdoor units. Switch to the screen for part allocation.

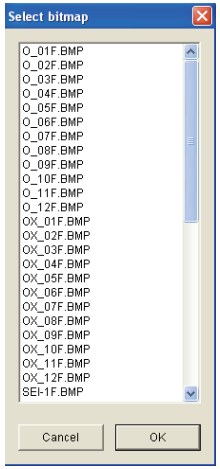
Click on the END button to close the Layout master data.

4-2-1-2. How to select new layout diagrams



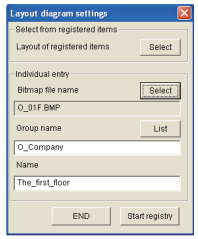
① On the Layout diagram settings screen, click on the Bitmap file name Select button inside the Individual entry frame.
Display the Select bitmap screen.

* Layout diagrams cannot be created on this system. Contact your dealer or service provider about creating, altering or adding layout diagrams (bitmap files), and related operations.

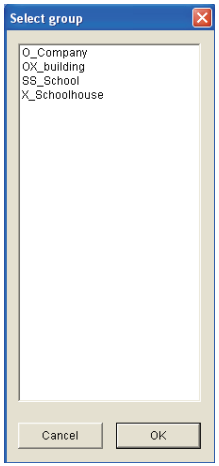


② On the Select bitmap screen, clicking to select the filename for the layout diagram to use highlights the selected bitmap name.
Click or double click on the OK button to close the Select Bitmap screen and display the Bitmap file name on the screen.

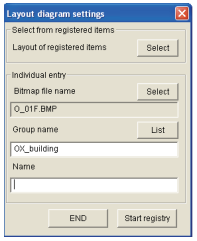
Click on the Cancel button to exit without doing anything.



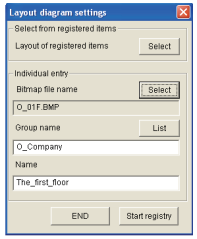
③ The Layout diagram settings screen shows the situation with the filename 'O_01F.BMP' selected.
* If the selected bitmap filename has already been set on the Layout master data, the set name is displayed in the Group name and Name columns.



④ Input the group name.
If the group name has already been registered, click on the List button to display the Select group screen. Click to select the name to use, then click or double click on the OK button to exit file selection, leaving the display as illustrated below.



If the group name is not registered, enter it directly into the text box.
It will be registered as a new group name.

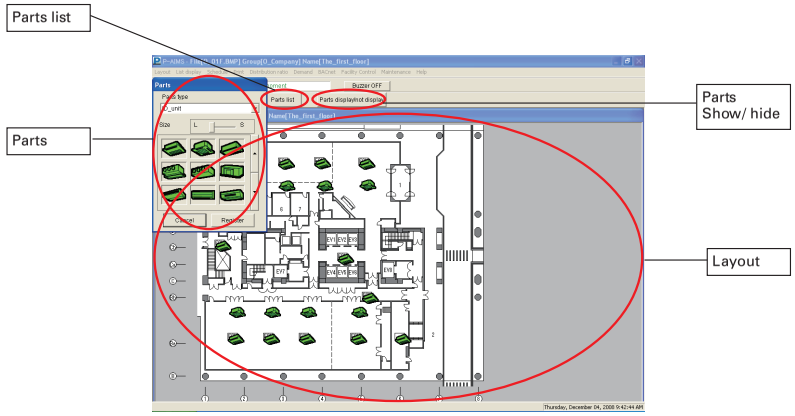


⑤ Input the name.
Use direct input.

⑥ Once name registration is complete, click on the Start registry button to switch to the registration screens for indoor units etc.
Click on the END button to close the Layout master data.

4-2-1-3. How to allocate parts to layout diagrams

Once selection is complete using 4-2-1-1. How to select registered layout diagrams and 4-2-1-2. How to select new layout dagrams, click on the Start registry button to switch the the Part Registration screen.

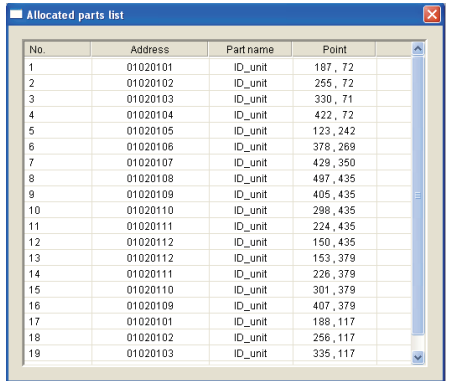


Parts list : Displays a list of all registered parts.

Parts display/not display : Displays or closes the Parts screen every time it is clicked.

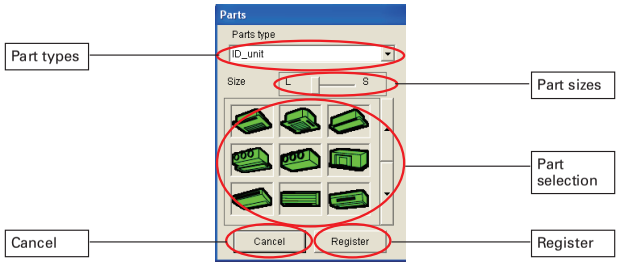
4-2-1-4. The Parts List screen

Click on the Parts list button to display a list of the parts registered to the layout diagram.



4-2-1-5. The Parts screen

To allocate parts to the layout diagram, use the mouse to select them from the Parts screen and release the mouse button where they are to be placed.





: Use this to select types of parts.
Click on the ▼ button to display a pulldown list and select from that list.



: Specify the sizes of parts. Specify if parts are of the same form but different sizes. Parts may not have been registered if they are not required in the layout diagram.



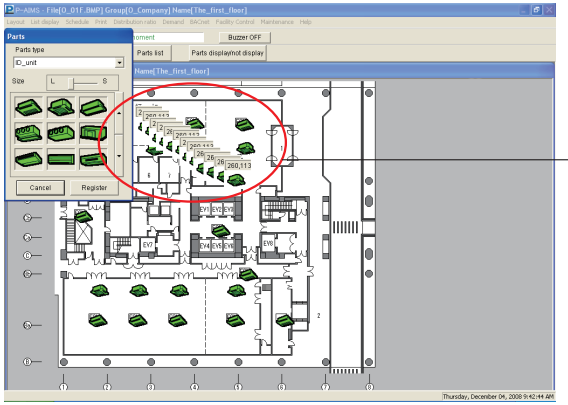
: Select parts. Move the mouse pointer to the necessary part and click on it. Drag the part with the mouse to the where it should be placed. Release the mouse when the part is in the right position.
(Placement is complete, so input the address.)

Register : Register the layout diagram and close the one you were working on.

Cancel : Layout work finishes immediately and the layout diagram closes. (The layout diagram is not registered)

Note: Normally, the Parts screen is displayed, but it may disappear when other systems are used. In that case, click on the Parts display/not display button to show the Parts screen. The Parts display/not display button can also be used to hide the Parts screen. Repeated clicking toggles between showing and hiding the screen.

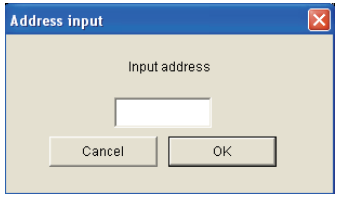
4-2-1-6. How to allocate parts to layout diagrams





To allocate and place parts, click on the relevant part on the Parts screen to select it, then drag to move the part into position, leaving a part trail as illustrated above.
Release the mouse when the part is in the correct position.
Coordinates are displayed while the part is being dragged with the mouse.

Once the mouse is released, a screen is displayed for entering the address of the part, so enter the address.



After entering the address, click on the OK button or press the Enter key to finish part placement.

Click on the Cancel button to cancel part placement.

* Addresses have eight digits for indoor units and six digits for outdoor units. Check addresses in advance.

4-2-1-7. How to move parts within layout diagrams

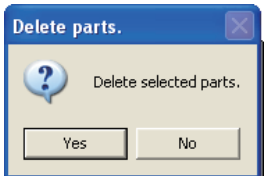


Click on the part to move.
The edge of the selected part is highlighted in red and its position information is displayed, as illustrated on the left.
Either drag the part with the mouse or use the [←] [↑] [↓] [→] keys to move it.
To stop moving the part, click on another part or on the Register button.

4-2-1-8. How to delete parts from layout diagrams



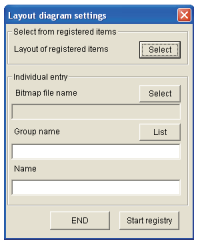
Click on the part to delete.
The edge of the selected part is highlighted in red and its position information is displayed, as illustrated on the left.
Right click to display a query asking whether you want to delete the part.
Specify whether or not to delete it.



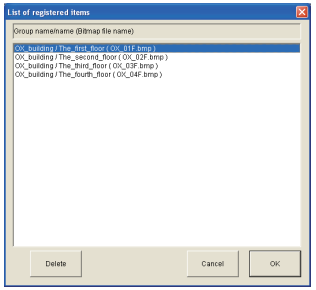
Click on the Yes button to delete.
Click on the No button to avoid deleting.

* When a layout diagram is deleted, it cannot be displayed. Make a backup of the layout before proceeding.
* Even if the layout diagram is deleted, the master for indoor units and outdoor units is not altered, so only the layout diagram becomes unavailable.

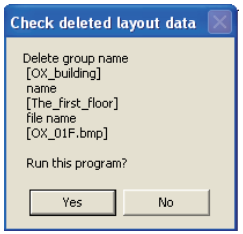
4-2-1-9. How to delete layout diagrams



① On the Layout diagram settings screen, click on the Select button inside the Select from registered items frame.
Display the List of registered items screen.

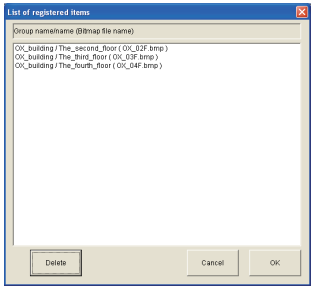


② From "Group name/name (Bitmap file name)" on the List of registered items screen, click to select the layout diagram concerned. Selected items are highlighted.
Click on the Delete button to display the Check deleted layout data screen.



③ On the Check deleted layout data screen, display the group name, name and file name and confirm their deletion.

Yes Click on the button to delete.
No Click on the button to avoid deleting.



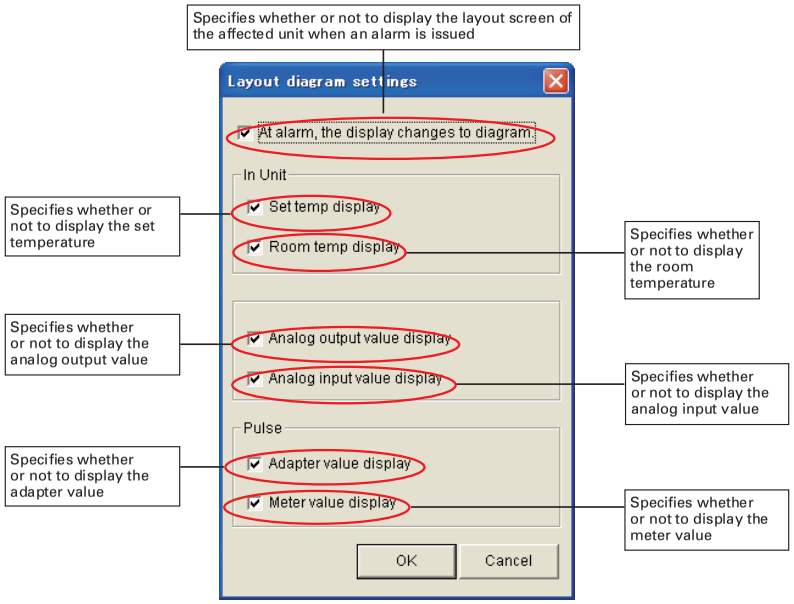
Once you click on the Yes button to delete, the deletion is applied to the Layout diagram settings screen and you can give the next instruction.

Click on the Cancel button to close the Layout diagram settings screen.

4-3 Settings

[Procedure]
Select Layout - Initial settings & maintenance - Settings from the menu bar.
(Password level 1)

Settings can choose whether or not the display should jump to the affected screen when an alarm is issued, and whether or not to display set temperature, room temperature, facility control (analog data), and accumulated (pulse) value.



OK : Registers settings and close the “Layout diagram settings” screen.

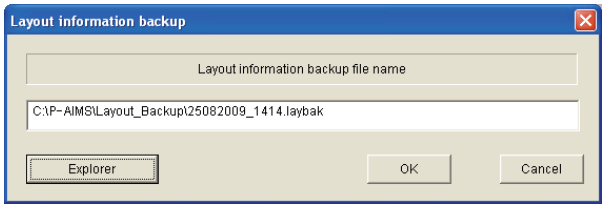
Cancel : Closes the “Layout diagram settings” screen with no other action.

* For “Facility Control” operations, optional Facility control software is required. If this optional software is not installed, this option cannot be selected.
* For “Accumulation (pulse)” operations, optional Distribution ratio software is required. If this optional software is not installed, this option cannot be selected.
For more information, please contact your dealer or service provider.

4-4. Layout backup

[Procedure]
Select Layout - Initial settings & maintenance - Layout Backup from the menu bar.
(Password level 2)

Make backups of layout information. The initial file name is automatically set to the numbers for "yyyymmdd_hhmm" with "laybak" as the extension.



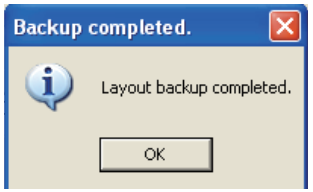
OK :Make backups of layout information.

Cancel :Exit.

Explorer :Use to change the save folder.

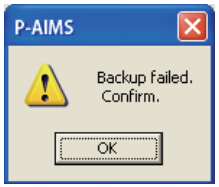
4-4-1. Starting layout information backup

Click on the OK button to backup layout information.
Save backup data.



Once the backup is complete, a message such as that on the left is displayed. Click on the OK button. The data backup process ends.

* The message on the right is displayed if the backup fails. Check the available free space on the backup storage drive, etc.
Click on the OK button to go back to Layout information backup.

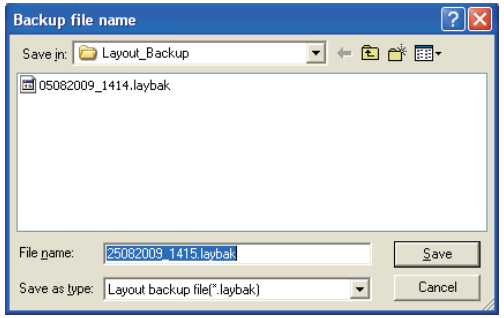


4-4-2. Deleting layout information backups

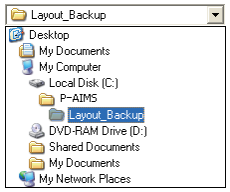
Click on the Cancel button to exit without saving the backup data.

4-4-3. Changing the save location for layout information backups

Click on the Explorer button to display the "Backup file name" screen and change the save folder.



Click on the button beside "Save in" to display a folder list as illustrated below. Select the required folder from the folder list.



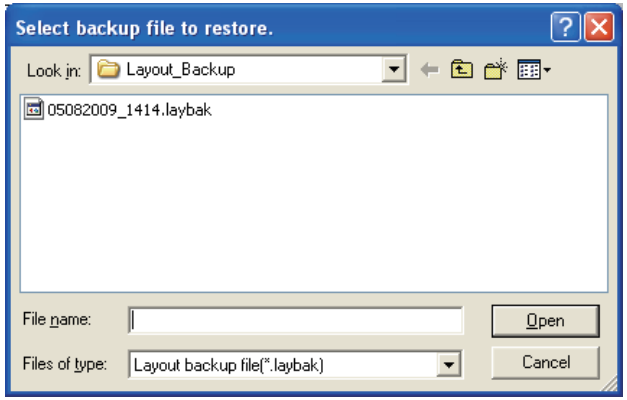
Click on the Save button to apply the selected save destination and return to the Layout information backup screen.

Click on the Cancel button to return to the Layout information backup screen without doing anything.

4-5. Restoring layouts

[Procedure]
Select Layout - Initial settings & maintenance - Layout restore on the menu bar.
(Password level 2)

Use the file created at the Layout Backup stage to return the layout to its state at the time of the backup.



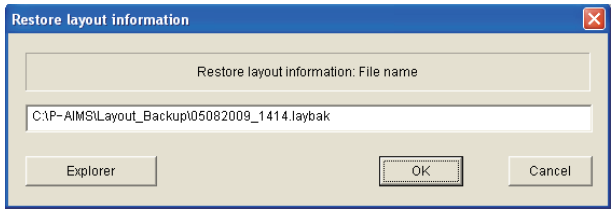
Open : Click on the relevant filename and specify the file name displayed under "File name".

Cancel : Exit without doing anything.

When layouts are restored, current layout information is lost.
If you need to retain current information, use Layout information backup in advance to backup layouts.

4-5-1. Starting layout restoration

On the "Select backup file to restore" screen, click on the file name to restore.
The specified file name is displayed in the "File name" space, then click on the Open button.
The Restore layout information screen is displayed.



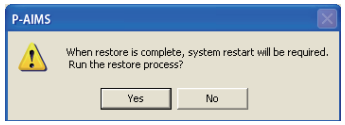
OK :Restore the layout information.

Cancel :Exit.

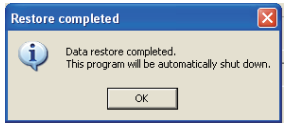
Explorer :Use this when you need to specify a different backup file.

4-5-1-1. Starting layout restoration

To start layout restoration, click on the OK button. A message reading "When restore is complete ..." is displayed.



Click on the No button to return to the Restore layout information screen.
Click on the Yes button to start the restoration process.



Once the restoration is complete, a message such as that on the left is displayed.
Click on the OK button.
The P-AIMS system exits automatically.

Restart the P-AIMS system.

The layout restoration process ends.

4-5-1-2. Canceling layout restoration

Click on the Cancel button to exit without restoring layouts.

4-5-1-3. Re-specifying the layout restoration file

Click on the Explorer button to re-display the "Select backup file to restore" screen.

5. Supplementary Information

- Layout diagrams
  The layout diagrams used by the P-AIMS System must be drawn up to match the customer's layout, but they cannot be created using this system. For more information about layout creation, contact your dealer or service provider.

- Part icons
  Part icons for use with the P-AIMS System are provided in advance for standard parts as shown in [Reference] Parts list at the end of this manual.
  Part icons other than shown in the parts list must be provided separately if necessary. These part icons cannot be created using this system. For more information about their creation, contact your dealer or service provider.

- Personal Computers
  Use a personal computer exclusively for the P-AIMS System.
  Sharing the PC with any other system could cause problems.

- Data backup
  The PC used with the P-AIMS System could break down, so you are advised to back up data to an external hard drive or other storage. For more information, contact your dealer or service provider.
  Caution: If the drive name of the external hard disk or other backup location changes, backups cannot be done.
  NOTE: When the drive name of an external hard disk drive is changed, it is not possible to back up.

- Power outages
  We recommend use of a UPS device (uninterruptible power supply) to protect the P-AIMS System in the event of a power outage. For more information, contact your dealer or service provider.

- Please note that we will not provide compensation in the following circumstances:
  Any fault caused by a third party becoming aware of a password.
  Any fault caused by sharing a PC between P-AIMS System and another application.

- Limitations on changing settings
  Some types of air conditioners are limited in the settings which they support.
  For example, cooling-only air conditioners cannot be set to heating.
  Floor-type models typically support only high fan speeds.
  Ceiling mounted models do not have flaps, and therefore cannot change the fan direction.
  You should be aware of the limitations of the air conditioner models in your system.
  For more information, contact your dealer or service provider.

- Only alarm codes are displayed in the notification bar and alarm log display.
  The content of an alarm can vary for different models, even if the alarm code is the same.
  Consult the documentation of the various models to determine the content of the alarm.

- After the settings of an indoor unit are changed from the P-AIMS System, the display may revert temporarily to the former settings.
  This is more likely to occur with all-unit operations. The cause is communications delay, not any malfunction in the system. If you wait a few minutes, the display will show the correct information.

- If an electrical storm, radio transmissions or other interference during operation caused a malfunction, turn the terminal power off, then on again.
  As a rule, the system should be powered off only in cases such as the above.
  Correct management of air conditioning is not possible when the system is powered off.

- Setting the current date and time
  The current date and time should be set on a regular basis, since the clock of an ordinary PC can gain or lose up to about two minutes per month.

- Passwords
  Passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.
  If you forget your password, contact your dealer or service provider.

6. License Certification

Before you can use the Layout Display Software, you need to first perform a work procedure called "license certification."

To perform license certification, make an inquiry by sending the inquiry key to the inquiry e-mail address below. You will be registered as a user and issued a release key, and then receive a reply.

<Contact Information>
Product ID Issuance Desk,

E-mail address: cmc_productid_desk@gg.jp.panasonic.com

When you make an inquiry, send the following information together with the inquiry in order to be registered as a user and issued a release key.

(1) Product name
(2) Company name/contact person
(3) Phone number
(4) E-mail address
(5) Inquiry key

* If you do not input a release key, you will no longer be able to use the system after 30 days elapses. Obtain a release key and perform license certification as soon as possible.
* Make an inquiry as soon as possible because it may sometimes take several days to be issued a release key.

License Certification Procedure

The procedure from after the P-AIMS system is installed up until the end of license certification is described below.

(1) Check the inquiry key from the License Certification screen.

(2) Send the inquiry key to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com).
Also notify us of the product name, company name/contact person, phone number, and e-mail address.

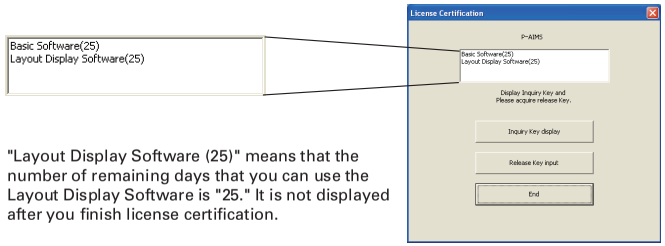
(3) A release key is issued.
You are registered as a user and a release key is issued. A reply is sent to the registered mail address.

(4) Input the release key from the License Certification screen.

(5) The license certification procedure is finished.

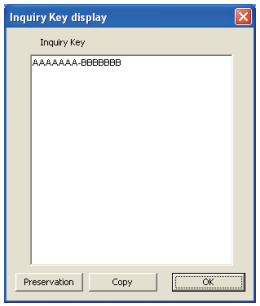
Performing License Certification

1. A License Certification screen such as the following appears when you start a P-AIMS systems for which license certification is not finished.



"Layout Display Software (25)" means that the number of remaining days that you can use the Layout Display Software is "25." It is not displayed after you finish license certification.

* After you start a P-AIMS system for which license certification is not finished, the License Certification screen will appear at 9:00 a.m. and 3:00 p.m. This screen is not displayed after you finish license certification.
If you install optional software, the License Certification screen will appear until license certification is finished for all of the software.



2. If you click the Inquiry Key display button in the License Certification screen, the Inquiry Key display screen appears, and the inquiry key is displayed in the screen.
Send the key displayed in this screen to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com) by e-mail.
At the same time, also notify us of the following items.
(1) Product name (required)
(2) Company name/contact person
(3) Phone number
(4) E-mail address (required)
You will be registered as a user and issued a release key.

Preservation :Clicking this button saves the inquiry key as a text file. Follow the instructions on the screen to save the text file. Enter the product name, company name/contact person, phone number, and e-mail address in this saved text file, and send the text file to the Product ID Issuance Desk by e-mail.

Copy :Clicking this button copies the inquiry key to the Windows clipboard. Paste the inquiry key into your mail.

OK :Clicking this button closes the Inquiry Key display screen.





3. When you receive the release key, restart the P-AIMS system. See "2. Startup and exit" for how to restart the P-AIMS system, and then restart the system.

   If license certification is not finished for the P-AIMS system, the License Certification screen on the right appears before the P-AIMS system restarts.

   Click the Release Key input button to display the Release Key input screen, and enter the release key.

* If you install multiple P-AIMS system software, the same number of license certifications is required. In such a case, the number of release keys sent will be the same as the number of inquiry keys.
  Enter all of the received release keys sequentially, and perform license certification. (There is no set order for entering release keys, so they can be entered in any order.)

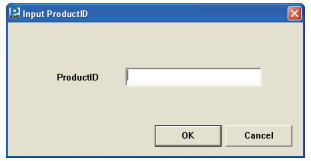
License certification is finished once all of the release keys have been entered.

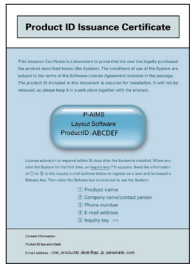
Click the End button. The License Certification screen closes, and the P-AIMS system starts.

* The P-AIMS system will start even if you click the End button without entering the release key. You can use the system as is until license certification is finished. (The system can be used for a period of 30 days.)

7. Preparation

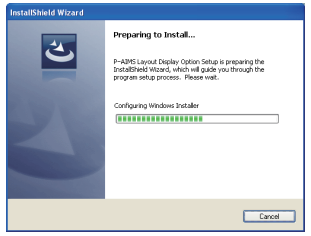
7-1. Installation



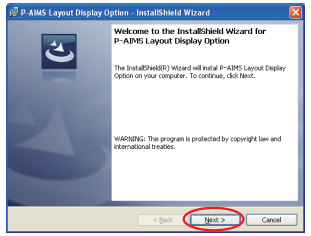


1. First, stop the P-AIMS system.
   Insert the Layout Display Software CZ-CSWGC2 CD of the air-conditioning integrated system (P-AIMS system) you purchased into the CD-ROM drive. The program on the CD-ROM starts automatically and makes preparations for installation. If installation does not start, double-click Setup.exe of the CD-ROM drive to start it.
   Enter the Product ID in the Input Product ID screen that appears.
   For the Product ID, see the Product ID Issuance Certificate supplied with the software.

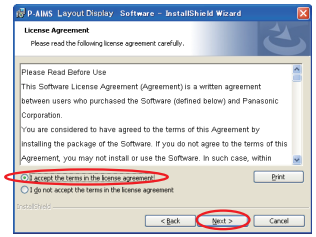
* Keep the Product ID Issuance Certificate in a safe place. The Product ID is required to install the air-conditioning integrated system. The Product ID Issuance Certificate will not be reissued.



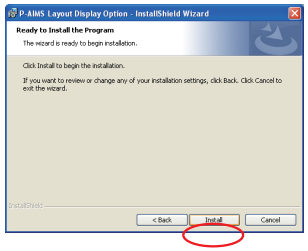
2. The InstallShield Wizard prepares to install the P-AIMS system.



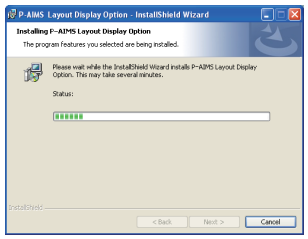
3. After a short while, the "The InstallShield(R) Wizard will install P-AIMS Layout Display Option on your computer. To continue, click Next." message appears. Click the Next > button.



4. Next, the License Agreement screen appears. Carefully read the license agreement, and click "I accept the terms in the license agreement" if you agree to the terms of the license agreement. The Next > button becomes active. Click the Next > button. (The software cannot be installed if you do not agree to the terms of the license agreement.)

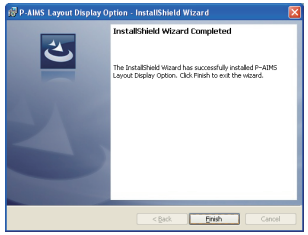


5. The "The wizard is ready to begin installation. Click Install to begin the installation." message appears. Click the Install button.



6. The installation of the P-AIMS system begins.

   Please wait a while.

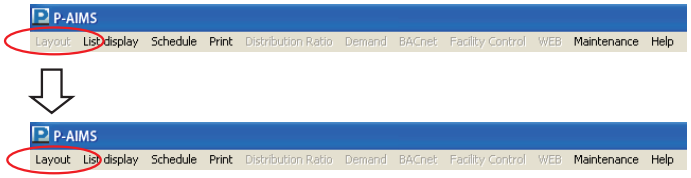


7. When the P-AIMS system setup is finished, the installation complete screen appears.
   Click the Finish button to complete the installation.

* When installing the Layout Display software, it is possible to install this system without stopping the P-AIMS system, but the functions of the Layout Display software will not be added. Restart the P-AIMS system.

7-2. Display after restart

After the system restarts, the layout display function is enabled and the menu item Layout is selectable.



7-3 Settings

Once installation is complete, settings are required for "Layout diagram preparation", "Indoor unit settings", "Outdoor unit settings", etc. Refer to the explanations in the corresponding sections for information on these settings.

* Contact your dealer about "Layout diagram preparation".

[Reference] Parts list

Indoor unit


:Unidirectional ceiling cassette


:4-directional ceiling cassette


:Bidirectional ceiling cassette


:Ceiling built-in cassette


:Built-in, all ducts


:Ceiling-embedded, high static pressure


:Ceiling suspended


:Wall mounted


:For kitchen use


:Perimeter, floor standing


:Floor standing

Outdoor unit


:Single


:Single


:GHP


:GHP


:VRF

Accumulated value (optional Distribution ratio software is required)


:Watt meter


:Gas meter


:Water meter

Digital point (optional Facility control software is required)


:Fan


:Pump


:Illumination

Analog point (optional Facility control software is required)


:Centigrade temperature


:Percentage


:Current


:Voltage


:Fahrenheit temperature

User memo space

If you fill this out at the time of purchase, it is convenient when ordering repairs etc.

Serial No.	
Date of installation	
Dealer	Telephone No. ( )

Operation Manual

Air Conditioning
Intelligent Management System

CZ-CSWKC2

Basic Software

P-AIMS

Thank you for purchasing our monitoring and control system.
Before using the system, be sure to read this manual carefully. After reading it, store it, in a convenient location for easy reference.

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Operation Manual

Air Conditioning
Intelligent Management System

CZ-CSWKC2
Basic Software

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Note

■Precautions on Using This Product

★IMPORTANT★

- Before you can use the P-AIMS system, you need to first perform a work procedure called "license certification."
  Please perform the license certification referring to "6.License certification".
- Duplication of all or part of this software and documentation without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- This software and manual are not to be reproduced, in whole or in part, without permission.
- In principle, each set of this software is purchased for use on a single computer.
- Please note that we bear no responsibility for any effects resulting from the use of this software and manual.
  Panasonic will not be liable for any claim based on errors in calculations of distribution ratios and utility usage caused by faults in this equipment or software.
- The specifications of this software, and the content of this manual, are subject to change without notice, for the sake of improvement.
- This software is used to calculate distribution ratios and charges according to the load ratios estimated for each indoor unit.
  It is not based on the Measurement Act, so it cannot be used for public transactions and similar purposes.
- The content of this manual is limited to explanation of how to use this software.
  It does not cover the usage methods for the operated machinery and optional features, or for the OS etc., so refer also to the relevant manuals for those elements.
- The screen image examples presented in this manual are intended to illustrate the explanation of layouts, and do not represent actual operating conditions. The tenant names displayed are also fictional.
- Displays and operations may differ from the examples in this manual, depending on versions of Excel and the OS used.
- Refer to "Please Read Before Use" for the warranty terms for this software.
- Panasonic will not be liable for any violation of the rights of any third party stemming from use of information in this manual, or for violation of other rights.
- Microsoft, Windows XP and Microsoft Excel are trademarks of Microsoft Corporation in the United States and other countries.
  Other product names are trademarks or registered trademarks of the corresponding companies.
  Other products are copyrights of the corresponding companies.

1. Features of the System

1-1. Introduction

This Air Conditioning Intelligent Management System (P-AIMS System) is Panasonic Corporation's personal computer (PC) software for the centralized control of air conditioning equipment.
Compatible equipment models are:
Electric package air conditioners (PAC)
Gas heat pump (GHP) air conditioners

1-2. System Features

- Connectable units ..... 1,024 indoor
  960 outdoor
- Operation functions ..... Start/ stop, temperature settings, operation mode switching, airflow direction settings, etc.
- Operation monitor ..... Layout display (requires layout display software, sold separately)
  Unified monitoring of operation status (start/stop, operation mode, alarm)
  Alarm log display, status change history display
  Filter cleaning signs, engine oil check sign
- Program timer ..... 20 daily times can be set for each group (30 types)
- Air conditioning energy distribution..... Cumulative operation time for each indoor unit, and total operation count
  Calculation of distribution ratios and usage quantities (m^3, kWh) for air conditioning consumption of gas and electricity by each indoor unit and each tenant
  Time zone distribution function (within hours, after hours, special days)
  Processes performed on cut-off days can be changed at any time (within a year)
  (separate charge calculation software is required)

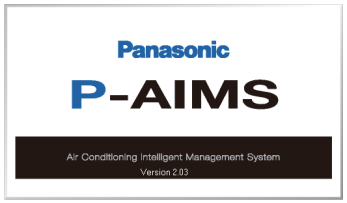
2. Startup and exit

2-1. Startup

1. Double click on the P-AIMS shortcut on the desktop.



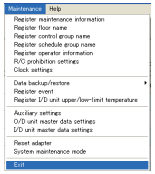
The following window appears:



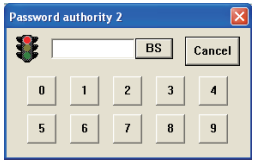
The system starts up and the Status/Operation screen is displayed.

2-2. Exit

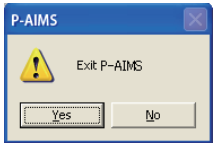
1. From the Menu bar, select “Maintenance” - “Exit”.



2. The Password Input screen is displayed. Input the password.



3. The System Exit screen is displayed. Click on the Yes button.



3. Quick Reference

Menu List

Main menu

1. Layout
2. List display
3. Schedule
4. Print
5. Distribution ratio
6. Demand
7. BACnet
8. Facility Control
9. Web
10. Maintenance

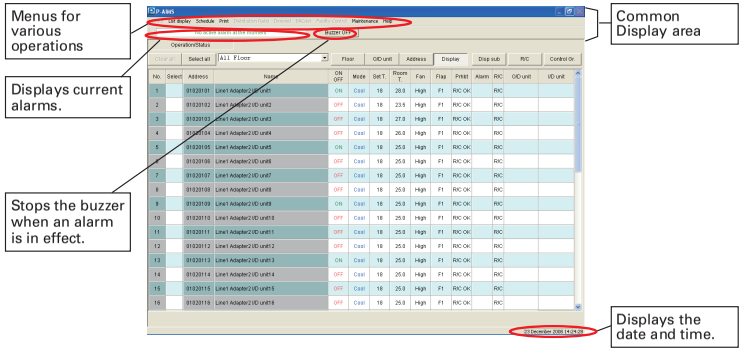
	Sub menu	
1. Layout	Layout (options)	
2. List display	Status/Operation	☞p13
	Filter sign & I/D unit information	☞p19
	O/D unit information	☞p24
	Operation/Status change log	☞p27
	Alarm list & alarm log	☞p31
3. Schedule	Schedule/results	☞p37
	Mode settings (Calendar)	☞p40
	Schedule operation time settings	☞p44
	Update schedule	☞p49
4. Print	Print screen	☞p9
	EXCEL output	☞p9
	Auto EXCEL output setting	☞p10
	Print list	
	List Print preview	
5. Distribution ratio	Distribution ratio (optional)	
6. Demand	Demand (optional)	
7. BACnet	BACnet (optional)	
8. Facility Control	Facility Control (optional)	
9. Web	Web (optional)	
10. Maintenance	* Register maintenance information	☞p54
	* Register floor name	☞p56
	* Register control group name	☞p59
	* Register schedule group name	☞p61
	* Register operator information	☞p63
	* R/C prohibition settings	☞p65
	Clock settings	☞p67
	Data backup/restore	☞p68
	* ·Data backup	☞p68
	* ·Restore data	☞p69
	* ·Cancel data restore	☞p71
	* ·Auto backup settings	☞p72
	* Register event	☞p75
	* Register I/D unit high/low-limit temperature	☞p78
	* Auxiliary settings	
	* O/D unit master data settings	
	* I/D unit master data settings	
	* Reset adapter	
	* System maintenance mode	
	* Exit	☞p81

* indicates the security code protection screen.

4. Using the System

4-1. Common Items

The common display area is at the top of the screen, and is always displayed, regardless of which operation screen is used. Any current alarms and the date and time are also displayed. The menu bar can be used to move between screens.



4-1-1. The Menu Bar

- Layout ..... Display the layout. (Optional)
- List display..... Display the various list screens.
  - Status/Operation ..... Monitor air conditioner status and alarms, and perform start and stop operations etc.
  - Filter sign & I/D unit information..... Check duration and times of indoor unit operation and reset filter alarms.
  - O/D unit information ..... Check duration and times of outdoor unit operation and make power demand settings.
  - Operation/Status change log ..... Display a log of air conditioner starts and stops, and change operation status.
  - Alarm list & alarm log..... Display a log of air conditioner alarms and restoration status.

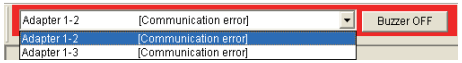
- Schedule ..... Display the Schedule setting screen.
  - Schedule/results ..... Monitor air conditioner status and alarms, and perform start and stop operations etc.
  - Mode settings (Calendar) ..... Set the scheduled operation mode to calendar.
  - Schedule operation time settings ..... Set the scheduled operation times for each mode.
  - Update schedule..... Check and change scheduled operating times for the same day, next day and day after that.
- Print..... Print data from the screen.
  - Print screen ..... Print the displayed screen.
  - EXCEL output..... Export the print image to a CSV file that can be loaded by Microsoft Excel.
  - Auto EXCEL output setting ..... Make settings for automatically outputting the specified data to CSV files that can be loaded by Microsoft Excel.
  - Print list ..... Print the distribution table. (Optional)
  - List print preview..... Display and print the preview screen for the distribution table. (Optional)
- Distribution ratio ..... Calculate distribution. (Optional)
- Demand..... Control demand. (Optional)
- BACnet ..... Perform BACnet communications. (Optional)
- Facility Control ..... Control devices other than the air conditioners. (Optional)
- Web ..... Provide a web browser. (Optional)
- Maintenance..... Display the Maintenance screen.
  - Register maintenance information ..... Register and cancel indoor unit maintenance.
  - Register floor name..... Register floor names.
  - Register control group name..... Register control group names.
  - Register schedule group name..... Register schedule group names.
  - Register operator information ..... Register names of operators responsible for checking alarms.
  - R/C prohibition settings ..... Set central control patterns for use with the remote control unit.
  - Clock settings..... Set the system time.
  - Data backup/restore ..... Backup and restore data.
    - Data backup..... Make backups of data.
    - Restore data ..... Restore back-up data.
    - Cancel data restore..... Delete data backups.
    - Auto backup settings..... Set how backups are made automatically.

Register event.....Register conditions for linked control.
Register I/D unit high/low-limit temperature.....Register conditions for the upper and lower temperature limits for the indoor unit
Auxiliary settings.....Make adapter connection line settings, system password settings, etc.
O/D unit master data settings.....Register outdoor units to monitor.
I/D unit master data settings.....Register indoor units to monitor.
Reset adapter .....Specify the connection line and reset the adapter.
System maintenance mode .....Display the system maintenance mode.
Exit.....Exit the system.

- Help ..... Display the Help screen.
  Basic software manual.....Display the basic software manual.
  Layout display software manual .....Display the layout display software manual. (Optional)
  Distribution ratio software manual.....Display the Accounting software manual. (Optional)
  Demand software manual .....Display the demand control software manual. (Optional)
  BACnet software manual...Display the BACnet control software manual. (Optional)
  Facility control software manual.....Display the facility control software manual. (Optional)
  WEB software manual.....Display the WEB software manual. (Optional)
  Select Language.....The selected language is displayed.
  Version information .....Display version information.

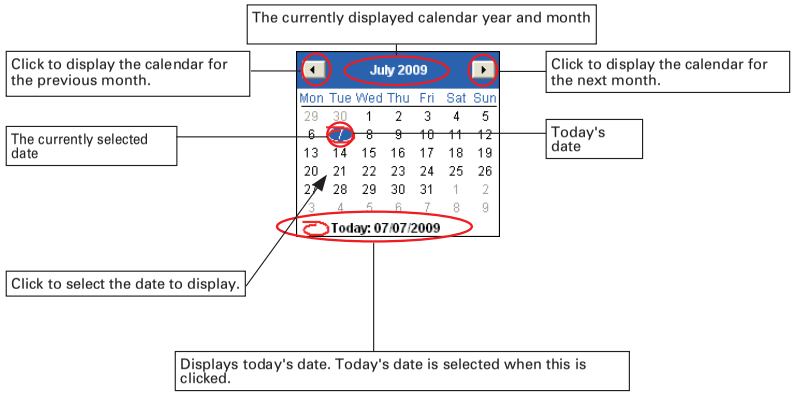
4-2. Warning information display list box

When an alarm is issued in connection with a monitored device, the name of the alarm device is displayed in the list box in the upper left of the screen, where it flickers in red. Click on the button on the right side of the list box to display the list of current alarms. If there are many alarms in effect, an additional scroll bar is displayed on the right side of the list display screen. Devices which have been restored from their alarms are automatically removed from the list. A buzzer also sounds when an alarm occurs, but it can be stopped by clicking on the Buzzer OFF button.



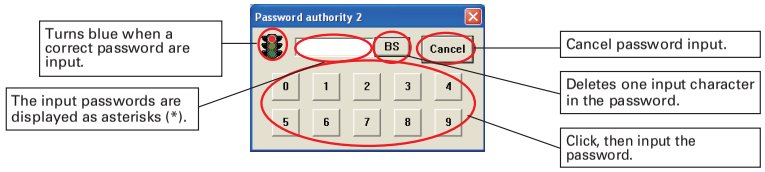
4-3. Calendar

Click on the button on the right side of the date display column, when specifying time periods on any screen, to display the calendar screen.
Click on the calendar to select the dates of displayed history items.



4-4. Password

This password screen is displayed if users are restricted, in order to restrict access to screens such as the Maintenance screen which are not used by general users, and to prevent operation errors. The password level required for the current input is displayed at the top of the Password screen. Input a password of a level that meets the level requirement.
Click on the numerical buttons at the bottom to input the correct password. When a correct password is input, the restriction is lifted and the displays and devices on the screen become operable. Restrictions are also lifted if the input password is of a level surpassing that which is displayed.



* There are three levels of password, as follows:
Level 1: It is possible to operate and change the names of password-protected devices.
Level 2: Operations such as system settings and shutdown are possible.
Level 3: All operations, including system maintenance, are possible.

4-5. Procedure

If [Procedure] is displayed, the procedure for accessing that item is presented.
For example,

[Procedure]
On the menu bar, select “Print” – “Auto EXCEL output setting”.
(Password level 1)

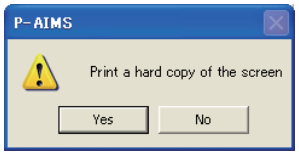
when the above is displayed, clicking on Print on the main menu displays the sub-menu.
Click on “Auto EXCEL output setting” in the sub-menu to switch the screen display to that item.
If there is a <Password Level 1> display, the Password screen (Level 1) is displayed, so the screen switches after a suitable password is input.

4-6. Print

4-6-1. Print screen

[Procedure]
On the menu bar, select “Print” – “Print screen”.

Print the currently-displayed screen.
* This menu cannot be selected on screens that cannot be printed.

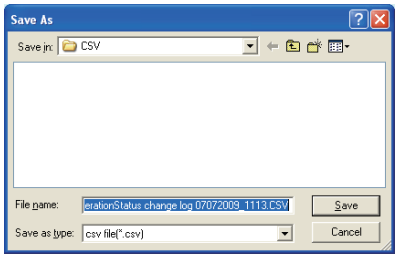


Click on the Yes button to print the screen.
Click on the No button to exit without printing.

4-6-2. Excel output

[Procedure]
On the menu bar, select “Print” – “Excel output”.

Currently displayed data can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications. The data currently displayed on the screen becomes the file, so make sure the data to place in the file is displayed on the screen.



The file name is assigned automatically.

OperationStatus change log 07072009 _ 1113.CSV
Name DDMMYYYY hhmm *This file is for when the “Operation/ Status change log” is used.

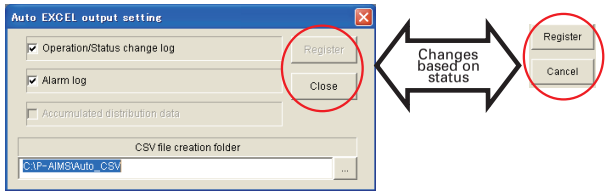
Click on the Save button to save the file to the folder specified under “Save in:”.
Click on the Cancel button to exit without saving.

* Unless a different save folder has been specified, the saved file is saved to the folder named Auto_CSV in the folder to which the P-AIMS system was installed (e.g. C:\P-AIMS).

4-6-3. Settings for automatic Excel output

[Procedure]
On the menu bar, select "Print" – "Auto EXCEL output setting".
(Password level 1)

"Operation/Status change log" and "Alarm log" can be saved automatically, every day, in CSV format, which can be displayed on Microsoft Excel. The timing of data saving is past midnight, so the data up to the previous day can be checked.



Operation/Status change log :Specify the file to save the Operation/Status change log to.

Alarm log :Specify the file to save the Alarm log to.

Accumulated distribution data :Specify the file to save Distribution ratio-related data (Optional) to. This cannot be specified with the basic software.

Register :Registers the set content.

Cancel :Reverts to the previously registered content.

Close :Closes the window.

... :Changes the backup creation folder.

4-6-3-1. Settings for saving the Operation/status log

To automatically save the "Operation/Status change log" file, click on Operation/Status change log, and add the check mark. Saving is enabled with the check mark is added.

Click again to remove the check mark.

The file name is assigned automatically. (Files are saved in one-day units).

OperationStatus change log 07072009 _ 1.CSV

Name DDMMYYYY serial number

(*The serial number increments to "2" when there are over 60,000 files with the serial number "1". Up to 400,000 files can be saved per day).

4-6-3-2. Settings for saving the alarm log

To automatically save the alarm log file, click on Alarm log, and add the check mark. Saving is enabled with the check mark is added. Click again to remove the check mark.

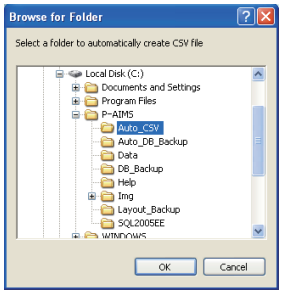
The file name is assigned automatically. (Files are saved in one-month units).

Alarm log 082006.CSV

Name MMYYYY

4-6-3-3. Changing the folder in which CSV files are created for automatic Excel output

Click on the ... button to display the Browse Folder screen, which can be used to change the folder in which files are saved.



Click on the OK button to apply the selected save destination and return to the Auto backup settings screen.

Click on the Cancel button to return to the Auto backup settings screen without doing anything.

4-6-3-4. Registering settings

Click on the Register button to register the set content.

4-6-3-5. Deleting settings

Click on the Cancel button to delete the set content and revert to the previously registered content.

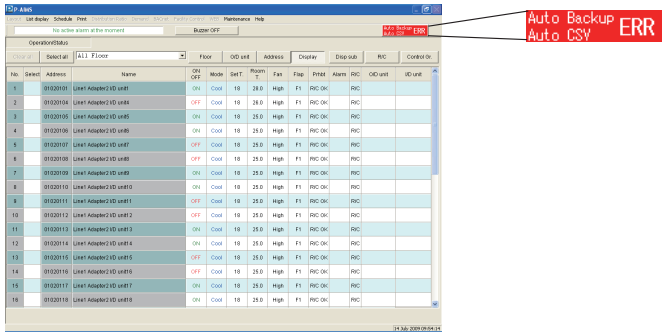
4-6-3-6. Deleting

Click on the Close button to close the Auto backup settings screen.

* The Cancel and Close buttons change to the Cancel button when settings are made.
  Clicking on the Register or Cancel buttons changes them to the Close button.
* Unless a different save folder has been specified, automatic backup files are saved to the folder named Auto_DB_Backup in the folder where the P-AIMS system was installed (e.g. C:\P-AIMS).

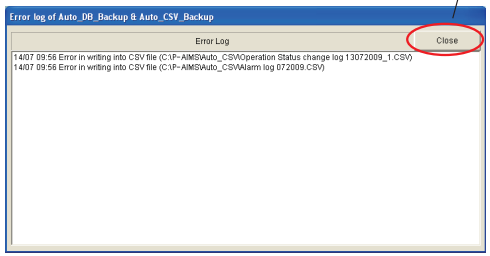
4-6-3-7. Troubleshooting if saving does not work

If an error occurs while the backup file is being saved, a red button marked “Auto Backup, Auto CSV ERR” is displayed in the upper right of the screen.



Click on the Auto Backup Auto CSV ERR button to display the “Error log of Auto_DB_Backup & Auto_CSV_Backup” screen and the content of the error.

The Auto Backup Auto CSV ERR button disappears at the same time as the error is closed.

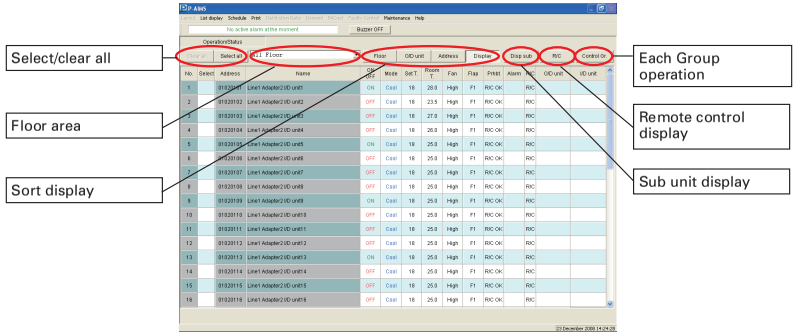


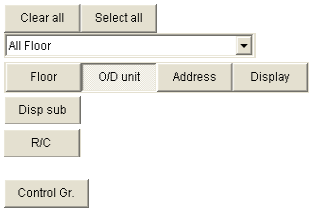
* If this button is displayed, an error may have occurred on the storage disk. Refer to the instruction manual for the device concerned and take appropriate action.

4-7. Status/Operation

[Procedure]
On the menu bar, select “List display” – “Status/Operation”.

Monitor the status of indoor units here. The operation, mode, set temperatures, room temperatures, fan speeds, flaps, central control, alarms, presence of remote control units, outdoor units and indoor units can be monitored. Devices can also be controlled to start and stop.
Indoor units can be monitored and controlled in floor and area units, and each control group can be controlled.





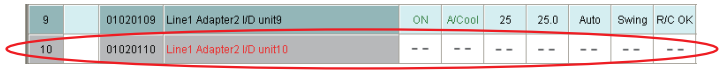
:Use to clear all and select all.
:Use to select floor areas.
:Use to select the display order.
:Sub units are also displayed.
:Use remote control units for individual control to stop and start indoor units individually.
:Use group control remote control units to stop and start control group units.

Key

- · Select :Selects the indoor unit to control. Click to add a check mark.
- · Address :Display the address numbers of indoor units.
- · Name :Displays the names of the indoor units. Normal: black, sub unit: blue, W/O connestion: red, maintenance: gray
- · ON/OFF :Monitors the operation status of indoor units. ON: Green, OFF: Red
- · Mode :Displays the operation modes of indoor units. A/Cool, A/Heat: Green, Cool: Blue, Heat: Red, Fan: Gray, Dry: Light blue

· Set T. :Displays the set temperature. The range of temperatures that can be set varies, depending on the connected air conditioner model and the operation mode.
· Room T. :Displays room temperatures.
· Fan :Displays fan speeds.
Automatic (automatic fan speed), High, Mid., Low (Displayed as - - if the model concerned cannot display this information.)
· Flap :Displays the directions of flaps.
Swing, F1 - F5 (warm, fan: F1 - F5, for cooling: F1 - F3)
Displayed as - - if the model concerned cannot display this information.
· Prhbt :Central control (local control prohibited)
Individual (no prohibition), prohibit 1=prohibit 7 (Settings can be made for various types of central control (Prohibition))
· Alarm :Displays alarm codes if an alarm has been issued by an indoor unit.
Displays Maintenance if "Register maintenance information" applies.
· R/C :Displays "Yes" for indoor units that have remote control units
· O/D unit :Displays outdoor unit codes.
· I/D unit :Displays indoor unit codes.

* If it is not possible to communicate with the adapter, or if the model used cannot display the content, the column will display "- -".
* Use the Maintenance screens to assign indoor unit points to the screen.



The names of indoor units which are unconnected are displayed in red. Their operating status cannot be checked.

4-7-1. Display method

4-7-1-1. Selecting displayed floor and area



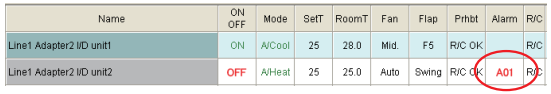
First, select the floor and area.

If the floor and area is "All Floor", all registered indoor units are displayed. Click on the button on the right edge of the floor selection list to display a list of registered floors and areas. From the list, select the floor or area to monitor.

A list of indoor units registered within that floor and area is displayed.

4-7-1-2. Displaying alarms

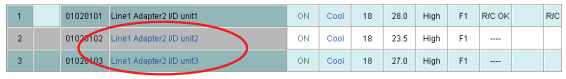
When an alarm is issued for an indoor unit, the error code is displayed in the Alarm column.
Nothing is displayed if there are no current alarms.



* The alarm display is automatically removed if the alarm has been restored.

4-7-1-3. Displaying sub units

Disp sub button is clicked, it changes to the pressed state (Disp sub) and sub units are also displayed. Click on the button again and it returns to its original raised state (Disp sub), so sub units are no longer displayed. Stop and start operations cannot be performed on sub units.



The names of sub units are displayed in pale blue.

* Setup and operation of sub-units is linked to the main unit, so starting/stopping them or changing their settings is impossible.
* To check individual alarms from sub-units, it is necessary to display the sub-unit.

4-7-1-4. Sorting lists

Click on the Sort button to change the display order of a list. The currently pressed button is the one which determines the sort order.



Click on the buttons to change the list orders. If other buttons are pressed, the one that was clicked last is effective. The illustration above shows the list displayed in the indoor unit master order.
Floor :Display is in order of floor name registration.
O/D unit :Display is in order of outdoor unit addresses, from the most recent.
Address :Display is in order of addresses, from the most recent.
Display :Display is in order of most recent registrations to the indoor unit master.

* Any button can be selected. It is not possible to select multiple buttons at the same time.

4-7-2. Start and stop control method

4-7-2-1. Indoor unit selection method



To start or stop a unit, click on the name of the indoor unit to control. The selected locations have ✓ check marks in the selection column.

Click again on the same location to remove the check mark, canceling the selection.

To select all indoor units, click on the Select all button in the upper left of the screen.

To cancel selections of all indoor units, click on the Select Clear button in the upper left of the screen. Select Clear This button cannot be used if nothing has been selected.

It is possible to select or deselect multiple indoor units by dragging around them with the mouse.

Unconnected units and sub units cannot be selected.

* After selecting the indoor unit, transmit the settings to the actual indoor unit on the Remote Control screen.

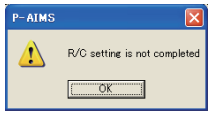
4-7-2-2. Start and stop operation method (for each indoor unit)

Click on the R/C button in the upper right of the screen when an indoor unit is selected to display the remote control unit screen. The Remote Control screen can be used to change operation, mode, temperature setting, fan speed, flap and prohibition settings. Click on the set button, then on the Transmit button to send the setting content to the unit.

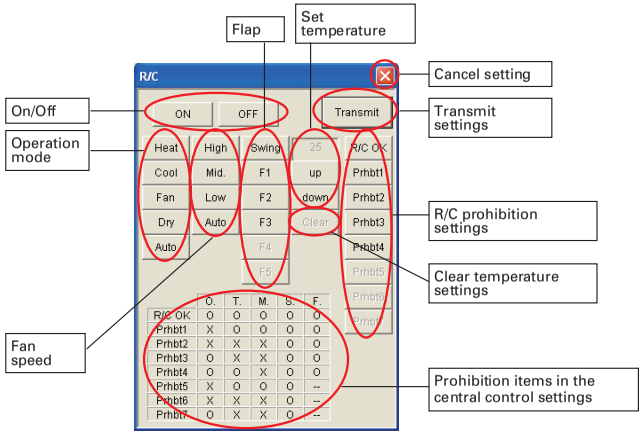
Click on the button to avoid sending the settings. The Remote Control screen closes.

* Buttons for functions that cannot be set are grayed out and cannot be selected.
* Indoor units can be selected even after the Remote Control screen has been displayed.

An error message is displayed if the user clicks on the Transmit button when no indoor unit is selected.



Select the indoor unit before clicking on the Transmit button.



4-7-2-2-1. On/Off

ON / OFF

When either On or Off is clicked, the selected button remains depressed.
When one button is clicked on, the other reverts to its non-depressed state.

4-7-2-2-2. Mode switch

Heat / Cool / Fan / Dry / Auto

When any button is clicked, the selected button remains depressed.
When any other mode button is clicked on, the previously selected button reverts to its non-depressed state.

* Some modes may be unavailable, depending on the type of indoor unit.
* Some older indoor units may be unable to provide fan operation when fan speed is set to automatic.

4-7-2-2-3. Fan speed switch

High / Mid. / Low / Auto

When any button is clicked, the selected button remains depressed.
When any other Fan speed button is clicked on, the previously selected button reverts to its non-depressed state.
Auto fan speed cannot be selected in fan operation.
*For some indoor unit models, it may be impossible to select “Auto” (Auto fan speed).

4-7-2-2-4. Swing/Flap

Swing / F1 / F2 / F3 / F4 / F5

When any button is clicked, the selected button remains depressed.
When any other Flap button is clicked on, the previously selected button reverts to its non-depressed state.
*Some flap settings are unavailable, depending on the selected operation mode.

4-7-2-2-5. Prohibition switch

When any button is clicked, the selected button remains depressed.
When any other prohibition mode button is clicked on, the previously selected button reverts to its non-depressed state.
Only those set under prohibition settings can be used.

R/C OK / Prhbt1 / Prhbt2 / Prhbt3 / Prhbt4 / Prhbt5 / Prhbt6 / Prhbt7

R/C OK:Operation with the remote control unit is OK.
Prhbt 1 :The remote control unit cannot be used for switching On/Off.
Prhbt 2 :The remote control unit cannot be used for switching On/Off, temperature setting and operation mode switching.
Prhbt 3 :The remote control unit cannot be used for temperature setting and operation mode switching.
Prhbt 4 :The remote control unit cannot be used for operation mode switching.
Prhbt 5 :The remote control unit cannot be used for switching On/Off.
Prhbt 6 :The remote control unit cannot be used for switching On/Off, temperature setting and operation mode switching.
Prhbt 7 :The remote control unit cannot be used for temperature setting and operation mode switching.

* The functions for Prhbt 1–4 can be changed using the “Maintenance” – “R/C prohibition settings”.
* Prohibit 1–4 are for the CZ-CFUNC2.

4-7-2-2-6. Temperature setting

Click on the up and down buttons in the center right of the Remote Control screen to raise or lower the temperature displayed in the set temperature column.

22 / up / down / Clear

Heat :16 - 26°C
Dry/Cool :18 - 30°C
is the available setting range. Temperature cannot be set in fan operation.
*Temperature setting ranges differ between indoor unit models.

* Temperature setting ranges can be changed using “Maintenance” – “Register I/D unit high/low-limit temperature”.

4-7-2-2-7. Transmit

Click on the Transmit button to transmit the set content to the indoor unit.

4-7-2-2-8. Deleting

Click on the button to stop transmission of the setting data to the indoor unit and close the Remote Control screen.

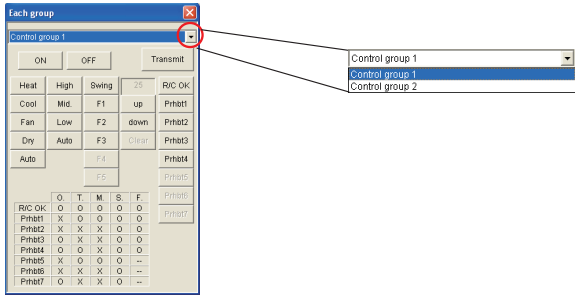
4-7-2-3. On and Off operation method (Each group)

Click on the Control Gr. button to display the Remote Control screen for Each Group operation.

The basic operations are the same as for the normal Remote Control screen (for individual indoor units), but a frame for selecting control groups is displayed on the top of the screen.

Select the control group to operate, then transmit the settings.

To change the control group, click on the button on the right of the control group. The registered control groups are displayed in the list.



Select by clicking on the group to control. Then, set the operation mode, fan speed and other items in the same way as for normal remote control unit operation, and click on the Transmit button. The settings are transmitted to all the indoor units in the registered group.

Click on the button to avoid sending the settings. The remote control screen closes.

* Use the “Maintenance” – “Register Control Group Name” screen to register control group names.
* Use the “Maintenance” – “I/D unit master data” screen to assemble control groups.
* It is not possible to select indoor units while the Each Group Setting screen is displayed.
  Also, if the Each Group Setting screen is displayed after an indoor unit has been selected, Each Group setting operation takes priority.



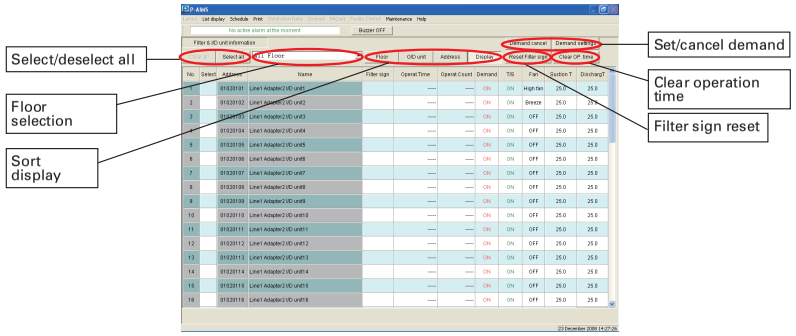
When settings are transmitted for individual indoor units or for groups, but no setting items are selected on the Remote Control screen, an error message is displayed when the Transmit button is clicked.

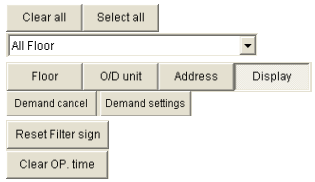
Make settings on the Remote Control screen before clicking on the Transmit button.

4-8. Filter/Indoor Unit Information

[Procedure]
On the menu bar, select “List display” – “Filter sign & I/D unit Information”.

The operation time, the operation count, thermometer and fan status, intake temperature and discharge temperature can be checked for each indoor unit. Devices which are showing filter signs are also shown.Filter signs can be cleared, and indoor unit demand can be set or cancelled, from this screen.





:Use to clear all and select all.
:Use to select floor areas.
:Use to select the display order.
:Use to make and cancel demand settings.
:Use to clear filter signs.
:Use to reset the operation times of indoor units.

Key

- Select :Selects the indoor unit to control. Click to add a check mark.
- Address :Displays the addresses of alarms.
- Name :Displays the names of devices which have issued alarms. Normal: black, sub unit: blue, W/O connection: red, maintenance: gray
- Filter sign :Displays alarms related to filter replacement times. “Filter sign” is displayed in red when it is time to replace a filter.
- Operat. Time :Displays the operation times of indoor units. (When the distribution ratio option is installed)
- Operat. Count :Displays the number of times indoor units have operated. (When the distribution ratio option is installed)
- Demand :Displays the demand status of indoor units.
- T/S :Displays the thermostat status of indoor units.

· Fan :Displays the fan status of indoor units.
· Suction T :Displays the temperature of air taken into the indoor unit.
· Discharg T :Displays the temperature of air discharged from the indoor unit.

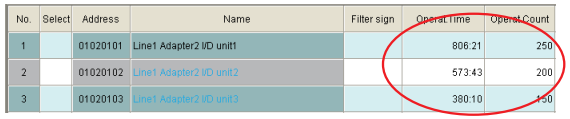
> * If it is not possible to communicate with the adapter, or if the model used cannot display the content, the columns will display "----".

The names of sub units are displayed in pale blue.



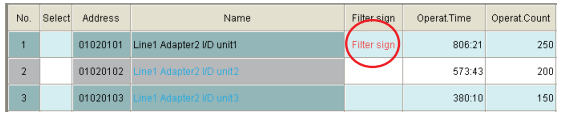
1		01020101	Line1 Adapter2 I/D unit1		-----	-----
2		01020102	Line1 Adapter2 I/D unit2		-----	-----
3		01020103	Line1 Adapter2 I/D unit3		-----	-----

If the optional Accounting software is installed, the current operation time and operation count are displayed for the indoor unit.



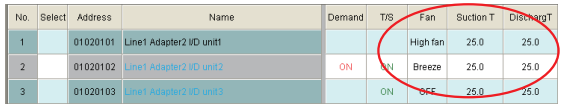
No.	Select	Address	Name	Filter sign	Operat.Time	Operat.Count
1		01020101	Line1 Adapter2 I/D unit1		806:21	250
2		01020102	Line1 Adapter2 I/D unit2		573:43	200
3		01020103	Line1 Adapter2 I/D unit3		380:10	150

If a filter sign has been issued, the text "Filter sign" will be displayed in red in the Filter Sign column.
Nothing is displayed if there are no current filter signs.



No.	Select	Address	Name	Filter sign	Operat.Time	Operat.Count
1		01020101	Line1 Adapter2 I/D unit1	Filter sign	806:21	250
2		01020102	Line1 Adapter2 I/D unit2		573:43	200
3		01020103	Line1 Adapter2 I/D unit3		380:10	150

Thermostat status (displayed when On), actual fan operation status, and intake and discharge temperatures are displayed for indoor units.



No.	Select	Address	Name	Demand	T/S	Fan	Suction T	DischargT
1		01020101	Line1 Adapter2 I/D unit1			High fan	25.0	25.0
2		01020102	Line1 Adapter2 I/D unit2	ON	ON	Breeze	25.0	25.0
3		01020103	Line1 Adapter2 I/D unit3		ON	OFF	25.0	25.0

4-8-1. Display method

4-8-1-1. Selecting displayed floor and area



If the floor and area is "All Floor", all registered indoor units are displayed. Click on the button on the right edge of the floor selection list to display a list of registered floors and areas.From the list, select the floor or area to monitor. A list of indoor units registered within that floor and area is displayed.

4-8-1-2. Sorting lists

Click on one of the sort buttons to change the display order of a list. The currently pressed button is the one which determines the sort order.



Click on the buttons to change the list orders. If other buttons are pressed, the one that was clicked last is effective. The illustration above shows the list displayed in the indoor unit master order.

Floor :Display is in order of floor name registration.
O/D unit :Display is order of outdoor unit addresses, from the most recent.
Address :Display is order of addresses, from the most recent.
Display :Display is in order of most recent registrations to the indoor unit master.

> * Any button can be selected. It is not possible to select multiple buttons at the same time.

4-8-2. Control method

4-8-2-1. Indoor unit selection method

To set or cancel demand, clear filter signs or clear operation times, first click on the name of the target indoor unit. The selected locations have ✓ check marks in the selection column.

Click again on the same location to remove the check mark, canceling the selection.

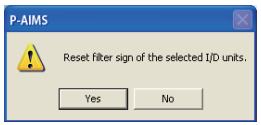
To select all indoor units, click on the Select all button in the upper left of the screen.

To cancel selections of all indoor units, click on the Clear all button in the upper left of the screen. The Clear all button cannot be used if nothing has been selected.

It is possible to select or deselect multiple indoor units by dragging around them with the mouse.

Unconnected units cannot be selected.

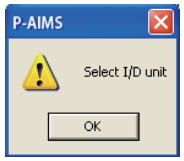
4-8-2-2. Clearing filter signs



Clicking on the Reset Filter sign button in the upper right of the screen when an indoor unit is selected displays a confirmation message.

Click on the Yes button to clear the filter sign. Click on the No button to cancel the reset.

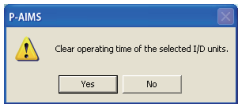
* Filter signs are displayed after the operation time of each indoor unit reaches a certain level.
* These signs can also be cleared by pressing the Filter Reset button on the remote control unit connected to the indoor unit.
* Filter signs are only an approximate guide. We recommend that you clean indoor unit filters regularly, even if no signs have been issued.



An error message is displayed if the user clicks on the Reset Filter sign button when no indoor unit is selected.

Select the indoor unit before clicking on the Reset Filter sign button.

4-8-2-3. Clearing operation time



Selecting the indoor unit to clear operating time for, then clicking on the Clear OP. time button displays a confirmation message.

Click on the Yes button to reset the operation time for the indoor unit.

Click on the No button to avoid clearing operation time.

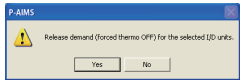
* The operation count cannot be reset.
* Resetting operation time has no effect on distribution calculations and similar operations.
* Operation time is tallied by the system, and has no relation to the adapter time.



An error message is displayed if the user clicks on the Clear OP. time button when no indoor unit is selected.

Select the indoor unit before clicking on the Clear OP. time button.

4-8-2-4. Canceling and setting demand



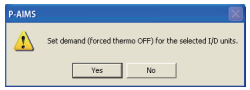
Selecting the indoor unit to cancel demand for, then clicking on the Demand cancel button displays a confirmation message.

Click on the Yes button to clear demand for the indoor unit.

Click on the No button to avoid canceling demand.

* Even if Demand is cancelled, Thermostat On indication may not be displayed in some situations. It is determined by the operating conditions of the indoor unit.

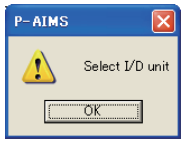
Selecting the indoor unit to set demand for, then clicking on the Demand settings button displays a confirmation message.



Click on the Yes button to set demand for the indoor unit.

Click on the No button to avoid setting demand.

* Thermostat On indication disappears when Demand is set.



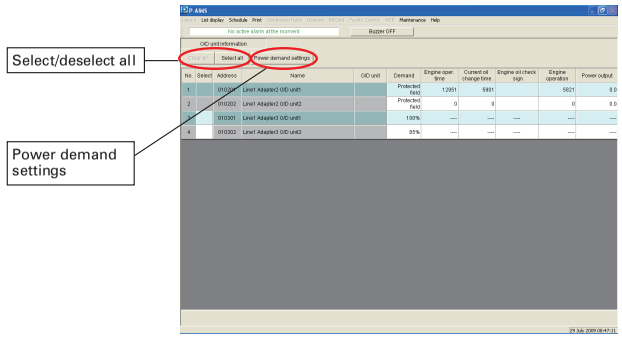
An error message is displayed if the user clicks on the Demand cancel Demand settings button when no indoor unit is selected.

Select the indoor unit before clicking on the Demand cancel Demand settings button.

4-9. Outdoor unit information

[Procedure]
On the menu bar, select “List display” – “O/D unit information”.

Operation times, operation counts and oil check signs are displayed for outdoor units. Demand setting is also available for outdoor units of electric air conditioners that are capable of demand setting.

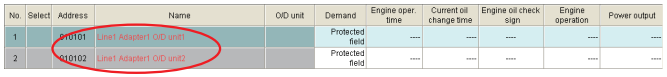


Clear all / Select all	:Use to clear all and select all.
Power demand settings	:Use for demand setting.

Key

- Select :Selects the outdoor unit to control. Click to add a check mark.
- Address :Displays the addresses of outdoor units.
- Name :Displays the names of outdoor units.
- O/D unit :Displays the codes of outdoor units.
- Demand :Displays the operation range (EHP only).
- Engine oper. time :Displays the engine operation times of GHP systems. (not used for EHP)
- Current oil change time :Displays the operation times of a GHP system since its last oil change. (not used for EHP)
- Engine oil check sign :Displays the engine oil check signs for GHP systems. (not used for EHP)
- Engine operation :Displays the engine operation counts of GHP systems. (not used for EHP)
- Power output :Displays the power output of high-power excel.

* In some cases, the model of adapter used for GHP systems may prevent display of engine operation time, operation time since last oil change, oil check signs, engine operation count and power generation.
* If it is not possible to communicate with the adapter, or if the model used cannot display the content, the columns will display “----”.
* With electric (package) types, only demand setting is available for the outdoor unit (where setting is possible).
* For outdoor units that cannot be set for demand, the Demand column displays “Protected field”.
* Consult your dealer or service provider about assignment of outdoor unit points to screens.

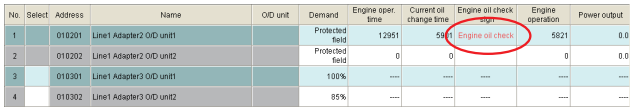


The names of outdoor units which are unconnected are displayed in red. Their operating status cannot be checked.

4-9-1. Display

4-9-1-1. Oil check sign

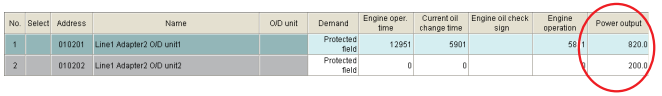
Any outdoor unit marked with an oil check sign requires an oil check.



* If an oil check sign is displayed, contact the service engineer to have the oil level of the outdoor unit checked. The oil check sign will disappear once the oil check is complete.

4-9-1-2. Power output

If a High Power Excel outdoor unit is connected, its cumulative total power output (in kWh) is displayed.



4-9-2. Demand setting

4-9-2-1. Outdoor unit selection

For outdoor units for which demand can be set (EHP units), the setting value is displayed as a percentage in the demand setting column. Click on the name of the outdoor unit to make the setting for.

The selected locations have ✓ check marks in the selection column. In GHP systems, demand cannot be set, so the selection is unavailable.

Click again on the same location to remove the check mark, canceling the selection.

To select all selectable outdoor units, click on the Select all button in the upper left of the screen. The Clear all button cannot be used if nothing has been selected.

It is possible to select or deselect multiple outdoor units by dragging around them with the mouse.

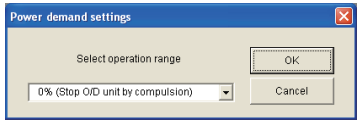
Outdoor units which are W/O connection or incapable of demand setting cannot be selected.

No.	Select	Address	Name	O/D unit	Demand	Engine oper. time
1		010201	Line1 Adapter2 O/D unit1		Protected field	12951
2		010202	Line1 Adapter2 O/D unit2		Protected field	0
3	✓	010301	Line1 Adapter3 O/D unit1		100%	----
4	✓	010302	Line1 Adapter3 O/D unit2		75%	----

Check marks cannot be placed in the selection column for outdoor units which have "Protected field" displayed in the Demand column.

4-9-2-2. Setting demand values

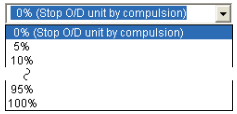
Selecting the outdoor unit to set, then clicking on the Power demand settings button displays the Power Demand Settings screen. Click on the ▼ button on the right of the frame in which Demand is displayed. The settable operation range list is displayed.



Select the operation range for the outdoor unit. The operation range differs depending on the outdoor unit.

A setting of 0% fully stops all air conditioners connected to the outdoor unit.

A setting of 100% means that no demand operation is possible.

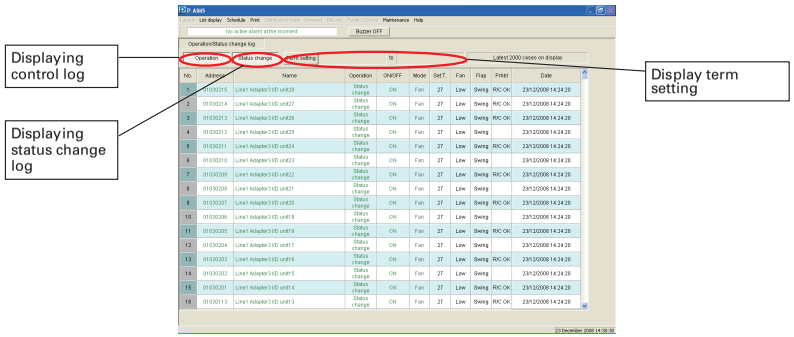


* Operation range 75% means that the outdoor units operation is demand-controlled in the range of 0% – 75%.

4-10. Control/Status Change History

[Procedure]
On the menu bar, select "List display" – "Operation/Status change log".

This displays the history of indoor units which have had changes in the status of any device. History can also be displayed for a specified period. Extraction conditions can be set to filter the display and show only history items of certain types.



Operation :Displays control log.

Status change :Displays status change log.

Term setting :Use to specify the period of log to display.

Key

- Address :Displays the addresses of indoor units.
- Name :Displays the names of devices which have been controlled or have had changes in their operating status.
- Operation :Displays details of the controlled devices, or their status changes. Status change: dark green, Controller: pale blue, Schedule: blue, Fire alarm: orange, Event: dark blue
- ON/OFF :Displays changes in operation status. ON: green, OFF: red, Fire Off: orange, fire cancel: orange, other: black
- Mode :Displays the operating mode. A/cool, A/Heat: green, Cool: blue, Heat: red, Fan: gray, Dry: pale blue
- Set T. :Displays the set temperature.
- Fan :Displays fan speeds. Auto (automatic fan speed), High, Med., Low
- Flap :Displays the directions of flaps. Swing, F1 – F5
- Prhbt :Displays the central control status. Individual (no prohibition), Prhbt 1 – Prhbt 7 (various prohibitions are settable)
- Date :Displays the times of control and status changes.

* The maximum number of display items during automatic update is 2,000.
* The maximum number of display items in a specified term is 10,000.
* The maximum number of stored log items is 200,000. Data items exceeding that number are deleted.
* We recommend setting automatic backup under “Print” – “Auto EXCEL output settings”.
  History can be saved for each date. The maximum number of items that can be saved per day is 400,000.

4-10-1. Display method

4-10-1-1. Displaying control history

The control history is displayed when the Operation button has been clicked on and remains depressed. The history displays control operations using the remote control unit, schedule and other means.

Click on a button that has been pressed to change it back to the un-pressed state.

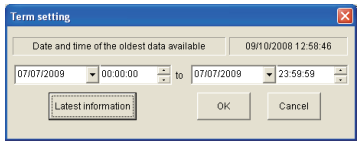
4-10-1-2. Displaying status change history

The status change history is displayed when the Status change button has been clicked on and remains depressed. The entire history of air conditioner status change is displayed.

* If both the Operation button and the Status Change button are pressed, both operation and status change logs are displayed. If neither button has been pressed, nothing is displayed.

4-10-1-3. Display time range specification method

Click on the Term setting button to display the Term Setting screen.



Click on the button on the right of the date display space to display the calendar.
Click on the calendar dates to select the term of history items to display.
Refer to “4.3 Calendar” for the calendar control method.
Click on the button on the right of the time display space to set the time.
Click first on the hours, minutes and seconds, then on the button to update the hours, minutes and seconds.
Specify the start and end dates. History is displayed for the specified range.

* Set an end date that is later than the start date. Results will not be displayed correctly if the end date is earlier than the start date.

Specify the display term, then click on the OK button to display history in the specified term.

To close the Term Setting screen, click on the Cancel button.

To display the latest history, click on the Latest information button without specifying a term.

* The maximum number of display items in a specified term is 10,000.
* This displays the latest count.
* Once a term is specified, the term specification will be as same as previous one when this screen is displayed again.

If there is no history on the specified dates, the display is as shown below.

No.	Address	Name	Operation	ON/OFF
		No applicable history		

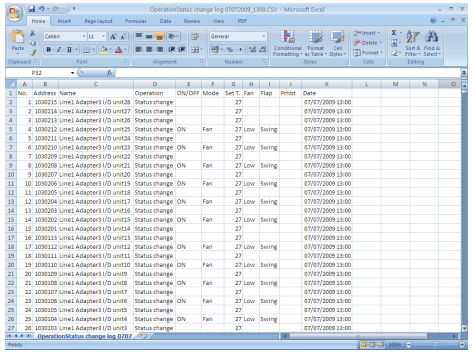
4-10-2. Printing

4-10-2-1. Excel output

[Procedure]
On the menu bar, select “Print” – “EXCEL output”.

Currently displayed history can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications. The content displayed on the screen is placed in the CSV file. Switch the display to place only control history, or only status change history, in the file.

Refer to “4-6-2 Excel output” for the operation method.



The file name is assigned automatically.

OperationStatus change log 07072009 _ 1308.CSV

Name DDMMYYYY hhmm

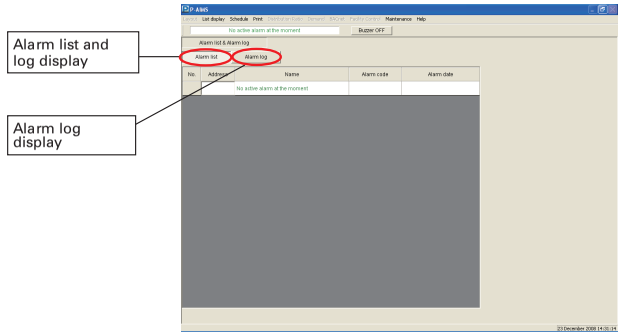
4-11. Alarm list & alarm log

[Procedure]
On the menu bar, select “List display” – “Alarm list & alarm log”.

The display can present either a list of currently ongoing alarms, or alarms that have occurred to date.

4-11-1. Alarm list

This displays the history of alarms and restoration for each device. History can also be displayed for a certain term.



Alarm list :Displays the alarm list.

Alarm log :Displays alarm history.

Key

- Address :Displays the addresses of alarms.
- Name :Displays the names of devices which have issued alarms.
- Alarm code :Displays alarm codes at the times alarms are issued.
- Alarm date :Displays the data and time at which the alarm occurred.

* The maximum number of display items is 2,000.

4-11-1-1. Display method

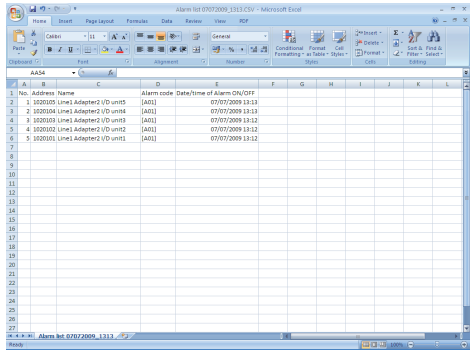
When the Alarm list is pressed in, the alarm list is displayed.
The alarm list only displays current alarms which are still in effect.
Either the Alarm History button or the Alarm List button will always be selected.
The alarm is automatically removed from the list if it has been restored.

4-11-1-2. Excel output

[Procedure]
On the menu bar, select “Print” – “Excel output”.

The currently displayed list can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications.

Refer to “4-6-2 Excel output” for the operation method.



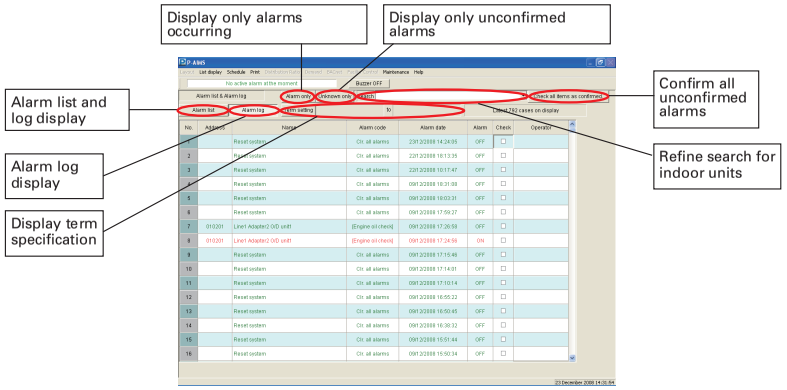
The file name is assigned automatically.

Alarm list 07072009 _ 1313.CSV

Name DDMMYYYY hhmm

4-11-2. Alarm log

This displays the log of alarm occurrence and restoration to date. Display conditions can be set in order to display only certain alarms.



Alarm list :Displays the alarm list.

Alarm log :Displays alarm log.

Alarm only :Displays only the log of alarms which have occurred.

Unknown only :Displays only the log of alarms which have not been confirmed.

Search :Use to select the indoor units to display.

Check all items as confirmed. :Confirm all unconfirmed alarms.

Term setting :Use to specify the period of log to display.

Key

- Address :Displays the addresses of alarms.
- Name :Displays the names of devices which have issued alarms.
- Alarm code :Displays alarm codes at the times alarms are issued/restored.
- Alarm date :Displays dates and times when alarms are issued/restored.
- Alarm :Displays occurrence/restoration status of alarms.
- Check :Displays the status of alarm confirmation by the operator. Add a check mark to confirmed alarms.
- Operator :Displays the name of the person who confirmed the alarm.

* The maximum number of display items is 2,000.

4-11-2-1. Display method

When the [Alarm log] button is pressed in, the alarm log is displayed.
The log of alarms occurring to date, and their restoration status, can be checked here.
Either the [Alarm log] button or the [Alarm list] button will always be selected.

4-11-2-2. Refining the displayed data

When the [Alarm only] button has been pressed, only alarms which have occurred historically are displayed. Click on the button again to return the button to its un-pressed state.

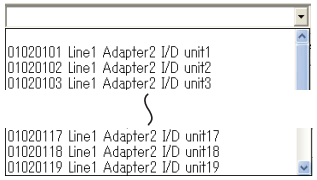
When the [Unknown only] button has been pressed, only alarms which have been confirmed historically are displayed. Click on the button again to return the button to its un-pressed state.

* These two buttons can be used in combination.
  For example, if both the [Alarm only] and the [Unknown only] buttons are pressed, the display is limited to current alarms that are unknown.

Selecting the indoor unit to display refines the display to cover only that indoor unit.



Click on the [▼] button on the right of the indoor unit display column, to display the list of registered indoor units.

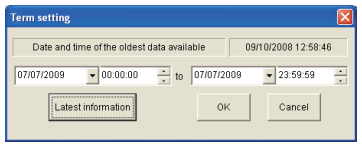


Click on the indoor unit to display. History is displayed for the selected indoor unit.
The [Alarm only] and [Unknown only] buttons can be used together to display only alarms for the selected indoor unit, or only unconfirmed alarms.

* Select the blank at the top of the list to return to display of all logs.
* When this screen is displayed again from another screen, it automatically reverts to displaying all items.

4-11-2-3. Display range term specification method

Click on the [Term setting] button to display the Term Setting screen.



Click on the [▼] button on the right of the date display space to display the calendar.
Click on the calendar dates to select the term of history items to display.
Refer to "4.3 Calendar" for the calendar operation method.

Click on the [▲▼] button on the right of the time display space to set the time.
Click first on the hours, minutes and seconds, then on the [▲▼] button to update the hours, minutes and seconds.

Specify the start and end dates. Log is displayed for the specified range.

* Set an end date that is later than the start date. Results will not be displayed correctly if the end date is earlier than the start date.

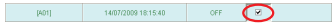
Specify the display term, then click on the [OK] button to display history in the specified term.
To close the Term Setting screen, click on the [Cancel] button.

To display the latest log, click on the [Latest information] button without specifying a term.

* Once a term is specified, the term specification will be as same as previous one when this screen is displayed again.
* The maximum number of display items for a specified term is 10,000, and the maximum for latest information display is 2,000. Latest information display is updated automatically.

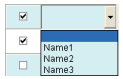
4-11-2-4. Alarm confirmation

After confirming alarms, the operator should add check marks to those alarms to manage their status.



Click in the Confirmation column for the confirmed alarms to add check marks.
Click again where there is a check mark to remove it.

Click in the frame of the operator column to display the [▼] button on the right of the frame.



Select the name of the operator who confirmed the alarm.

When the [Unknown only] button has been pressed, only alarms which do not have check marks (i.e. they have not been confirmed) are displayed.

* Alarms cannot be confirmed just by registering the operator name.
* Use the "Maintenance" – "Register operator information" screen to register operator names.
  If the operator name has been changed on the "Maintenance" – "Register operator information" screen, all names in the confirming operator column will be updated to the new names.

4-11-2-5. Print screen

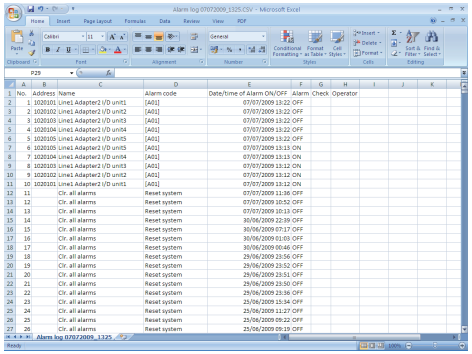
Refer to “4-6-1 Print screen” for details of how to operate this screen.

4-11-2-6. Excel output

[Procedure]
On the menu bar, select “Print” – “EXCEL output”.

Currently displayed log can be saved as a file in CSV format, which can be displayed by Microsoft Excel and similar applications.

Refer to “4-6-2 Excel output” for the operation method.



The file name is assigned automatically.

Alarm log 07072009 _ 1325.CSV

Name DDMMYYYY hhmm

4-11-2-7. Settings for automatic Excel output

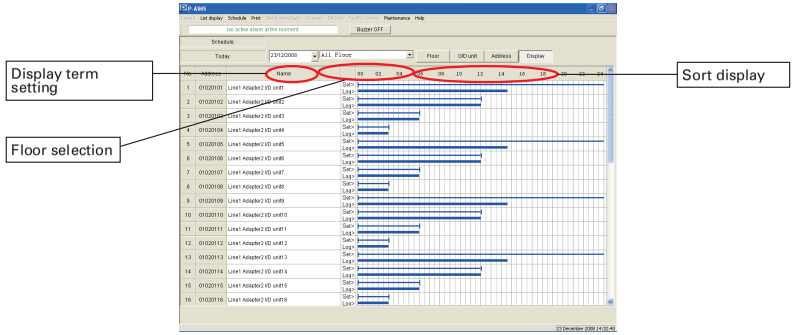
Refer to “4-6-3. Settings for automatic Excel output” for details of how to operate the Auto EXCEL output settings screen.

4-12. Schedule/Results

[Procedure]
On the menu bar, select “Schedule” – “Schedule/results”.

This displays the schedule and results in bar graph form.

The display term can be specified in order to check the presetting status, the working status of a device relative to its schedule, or other information.





:Use to select the dates to display.

:Use to select floor areas.

:Use to select the display order.

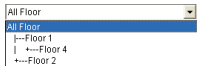
Key

· Address :Displays the addresses of indoor units.
· Name :Displays the names of the indoor units.
· Graph :Upper Schedules. Lower: Displays results.
Auto cool, Auto heat: green, Cool: blue, Heat: red, Fan: gray, Dry: pink
The schedule graph display is displayed in black if it is only showing On/Off schedules.

* Display is only for main units.
* If a communications error occurs during operation, operation is displayed as the last mode used.
* Use the “Schedule” – “Schedule operation time settings” screen to set schedule times.
* Use the “Schedule” – “Mode settings (Calendar)” screen to set schedule modes.

4-12-1. Display method

4-12-1-1. Selecting displayed floor and area



If the floor and area is "All Floor", all registered indoor units are displayed. Click on the button on the right edge of the floor selection list to display a list of registered floors and areas.

From the list, select the floor or area to monitor. A list of indoor units registered within that floor and area is displayed.

4-12-1-2. Sort lists

Click on the Sort button to change the display order of a list. The currently pressed button is the one which determines the sort order.



Click on the buttons to change the list orders. If other buttons are pressed, the one that was clicked last is effective. The illustration above shows the list displayed in the indoor unit master order.

Floor :Display is in order of floor name registration.
O/D unit :Display is in order of outdoor unit addresses, from the most recent.
Address :Display is order of addresses, from the most recent.
Display :Display is in order of most recent registrations to the indoor unit master.

* Any button can be selected. It is not possible to select multiple buttons at the same time.

4-12-1-3. Display time range specification method



Click on the button for the box with the date displayed at the top of the screen to display the calendar. From the calendar, select the date to display.

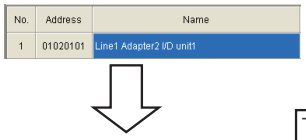
History is displayed for the specified date.

Refer to "4-3. Calendar" for the calendar operation method.

* The graph of future schedule cannot be displayed if schedule times and mode setting have not been set.
* If this screen is displayed first, it shows the operation status for that day.

4-12-2. Detailed display of schedule time

Click on the indoor unit name which has its schedule time displayed on the graph to display detailed schedule content.





The detailed schedule for the displayed graph can be checked. It cannot be changed from this screen.
Close this screen by clicking on the button in the upper right.

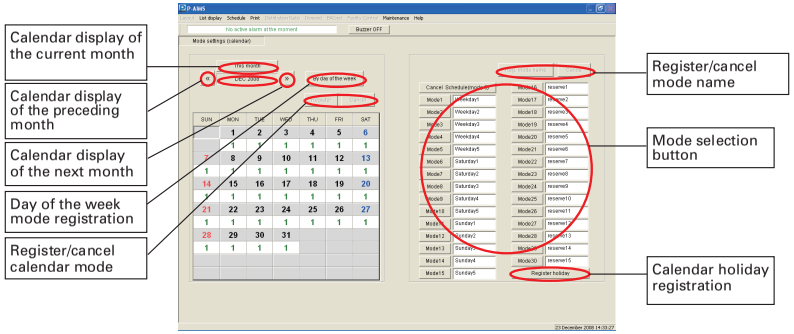
· Time :Display schedule time.
· ONOFF :Specify air conditioner starts and stops. It is also OK to make no specification. In that case, only the set items change.
· Mode :Displays the operation modes of indoor units. A/Cool, A/Heat: green, Cool: blue, Heat: red, Fan: gray, Dry: pale blue
· SetT :Displays the set temperature.
· Fan :Displays fan speeds. Auto (automatic fan speed), High, Med., Low
· Flap :Displays the directions of flaps. Swing, F1 – F5 (Heat, Fan: F1 – F5, for Cooling: F1 – F3)
· Prhbt :Displays central control (local operation prohibited). Individual (no prohibition), Prhbt 1=Prhbt 7 (Settings can be made for various types of central control (Prohibition))

* Items which have not been set cannot be displayed.

4-13. Mode setting (calendar)

[Procedure]
On the menu bar, select "Schedule" – "Mode settings (Calendar)".

Set the scheduled operation mode to calendar.



* Use the "Schedule" – "Schedule operation time settings" screen to set schedule times for each mode.

4-13-1. Display method

4-13-1-1. Calendar display

Click on the ≪ ≫ buttons on the left and right of the place where the current date and month are displayed above the current calendar, to switch the calendar to earlier and later months.



Click on the This month button to display the calendar for the current month.

* The buttons are grayed out and unavailable during mode setting.
* The displayed calendar cannot be changed until mode settings are registered or cancelled.

4-13-2. Calendar operation

4-13-2-1. Registering holidays on the calendar

Click on the Register holiday button to leave it pressed.
Click on the date to make into a holiday, and its date text turns red.
To cancel the holiday setting, click again on the red text to restore the original text color and cancel the holiday setting.



Once you have finished editing calendar mode numbers, click on the Register button to save the mode.
Click on the Cancel button to restore the changed content to its previously registered status.

To abandon holiday registration, click on any of the mode number buttons.

Cancel Schedule(mode 0)

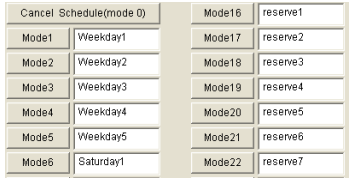
The Register holiday button reverts to its non-depressed state.

* Even if holidays have been registered on the calendar, the schedule will not necessarily switch to holiday operation. Holiday operation requires registration of a schedule mode number for holidays on the calendar.
* Holidays cannot be registered for dates that have passed.

4-13-3. Registering mode settings

4-13-3-1. Registering modes to the calendar

Select the mode to register from those in the mode list.



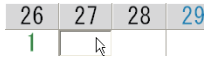
When you click on the mode button to register, the selected mode button changes to the depressed Mode1 state.
When you click on the date to register on the calendar, the number of the selected mode is registered in the area below the date.



* To change to another mode, select another mode number and click on the registered date. Mode number will be overwritten.
* Mode registrations to the calendar can be made within a period of one year, starting from the day after the registration is made.
* Modes cannot be registered for dates that have passed.

4-13-3-2. Deleting modes from the calendar

To delete a registered mode number, click on Cancel Schedule(mode 0) in the mode list to depress it. Cancel Schedule(mode 0)
Click on a date with a registered mode number to delete the number.



* Modes cannot be deleted from dates that have passed.

4-13-3-3. Registering an edited calendar

Once you have finished editing calendar mode numbers, click on the Register button to save the mode.

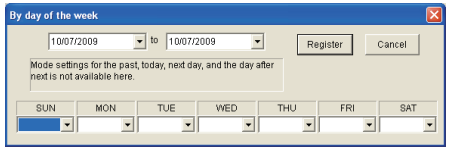
Click on the Cancel button to avoid registering the edited mode.

* The Register and Cancel buttons become available once the calendar is edited. It is not possible to register a mode to another calendar without clicking either button first.
* If the Cancel button is clicked, the calendar reverts to the state before editing the mode numbers.

4-13-3-4. Registering in day-of-the-week units

You can specify a set period and only make the mode settings once for each week.

Click on the By day of the week button to display the Schedule Mode Setting screen for setting by day of the week.



Click where the date is displayed to specify the term to set for weekly mode.

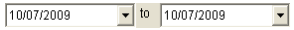
Click on the button on the right of the date display space to display the calendar.

On the calendar, click on the dates from the start to the end of the term you need to set the mode for.

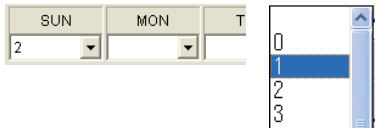
Refer to "4-3. Calendar" for the calendar operation method.

Mode setting is not possible for past dates, today, tomorrow or the day after.

Set the start and end dates.



Click on the under each day of the week to display the list of mode numbers.



Click to select the mode number to register, with reference to the mode list.

Register the mode for each day of the week, and click on the Register button to register the mode number to the calendar for the specified period.

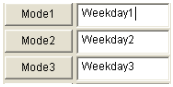
To cancel registration of the day of the week schedule mode, click on the Cancel button.

* It may not be necessary to set mode numbers for all days of the week.
* There is no need to click on the calendar Register or Cancel buttons after setting schedule modes by day of the week. Settings are registered to the calendar once the Register button is clicked on this screen.
* If some mode numbers are already set to the calendar, registering the schedule by day of the week overwrites those mode numbers.

4-13-4. Mode comment operation

4-13-4-1. Registering mode comments

To edit mode comments, click in the comment area of the mode list.



The text cursor is displayed, so use the keyboard to edit the comment.

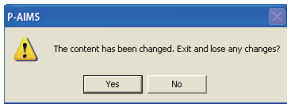
Once you have finished editing the comment, click on the Reg. mode name button to save.

Click on the Cancel button to return the edited mode to its previous state, without registering changes.

* The Reg. mode name and Cancel buttons become available once comments have been edited.
* If the Cancel button is clicked, the mode name reverts to the name before the edit.
* The mode names are used as the mode names set in the "Schedule" - "Schedule operation time settings" screen.

4-13-5. Change confirmation

If you have changed the scheduled operation times and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



Click on the Yes button to discard changes and switch screens.

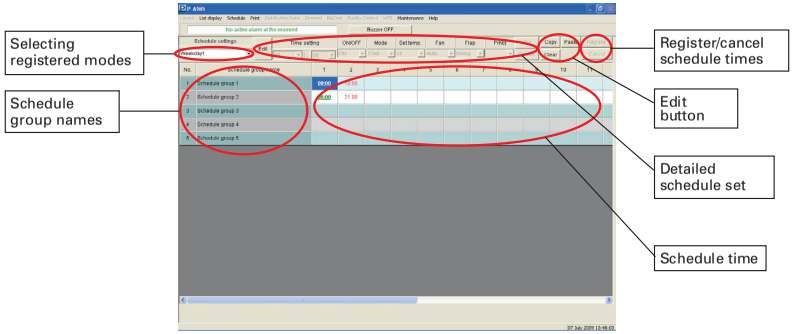
Click on the No button to continue using this screen.

4-14. Schedule Operation Time Setting

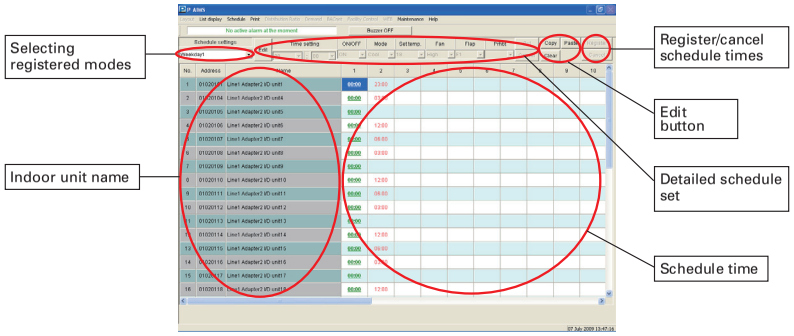
[Procedure]
On the menu bar, select “Schedule” - “Schedule Operation Time Setting”.

Set the scheduled operation times for each registered mode. The screen varies depending on whether or not you have registered a schedule group under “Maintenance” - “Register schedule group name”. If you have registered a schedule group, use the “Maintenance” - “Indoor unit master” screen to assign indoor units to groups. If you have not registered any schedule groups, settings must be made for individual indoor units, so assignment setup is not required.

The screen if you have registered schedule groups



The screen if you have not registered schedule groups





:Selects the mode to register.
:Sets schedule times and other details.



:Use for editing schedule times. (Use for copying, pasting and clearing setting content).



:Registers the changed content.
:Restores all changed data to its previous states.

Key

· Schedule group name :Displays the schedule group name. (If a schedule group has been registered)
Use the “Maintenance” - “Register schedule group name” screen to register schedule groups.
Use the “Maintenance” - “Indoor unit master” screen to assign indoor units to groups.

· Address :Displays the address numbers of indoor units. (If no schedule group has been registered)

· Name :Displays the names of indoor units. (If no schedule group has been registered)
Use the “Maintenance” - “Indoor unit master” screen to register Indoor unit names.

· Schedule time :Displays scheduled times. Up to 20 can be set.
When the scheduled time is reached, the indoor unit settings are changed according to the set items.

* Schedule time registrations can only be applied to the main unit. Sub-units turn on and off according to the schedule of the main unit.
* The underlined display (08:00) of set items indicates that other related items have also been set, such as modes other than On/Off and set temperatures.
* Consult your dealer or service provider about registering or changing the indoor unit master.

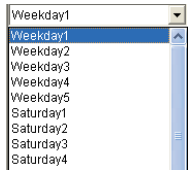
4-14-1. Registering schedule times

4-14-1-1. Mode selection

Select the mode for registering the schedule. Settings for schedule time are made for each operation mode.



Click on ▼ on the right side of the mode name display to display the list of mode names.

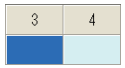


Click to select the mode number to register, with reference to the mode list.

* Use the “Schedule” – “Mode Setting (calendar)” screen to register mode names.

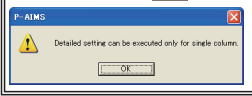
4-14-1-2. Setting schedule times

Click on the cell to set the schedule for. The background turns blue.

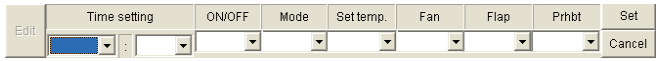


* Drag the mouse down a column to select multiple setting cells.
* Click on the item name area for 1–20 to select all in the column.
* It is only possible to select multiple cells when all are in the same column. A message will be displayed if you select multiple columns, or a horizontal row,

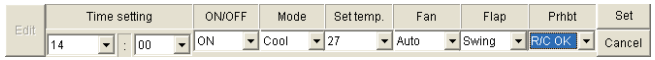
and click on the Edit button.



Click on the Edit button to enable registration of detailed settings.

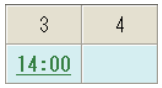


Set the set times, modes, set temperatures, fan speeds, flaps and prohibitions.
Click on the button on the right of each cell to display the list.
Select the item to set.



* There is no need to set all items. Only set the items required. However, time-related settings are required.

Once you have finished editing the detailed settings, click on the Set button.



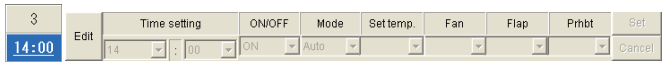
The time is set.
If cells in multiple rows are selected, the time will be set to all selected rows.

Click on the Cancel button to cancel detailed settings.

* When making time settings, start from earlier times and proceed to later times. It is not possible to set the same time of an existing setting.
  Example
  10:00 On: :17:00 On
  With the scheduled operation time settings as shown in the example above, it is only possible to set times between the existing times in the range of 10:01–16:59.

4-14-1-3. Confirming schedule time settings

If you select a time cell with a scheduled time setting, the current settings are displayed in gray in the detailed settings column.



4-14-2. Edit function

4-14-2-1. Editing schedule times

Use the edit button in the upper right of the screen to edit schedule times.

Copy :Select by clicking on the time cell to copy. Click on the Copy button to store the selected time cell in memory.

Paste :Select the time cell to paste, then click on the Paste button to paste the copied time.

Clear :Select the time cell to clear, then click on the Clear button to clear the registered time.

* Pasting into the time cell for the same indoor unit is not possible because the times would be the same for the unit.
* Even on a different indoor unit, pasting is impossible if there is an existing registration for the same time or an earlier time.

4-14-3. Saving changed data

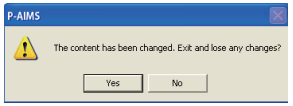
If the scheduled operation time has been changed, click on the Register button in the right side of the screen to save the settings. All changed data is saved.

Click on the Cancel button to return all changed data to its previous state.

* The Register and Cancel buttons become available once the schedule times are edited.
* If the Cancel button is clicked, the schedule times revert to the settings before the edit.

4-14-4. Change confirmation

If you have changed the scheduled operation times and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



Click on the Yes button to discard changes and switch screens.

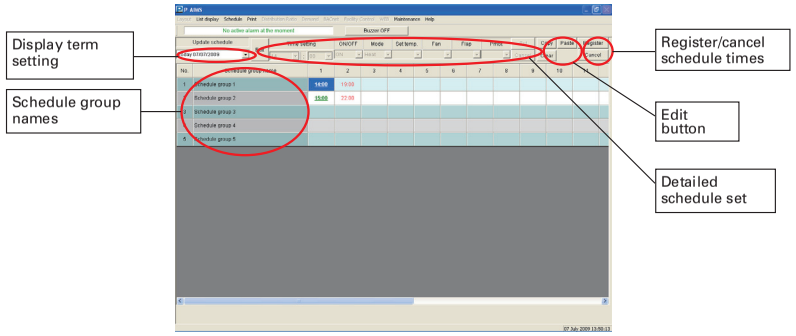
Click on the No button to continue using this screen.

4-15. Schedule Changes

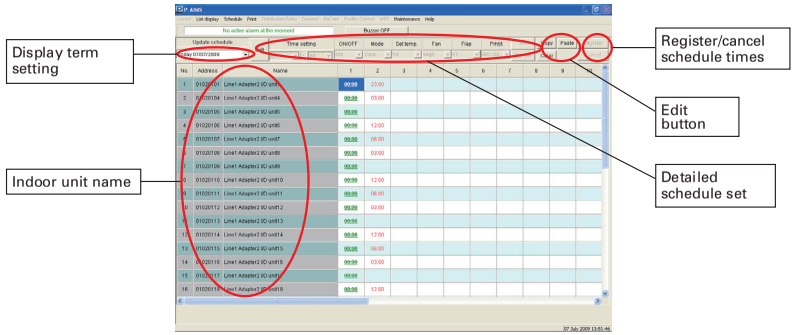
[Procedure]
On the menu bar, select “Schedule” – “Update Schedule”.

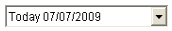
Check and change scheduled operating times for the same day, next day and day after that. The screen varies depending on whether or not you have registered a schedule group under “Maintenance” - “Register schedule group name”. If you have registered a schedule group, use the “Maintenance” - “Indoor unit master” screen to assign indoor units to groups. If you have not registered any schedule groups, settings must be made for individual indoor units, so assignment setup is not required.

The screen if you have registered schedule groups

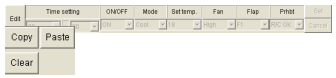


The screen if you have not registered schedule groups





:Select the date to change. (The same day, next day, and day after that can be specified).



:Sets schedule times and other details.

:Use for editing schedule times. (Use for copying, pasting and clearing setting content).



:Registers the changed content.

:Restores all changed data to its previous states.

Key

· Schedule group name :Displays the schedule group name. (If a schedule group has been registered)
Use the “Maintenance” - “Register schedule group name” screen to register schedule groups.
Use the “Maintenance” - “Indoor unit master” screen to assign indoor units to groups.

· Address :Displays the address numbers of indoor units. (If no schedule group has been registered)

· Name :Displays the names of indoor units. (If no schedule group has been registered)
Use the “Maintenance” - “Indoor unit master” screen to register Indoor unit names.

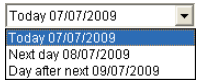
· Schedule time :Displays scheduled times. Up to 20 can be set.
When the scheduled time is reached, the indoor unit settings are changed according to the set items.

* Schedule time registrations can only be applied to the main unit. Sub-units turn on and off according to the schedule of the main unit.
* The underlined display (

) of set items indicates that other related items have also been set, such as modes other than On/Off or set temperatures.
* Consult your dealer or service provider about registering or changing the indoor unit master.

4-15-1. Display method

Click on the ▼ button for the cell with the date displayed at the upper left of the screen to display the dates for that day and the next two days.



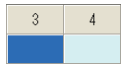
Select the term to display.

Schedule times are displayed for the specified date.

4-15-2. Registering schedule times

4-15-2-1. Setting schedule times

Click on the cell to set the time for. The background turns blue.



* Drag the mouse down a column to select multiple setting cells.
* Click on the item name area for 1–20 to select all in the column.
* It is only possible to select multiple cells when all are in the same column. A message will be displayed if you select multiple columns, or a horizontal row, and click on the Detailed Settings button.



Click on the Edit button to enable registration of detailed settings.



Set the set times, modes, set temperatures, fan speeds, flaps and prohibitions.

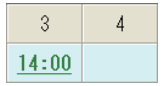
Click on the ▼ button on the right of each cell to display the list.

Select the item to set.



* There is no need to set all items. Only set the items required. However, time-related settings are required.

Once you have finished editing the detailed settings, click on the Set button.



The time is set.
If multiple cells are selected, the time will be set to all selected columns.

Click on the Cancel button to cancel detailed settings.

* On and Off settings form pairs in schedule times, but to use only On or only Off, set a time for either On or Off.
* When making time settings, start from earlier times and proceed to later times. It is not possible to set the same time of an existing setting.
  Example
  10:00 On: :17:00 On
  With the scheduled operation time settings as shown in the example above, it is only possible to set times between the existing times in the range of 10:01–16:59.
* Settings cannot be made for times that have already passed.

4-15-2-2. Confirming schedule time settings

If you select a time cell with a scheduled time setting, the current settings are displayed in gray in the detailed settings column.



4-15-3. Edit function

4-15-3-1. Editing schedule times

Use the edit button in the upper right of the screen to edit schedule times.

Copy :Select by clicking on the time cell to copy. Click on the Copy button to store the selected time cell in memory.

Paste :Select the time cell to paste, then click on the Paste button to paste the copied time.

Clear :Select the time cell to clear, then click on the Clear button to clear the registered time.

* Pasting into the time cell for the same indoor unit is not possible because the times would be the same for the unit.
* Even on a different indoor unit, pasting is impossible if there is an existing registration for the same time or an earlier time.

4-15-4. Saving changed data

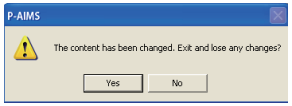
If the scheduled operation time has been changed, click on the Register button in the right side of the screen to save the settings. All changed data is saved.

Click on the Cancel button to return all changed data to its previous state.

* The Register and Cancel buttons become available once the schedule times are edited.
* If the Cancel button is clicked, the schedule times revert to the settings before the edit.

4-15-5. Change confirmation

If you have changed the scheduled operation times and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



Click on the Yes button to discard changes and switch screens.

Click on the No button to continue using this screen.

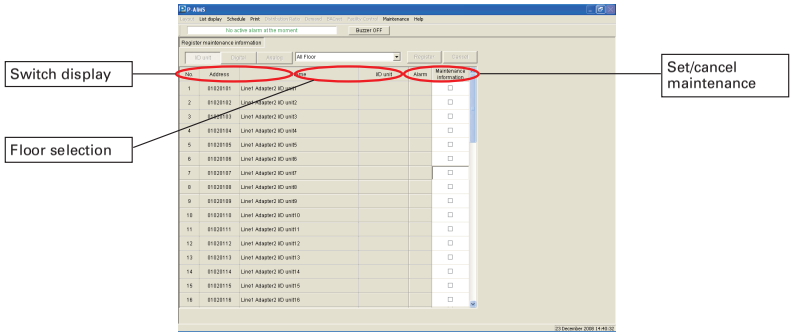
4-16. Register Maintenance Information

[Procedure]
On the menu bar, select “Maintenance” – “Register maintenance information”.
(Password level 1)

Make maintenance settings in order to temporarily suspend monitoring due to mechanical work or device malfunctions.

On/Off operation and warning display are disabled for devices registered for maintenance.

This screen is also used for canceling maintenance.





:Switches the display.
(Enabled when the optional Facility Control software has been installed).



:Use to select floor areas.



:Registers the set content.



:Reverts to the previously registered content.

Key

- Address :Displays the addresses of indoor units.
- Name :Displays the names of the indoor units.
  Normal: black, W/O connection: red
- I/D unit :Displays the codes of indoor units.
- Alarm :Displays alarm codes currently in effect.
- Maintenance information :Set whether or not to register maintenance information.
  Add a check mark to items for maintenance registration.

4-16-1. Display method

4-16-1-1. Selecting displayed floor and area



If the floor and area is “All”, all registered indoor units are displayed. Click on the button on the right edge of the floor selection list to display a list of registered floors and areas.

From the list, select the floor or area to monitor. A list of indoor units registered within that floor and area is displayed.

4-16-2. Maintenance settings

4-16-2-1. Maintenance settings

Click on the register maintenance information column for devices that are not set for maintenance. They will then have a check mark in the register maintenance information column, so monitoring and control will not be applied, even if an alarm occurs. The buzzer will not sound if an alarm occurs.

4-16-2-2. Cancel maintenance

Click on the register maintenance information column for devices that are set for maintenance. The check mark will be removed from the register maintenance information column, and they will revert to normal monitoring. All operations will be enabled.

4-16-2-3. Registering changed data



button to register changes. All changed data is registered.

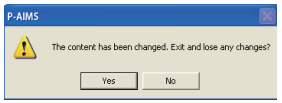
4-16-2-4. Deleting settings

Click on the 

button to revert to the previously registered state.

4-16-3. Change confirmation

If you have changed the maintenance settings and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



Click on the 

button to discard changes and switch screens.

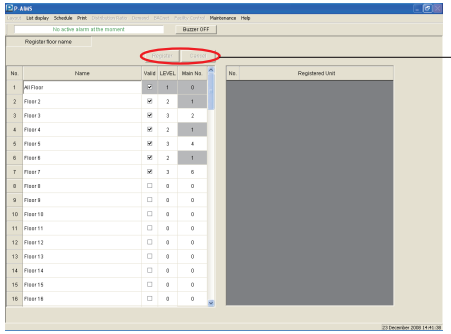
Click on the 

button to continue using this screen.

4-17. Floor Name Registration

[Procedure]
On the menu bar, select “Maintenance” – “Register floor name”.
(Password level 1)

Register floor levels in order to select floors and areas for status monitoring and control, for filter and indoor unit information, schedule and results, and other information.



Register :Register settings.

Cancel : Reverts to the previously registered state.

Key
· Name :Displays the floor names.
· Valid :Sets valid/invalid.
· Level :Sets floor levels.
· Main No. :Set the number for main.

4-17-1. Display method

4-17-1-1. Confirmation of indoor units included in each floor

Click on a registered floor name to display a list of indoor units registered on that floor in the indoor unit column on the right side of the screen.

4-17-2. Floor registration

4-17-2-1. Changing floor names

Double click to change the name of a floor. It is also possible to change part of the name of a previously-registered floor. To change the entire name, just type in the name. The existing name will be deleted and the new name displayed.

Once the name has been changed, click on the Register button to register it. Click on the Cancel button to revert to the previously registered state.

4-17-2-2. Enable/disable settings

Valid

To enable the registered content, click in the Enable space to add a check mark. Click there again to remove the check mark, disabling the setting.

* The Level and Main No. cannot be set if the floor is not enabled.

4-17-2-3 Level setting

3 2 3

Click in the Level cell to display the button, then click on it. The list for selecting levels appears. Make a selection. The selectable levels are 2 and 3.

* Level 1 is used for overall display, so it cannot be selected.
* When setting Level, set to Enable.
* Settings cannot be changed where the Level cell is grayed out.

4-17-2-4. Main No. setting

2 2 3

Click in the Main No. cell to display the button, then click on it.
A list of Main numbers is displayed, so specify the relevant Main No.

* If Level 2 was set, the Main No. is set unconditionally to 1 and cannot be changed.
* When setting the Main No., set to Enable.
* Settings cannot be changed for cells where the Main No. is grayed out.

4-17-2-5. Registering changed data

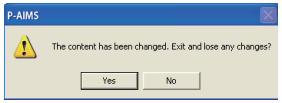
Register button to register changes. All changed data is registered.

4-17-2-6. Deleting settings

Click on the Cancel button to revert to the previously registered state.

4-17-3. Change confirmation

If you have changed floor name content and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



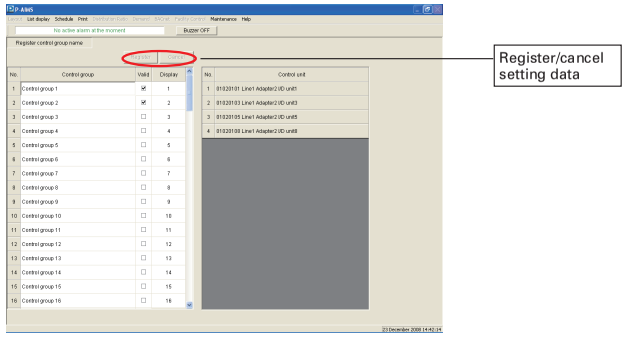
Click on the Yes button to discard changes and switch screens.

Click on the No button to repeat the operation on this screen.

4-18. Register control group name

[Procedure]
On the menu bar, select “Maintenance” – “Register control group name”.
(Password level 1)

Control groups can be registered. Indoor units included in the control group can also be registered.



Register :Register settings.

Cancel :Reverts to the previously registered state.

Key

- Control group :Displays the control group names.
- Valid :Sets valid/invalid.
- Display :Displays the order in which the control groups are displayed.

4-18-1. Display method

4-18-1-1. Confirmation of indoor units included in control group

Click on a registered control group to display a list of indoor units registered on that group in the indoor unit column on the right side of the screen.

4-18-2. Registering control groups

4-18-2-1. Changing control group names

Double click to change the name of a control group. It is also possible to change part of the name of a previously-registered control group. To change the entire name, just type in the name. The existing name will be deleted and the new name displayed.

Once the name has been changed, click on the Register button to register it. Click on the Cancel button to revert to the previously registered state.

4-18-2-2. Enable/disable settings

Valid

To enable the registered content, click in the Enable space to add a check mark.

Click there again to remove the check mark, disabling the setting.

4-18-2-3. Registering changed data

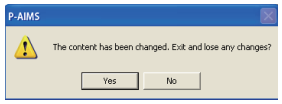
Register button to register changes. All changed data is registered.

4-18-2-4. Deleting settings

Click on the Cancel button to revert to the previously registered state.

4-18-3. Change confirmation

If you have changed the control groups and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.



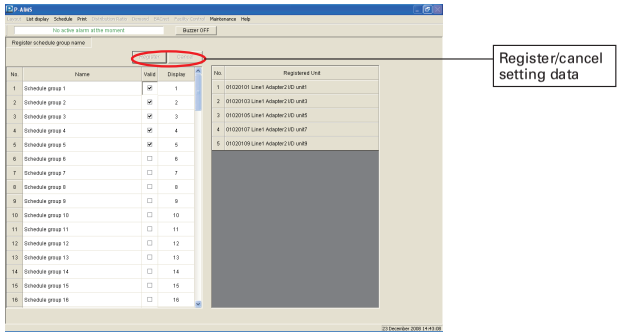
Click on the Yes button to discard changes and switch screens.

Click on the No button to continue using this screen.

4-19. Register Schedule Group Names

[Procedure]
On the menu bar, select “Maintenance” – “Register schedule group name”.
(Password level 1)

Register schedule groups.



Register :Register settings.

Cancel :Revert to the previously registered state.

Key

- Name :Displays schedule group name.
- Valid :Sets enabled/disabled.
- Display :Displays the order in which the schedule groups are displayed.

4-19-1. Display method

4-19-1-1. Confirmation of indoor units included in each schedule group

Click on a registered schedule group to display a list of indoor units registered on that group in the indoor unit column on the right side of the screen.

4-19-2. Registering schedule groups

4-19-2-1. Changing schedule group names

Double click to change the name of a schedule group. It is also possible to change part of the name of a previously-registered schedule group. To change the entire name, just type in the name. The existing name will be deleted and the new name displayed.

Once the name has been changed, click on the Register button to register it. Click on the Cancel button to revert to the previously registered state.

4-19-2-2. Enable/disable settings



To enable the registered content, click in the Enable space to add a check mark.
Click there again to remove the check mark, disabling the setting.

4-19-2-3. Registering changed data

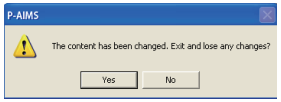
Click on the Register button to register changes. All changed data is registered.

4-19-2-4. Deleting settings

Click on the Cancel button to revert to the previously registered state.

4-19-3. Change confirmation

If you have changed the schedule group and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

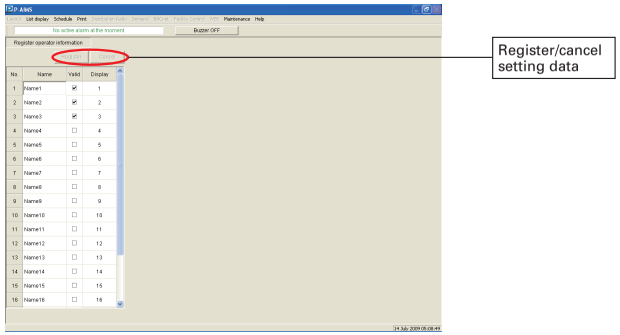


Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

4-20. Register operator information

[Procedure]
On the menu bar, select “Maintenance” – “Register operator information”.
(Password level 1)

Register operator names.



Register :Register settings.
Cancel :Revert to the previously registered state.

Key

· Name	:Displays the operator names.
· Valid	:Sets enabled/disabled.
· Display	:Displays the order in which the operator names are displayed.

4-20-1. Registering operators

4-20-1-1. Changing operator names

Double click to change the name of an operator. Previously registered operator names can be partially changed. To change the entire name, just type in the name. The existing name will be deleted and the new name displayed.

Once the name has been changed, click on the Register button to register it.
Click on the Cancel button to revert to the previously registered state.

4-20-1-2. Enable/disable settings



To enable the registered content, click in the Enable space to add a check mark.
Click there again to remove the check mark, disabling the setting.

4-20-1-3. Registering changed data

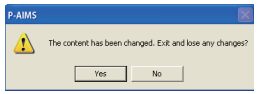
Click on the Register button to register changes. All changed data is registered.

4-20-1-4. Deleting settings

Click on the Cancel button to revert to the previously registered state.

4-20-2. Change confirmation

If you have changed the operator names and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

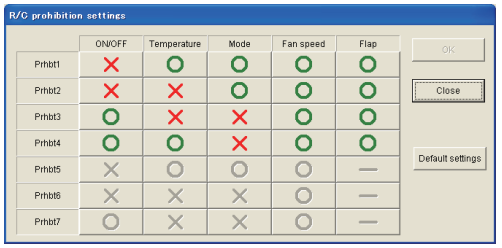


Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

4-21. R/C prohibition settings

[Procedure]
On the menu bar, select “Maintenance” – “R/C prohibition settings”.
(Password level 1)

Set the prohibition items for each central control mode, which the central system (P-AIMS) uses to prohibit the remote control units of indoor units from exercising control functions.



The image above shows the initial values.

✕	:Indicates prohibition. (This mark can be changed)
✕	:Indicates prohibition. (This mark cannot be changed)
○	:Indicates permission. (This mark can be changed)
○	:Indicates permission. (This mark cannot be changed)
Default settings	:Initializes central control mode.
OK	:Registers changes to settings.
Cancel	:Restores changes to their previous settings.
Close	:Closes the window.

Central control mode display

Prohibit 1: The remote control unit cannot be used for switching On/Off. (The mode can be changed)
Prohibit 2: The remote control unit cannot be used for switching On/Off, temperature setting and operation mode switching. (The mode can be changed)
Prohibit 3: The remote control unit cannot be used for temperature setting and operation mode switching. (The mode can be changed)
Prohibit 4: The remote control unit cannot be used for operation mode switching. (The mode can be changed)
Prohibit 5: The remote control unit cannot be used for switching On/Off. (The mode cannot be changed)
Prohibit 6: The remote control unit cannot be used for switching On/Off, temperature setting and operation mode switching. (The mode cannot be changed)
Prohibit 7: The remote control unit cannot be used for temperature setting and operation mode switching. (The mode cannot be changed)

* Prohibit 1–4 are for the CZ-CFUNC2.

4-21-1. Control method

4-21-1-1. Changing prohibition settings (affects prohibit 1 – 4)

Click on the ✕ button and the ○ button to switch the display and change the central control functions.
It is not possible to switch the display by clicking on the ✕ and ○ buttons.

4-21-1-2. Initializing prohibition settings

To initialize control mode for prohibitions 1 – 4 as well, click on the Default settings button. The central control mode initializes.

4-21-1-3. Registering settings

Click on the OK button to register the changed content.

4-21-1-4. Deleting settings

Click on the Cancel button to revert to the previously registered state.

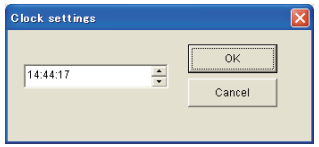
4-21-1-5. Close the screen

Click on the Close button to close the screen.

4-22. Clock setting

[Procedure]
On the menu bar, select “Maintenance” – “Clock setting”.

Set the system time.



4-22-1. Clock setting method

Click on the location to correct in the hh:mm:ss display to display the cursor there.
Use the up and down arrow buttons at the cursor position to raise or lower the time value there.

4-22-2. Setting

Click on the OK button on the right of the screen to save the time setting and close this screen.
Time is gradually corrected by a separate program, so the change is not applied immediately.
The settings are not saved if you click on the Cancel button. This screen closes.

* Time is corrected at a rate of 100ms per second. (6s per minute, 60s per ten minutes)

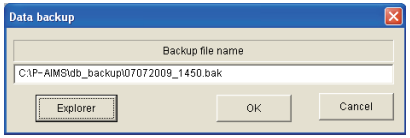
4-23. Data backup and restoration

Perform system maintenance tasks such as data backup and restoration.

4-23-1. Data backup

[Procedure]
On the menu bar, select “Maintenance” – “Data backup/restore – Data backup”.
(Password level 2)

Make backups of all data. The default file name is automatically the numerals for “yyyymmdd_hhmm”, with the extension of bak for the database, ini_backup for initialization files, and reg_ backup for the registry.

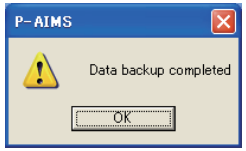


OK :Make backups of data.

Cancel :Exit.

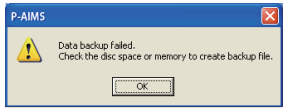
Exploler :Use to change the save folder.

4-23-1-1. Starting data backup



Click on the OK button to backup data. The message “Executing data backup...Please wait” is displayed as the backup data is saved.
Once the backup is complete, a message such as that on the left is displayed. Click on the OK button.
The data backup process is complete.

* The message on the right is displayed if the backup fails. Check the available free space on the backup storage drive, etc. Click on the OK button to go back to Data Backup.



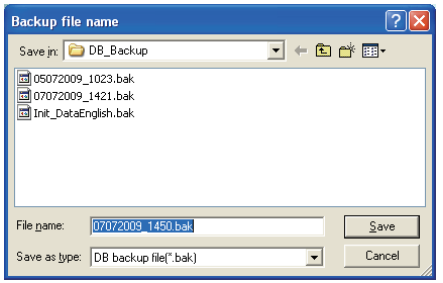
* If the extension is changed, the data cannot be used for data restoration, so change extensions with caution.

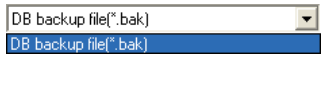
4-23-1-2. Deleting

Click on the Cancel button to exit without saving the backup.

4-23-1-3. Changing the save destination

Click on the Exploler button to display the “Backup file name” screen and change the save folder.





Click on the button beside “Save in:” to display a folder list as shown on the left. Select the required folder from the folder list.

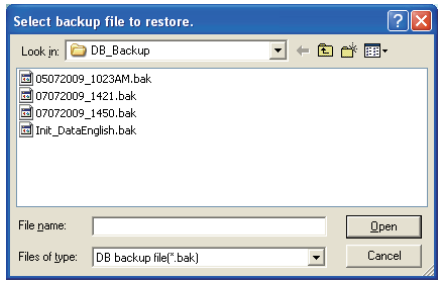
Click on the Save button to apply the selected save destination and return to the Data Backup screen.

Click on the Cancel button to return to the Data Backup screen without doing anything.

4-23-2. Data restoration

[Procedure]
On the menu bar, select “Maintenance” – “Data backup/restore – Restore data”.
(Password level 2)

Use the files created at the data backup stage in a process to return the system to its state at the time the data was backed up. That process means that all data generated between the time the data was last backed up and the time of restoration is lost, so proceed with caution.

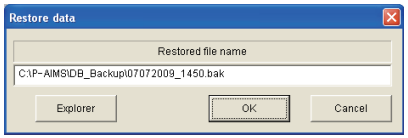


Open :Specify the file name.

Cancel :Exit.

4-23-2-1. Start data restoration

On the "Select backup file to restore" screen, click on the file name to restore. The specified file name is displayed in the "File name" space, then click on the Open button.
The Data Restore screen is displayed.

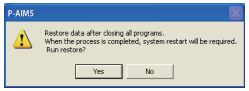


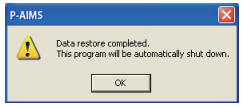
OK :Data is restored.

Cancel :Exit.

Exploler :Use this when you need to specify a different backup file.

4-23-2-1-1. Starting data restoration





To start data restoration, click on the OK button. A message reading "Restore data ..." is displayed.

Click on the No button to return to the Data Restore screen.

When you click on the Yes button, the message "Processing restore ... Please wait." is displayed, and the restoration process starts.

Once the restoration is complete, a message such as that on the left is displayed.

Click on the OK button.

Exit the P-AIMS system.

Restart the P-AIMS system.

The data restoration process is complete.

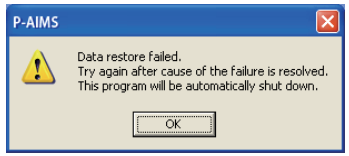
4-23-2-1-2. Canceling data restoration

Click on the Cancel button to exit without restoring data.

4-23-2-1-3. Re-specifying the data restoration file

Click on the Exploler button to re-display the "Select backup file to restore" screen.

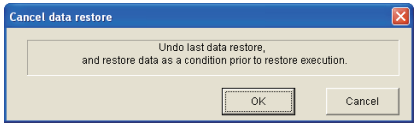
* If the message "Data backup failed" is displayed during data restoration, it is possible that the database was partially restored and has lost integrity as a database.
  In that case, reboot Windows SP, start P-AIMS and repeat the data restoration.
* If the message "Data backup failed" still appears, contact your dealer or service provider.



4-23-3. Canceling data restoration

[Procedure]
On the menu bar, select "Maintenance" – "Data backup/restore – Cancel data restore".
(Password level 2)

Cancellation of data restoration is a function for returning the system to its state before the data restoration process. You cannot select from the menu without performing data restoration first.
* This is an auxiliary function for use when data has been restored.

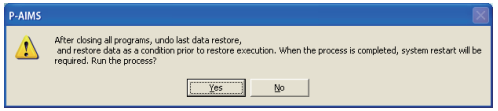


OK :Cancel data restoration.

Cancel :Exit.

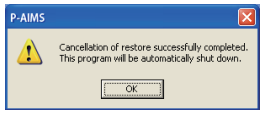
4-23-3-1. Starting cancellation of data restoration

To start cancellation of data restoration, click on the OK button. A message reading "After closing ..." is displayed.



Click on the [No] button to return to the Cancel Data Restore screen.

Click on the [Yes] button to display the message "Canceling restore ... Please wait.".

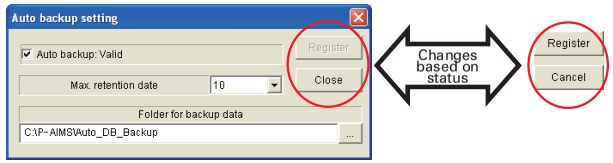


Once cancellation of the restoration process is complete, a message such as that on the right is displayed.
Click on the [OK] button. Exit the P-AIMS system. Restart the P-AIMS system. Cancellation of the data restoration process is complete.

4-23-4. Automatic backup settings

[Procedure]
On the menu bar, select "Maintenance" – "Data backup/restore – Auto backup settings".
(Password level 2)

This function makes data backups automatically. The time set for the backup process is 00:10 each day.The file name is "Auto yyyymmdd". File extensions are the same as for data backups. This is the form that can be used for data restoration.



[Auto backup: Valid] :Enables automatic backups.

[Max. retention date 10] :Specifies the saving period for backup files.

[Register] :Registers the set content.

[Cancel] :Reverts to the previously registered content.

[Close] :Closes the window.

[...] :Changes the backup creation folder.

4-23-4-1. Enable/disable automatic backup

To enable the automatic backup setting, click on [Auto backup: Valid], and add the check mark. Saving is enabled with the check mark added. Click again to remove the check mark.

4-23-4-2. Setting the maximum storage term

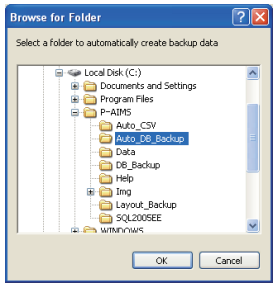
Set the maximum duration for storing backup files.

Click on the [▼] area of [Max. retention date 10] to display the pulldown menu. Select from the menu. In this illustration, the specification is to store data for 100 days.

Data more than 100 days old is deleted.
The options on the pulldown menu for numbers of days to specify are "1, ..., 9, 10,..., 90, 100, 200, 300, 400".

4-23-4-3. Changing the backup creation folder

Click on the [...] button to display the Browse Folder screen, to change the folder in which files are saved.



Click on the [OK] button to apply the selected save destination and return to the Automatic Backup Settings screen.

Click on the [Cancel] button to return to the Automatic Backup Settings screen without doing anything.

4-23-4-4. Registering settings

Click on the [Register] button to register the set content.

4-23-4-5. Deleting settings

Click on the [Cancel] button to delete the set content and revert to the previously registered content.

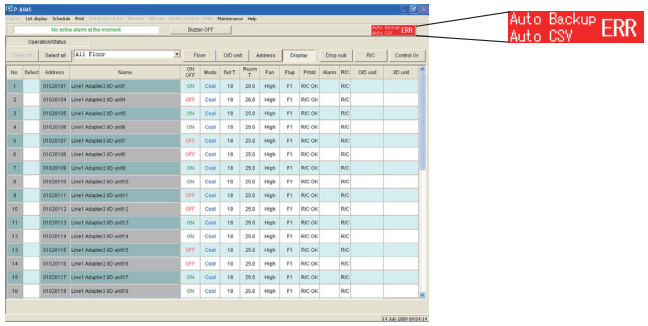
4-23-4-6. Deleting

Click on the [Close] button to close the Automatic Backup Settings screen.

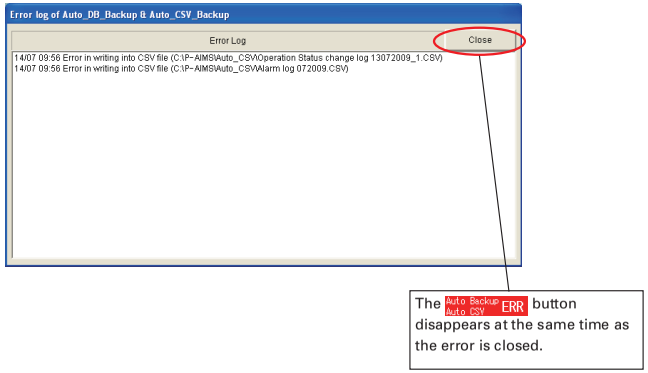
* The [Cancel] and [Close] buttons change to the [Cancel] button when making settings.
  Clicking on the [Register] or [Cancel] buttons changes them to the [Close] button.
* Unless a different save folder has been specified, automatic backup files are saved to the folder named Auto_DB_Backup in the folder where the P-AIMS system was installed (e.g. C:\P-AIMS).

4-23-4-7. Troubleshooting if saving does not work

If an error occurs while the backup file is being saved, a red button marked “Auto Backup, Auto CSV ERR” is displayed in the upper right of the screen.



Click on the Auto Backup Auto CSV ERR button to display the “Error log of Auto_DB_Backup & Auto_CSV_Backup” screen and the content of the error.

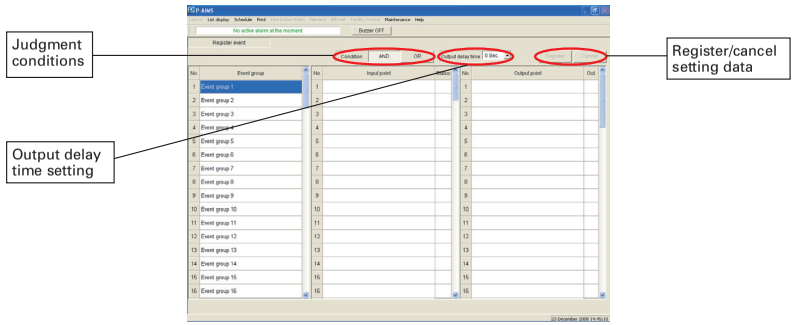


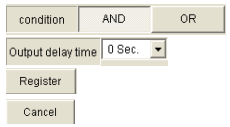
* If this button is displayed, an error may have occurred on the storage disk. Refer to the instruction manual for the device concerned and take appropriate action.

4-24. Register Event

[Procedure]
On the menu bar, select “Maintenance” – “Register event”.
(Password level 2)

Register event processes for automatic control. Linked control will be performed according to the input conditions.





:Register settings.
:Set the delay time for output.
:Register settings.
:Revert to the previously registered state.

Key

Event group
- Event group :Displays event group names.

Input point
- Input point :Specifies the input device.
- Status :Sets the On/Off status.

Output point
- Output point :Specifies the output device.
- Out. :Turns output On/Off.

4-24-1. Display method

4-24-1-1. Event group display

Click on an event group name to display conditions related to the event control group, such as input point, status, output point, output, judgment conditions and output delay time.

4-24-2. Registering event groups

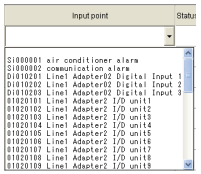
4-24-2-1. Changing event group names

Double click to change the name of an event group. It is also possible to change part of the name of a previously-registered event group. To change the entire name, just type in the name. The existing name will be deleted and the new name displayed.

Once the name has been changed, click on the Register button to register it. Click on the Cancel button to revert to the previously registered state.

* When the name is changed, it becomes impossible to change the input point, status, output point, output, judgment conditions, output delay time, and other settings. Click on the Register button after changing the name to register it. Changes in other settings will then become possible, so register again after any further changes.

4-24-2-2. Changing the input point



Set conditions for the input device.
Click in the input point box to display the button, then click on it. A list of input devices is displayed, so select the relevant device.

* Select the blank at the top of the list to delete the input point.

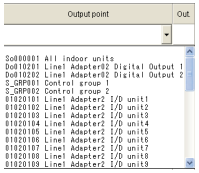
4-24-2-3. Changing status



Click in the Status box to display the button, then click on it.
A list is displayed for selecting On or Off, so specify the condition for the input device.

* If the input point is deleted and the change registered, the item concerned is automatically deleted.

4-24-2-4. Changing the output point



Set conditions for the output device.
Click in the Output Point box to display the button, then click on it. A list of output devices is displayed, so select the relevant device.

* Select the blank at the top of the list to delete the output point.

4-24-2-5. Changing output



Click in the Output box to display the button, then click on it.
A list is displayed for selecting On or Off, so specify the condition for the input device.

* If the output point is deleted and the change registered, the item concerned is automatically deleted.

4-24-2-6. Setting judgment conditions



: AND condition is applied. When multiple input points have been set and the status of all input points is satisfied, the event occurs and the output point is changed according to the output setting.



: OR condition is applied. When multiple input points have been set and the status of even one of the input points is satisfied, the event occurs and the output point is changed according to the output setting.

* If there is only one input point registered, it makes no difference to the conditions whether the setting is for AND or OR.

4-24-2-7. Changing output delay time



:Even if the input conditions are satisfied and the event occurs, output to the output point is delayed by the output delay time.

* An adapter is used for communications with the input and output devices, so such disturbances as communications delays may occur, and the actual delay time may exceed the one set.

4-24-2-8. Registering changed data

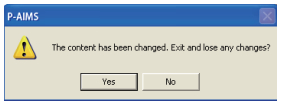
Click on the Register button to register changes. All changed data is registered.

4-24-2-9. Deleting settings

Click on the Cancel button to revert to the previously registered state.

4-24-3. Change confirmation

If you have changed event content and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

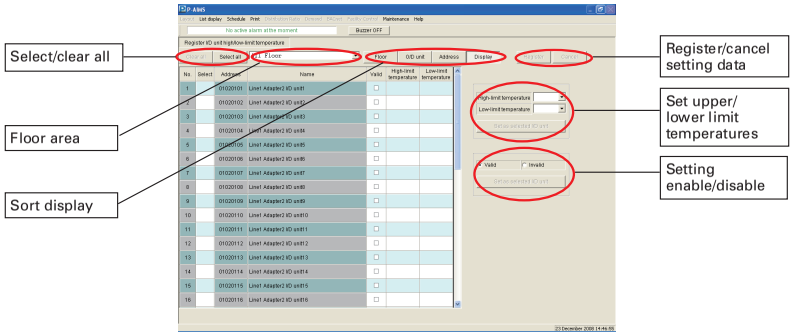


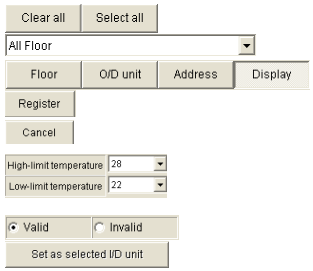
Click on the Yes button to discard changes and switch screens.
Click on the No button to repeat the operation on this screen.

4-25. Register I/D unit upper/low-limit temperature

[Procedure]
On the menu bar, select "Maintenance" – "Register I/D unit high/low-limit temperature".
(Password level 2)

Set upper and lower limit temperatures to restrict the set temperatures of indoor units.





:Use to clear all and select all.
:Use to select floor areas.
:Use to select the display order.
:Register settings.
:Revert to the previously registered state.

:Select the upper limit temperature/lower limit temperature.
:Set enabled/disabled.
:Apply the set values of upper limit temperature/lower limit temperature. Or, apply the enabled/disabled settings.

Key

· Select	:Selects the indoor unit to control. Click to add a check mark.
· Address	:Displays the address numbers of indoor units.
· Name	:Displays the names of the indoor units.
· Valid	:Sets enabled/disabled.
· High limit temperature	:Displays the upper limit temperatures of indoor units.
· Low-limit temperature	:Displays the lower limit temperatures of indoor units.

4-25-1. Display method

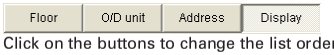
4-25-1-1. Selecting displayed floor and area



If the floor and area is "All", all registered indoor units are displayed. Click on the button on the right edge of the floor selection list to display a list of registered floors and areas.
From the list, select the floor or area to monitor. A list of indoor units registered within that floor and area is displayed.

4-25-1-2. Sorting lists

Click on the Sort button to change the display order of a list. The currently pressed button is the one which determines the sort order.



Click on the buttons to change the list orders. If other buttons are pressed, the one that was clicked last is effective. The illustration above shows the list displayed in the indoor unit master order.

Floor	:Display is in order of floor name registration.
O/D unit	:Display is in ascending order of outdoor unit addresses.
Address	:Display is in ascending order of addresses.
Display	:Display is in order of most recent registrations to the indoor unit master.

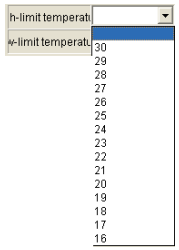
* Any button can be selected. It is not possible to select multiple buttons at the same time.

4-25-2. Control method

4-25-2-1. Indoor unit selection method

To set the upper and lower limit temperatures, first click on the name of the target indoor unit. The selected locations have ✓ check marks in the selection column.
Click again on the same location to remove the check mark, canceling the selection.
To select all indoor units, click on the Select all button in the upper left of the screen.
To cancel selections of all indoor units, click on the Clear all button in the upper left of the screen. The Clear all button cannot be used if nothing has been selected.
It is possible to select or deselect multiple indoor units by dragging around them with the mouse.
Unconnected units cannot be selected.

4-25-2-2. Setting upper and lower limit temperatures



To select upper and lower limit temperatures, click on the ▼ button to display the pulldown menu, then select a temperature in the range 16 – 30. Click on the desired temperature.
The temperature you clicked on is selected. Select the lower limit temperature in the same way. Once both the upper and the lower limit temperatures are set, click on the Set as selected I/D unit button. The upper and the lower limit temperatures are applied to all selected indoor units.

4-25-2-3. Enable/disable settings



To set enable/disable, click on either item to add a mark to it.

After setting enable/disable, click on the Set as selected I/D unit button. The selection is applied to all selected indoor units.

4-25-3. Saving changed data

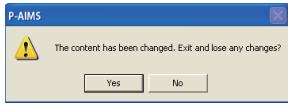
If the upper or lower limit temperatures, or the enabled status, have been changed, click on the Register button in the upper right of the screen to save the settings. All changed data is saved.

Click on the Cancel button to return all changed data to its previous state.

* The Register and Cancel buttons become available once upper/lower limit, and enabled status are set.
* If the Cancel button is clicked, the settings revert to their values before the edit.

4-25-4. Change confirmation

If you have changed the scheduled operation times and attempt to switch to another screen without first saving the changes, the change confirmation message is displayed.

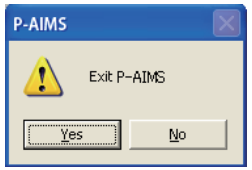


Click on the Yes button to discard changes and switch screens.
Click on the No button to continue using this screen.

4-26. Exit

[Procedure]
On the menu bar, select “Maintenance” – “Exit”.
(Password level 2)

Exit the system.



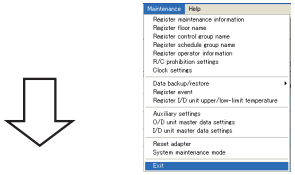
Click on the Yes button to exit the system.
Click on the No button to avoid exiting the system.

5. Supplementary Information

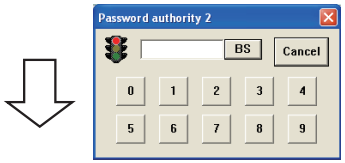
■ Powering the system off

Always use the following procedure to power the PC off.

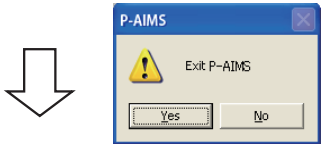
1. From the Menu bar, select “Maintenance” - “Exit”.



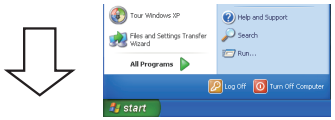
2. The Password Input screen is displayed. Input the password.



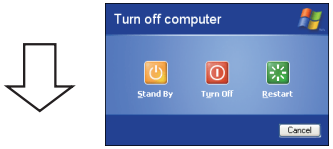
3. The System Exit screen is displayed. Click on the Yes button.



4. Click on the start button in the lower left of the screen, then on Turn Off Computer.



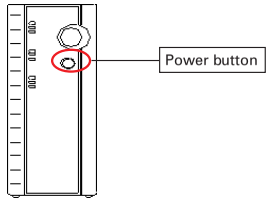
5. The “Turn Off Computer” screen appears. Click on “Turn Off”.



6. The shutdown process begins. After some time, the PC will switch off*, so turn the LCD screen off as well.
   *Several minutes may pass.



7. If the system is equipped with a UPS (uninterruptible power supply), turn it off at that stage.



■ Limitations on changing settings
Some types of air conditioners are limited in the settings which they support. For example, cooling-only air conditioners cannot be set to heating. Floor-type models typically support only high fan speeds. Ceiling mounted models do not have flaps, and therefore cannot change the fan direction.
You should be aware of the limitations of the air conditioner models in your system.
For more information, contact your dealer or service provider.

■ Personal Computers
Use a personal computer exclusively for the P-AIMS System.
Sharing the PC with any other system could cause problems.

■ Data backup
The PC used with the P-AIMS System could break down, so you are advised to back up data to an external hard drive or other storage.
For more information, contact your dealer or service provider.
Caution: If the drive name of the external hard disk or other backup location changes, backups cannot be done.

■ Power outages
We recommend use of a UPS device (uninterruptible power supply) to protect the P-AIMS in the event of a power outage.
For more information, contact your dealer or service provider.

■ Please note that we will not provide compensation in the following circumstances:
Any fault caused by a third party becoming aware of a password.
Any fault caused by sharing a PC between P-AIMS and another application.

- Only alarm codes are displayed in the notification bar and alarm log display.
  The content of an alarm can vary for different models, even if the alarm code is the same.
  Consult the documentation of the various models to determine the content of the alarm.
- After the settings of an indoor unit are changed from the P-AIMS System, the display may revert temporarily to the former settings. This is more likely to occur with all-unit operations. The cause is communications delay, not any malfunction in the system. If you wait a few minutes, the display will show the correct information.
- Errors occurred while operating during a thunder storm or because of electromagnetic interference.
- Power the P-AIMS System off and then on again.
  As a rule, the system should be powered off only in cases such as the above.
  Correct management of air conditioning is not possible when the system is powered off.
- Setting the current date and time
  The current date and time should be set on a regular basis, since the PC clock can gain or lose up to about two minutes per month.
- Passwords
  Passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.
  If you forget your password, contact your dealer or service provider.
- Interface adaptors (sold separately)
  - Alarm display
    Alarm details are not shown. The display is “C12”. (meaning local adapter all-unit alarm)

  Interface adaptors (CZ-CAPC2)
  You can use Interface adaptors to connect equipment that can be turned on and off (fans, room air conditioners and so on) to the system.
  However, note that the following limitations apply.
  For details, refer to the documentation of the equipment or contact your dealer or service provider.

  - Central control is supported for the following operations only.
    ·On/Off
    ·Remote control prohibition (start/stop only)
    Timer settings are supported, but settings other than “start/stop” and “remote control prohibition” are ignored.
    Remote control prohibition is possible only when prohibition signal output from the local adaptor has been connected to the equipment.
    Even in this case, the only operations that can be prohibited are start and stop.
  - Alarm display
    Alarm details are not shown.
    The display is “C12”. (meaning Interface adaptor all-unit alarm)
    However, this is possible only when the alarm signal input has been connected to a local adaptor.
  - As long as it conforms to the contact specifications of the Interface adaptors, any type of equipment can be connected to the system. However, you should avoid connecting equipment whose operation can have grave consequences for life or property.

6. License Certification

Before you can use the P-AIMS system, you need to first perform a work procedure called "license certification."

To perform license certification, make an inquiry by sending the inquiry key to the inquiry e-mail address below. You will be registered as a user and issued a release key, and then receive a reply.

<Contact Information>
Product ID Issuance Desk,

E-mail address: cmc_productid_desk@gg.jp.panasonic.com

When you make an inquiry, send the following information together with the inquiry in order to be registered as a user and issued a release key.

(1) Product name
(2) Company name/contact person
(3) Phone number
(4) E-mail address
(5) Inquiry key

* If you do not input a release key, you will no longer be able to use the system after 30 days elapses. Obtain a release key and perform license certification as soon as possible.
* Make an inquiry as soon as possible because it may sometimes take several days to be issued a release key.

License Certification Procedure

The procedure from after the P-AIMS system is installed up until the end of license certification is described below.

(1) Check the inquiry key from the License Certification screen.

(2) Send the inquiry key to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com).
Also notify us of the product name, company name/contact person, phone number, and e-mail address.

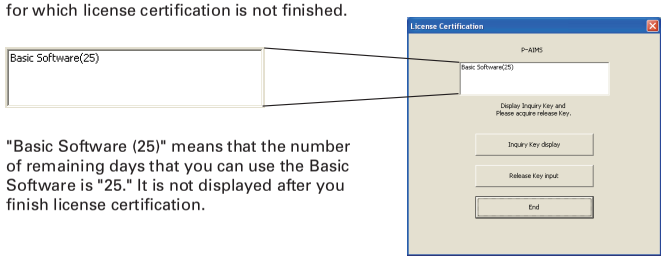
(3) A release key is issued.
You are registered as a user and a release key is issued. A reply is sent to the registered mail address.

(4) Input the release key from the License Certification screen.

(5) The license certification procedure is finished.

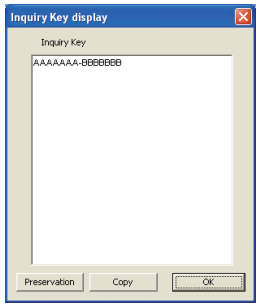
Performing License Certification

1. A License Certification screen such as the following appears when you start a P-AIMS systems for which license certification is not finished.



"Basic Software (25)" means that the number of remaining days that you can use the Basic Software is "25." It is not displayed after you finish license certification.

* After you start a P-AIMS system for which license certification is not finished, the License Certification screen will appear at 9:00 a.m. and 3.p.m. This screen is not displayed after you finish license certification.
  If you install optional software, the License Certification screen will appear until license certification is finished for all of the software.



2. If you click the Inquiry Key display button in the License Certification screen, the Inquiry Key display screen appears, and the inquiry key is displayed in the screen.
   Send the key displayed in this screen to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com) by e-mail.
   At the same time, also notify us of the following items.
   (1) Product name (required)
   (2) Company name/contact person
   (3) Phone number
   (4) E-mail address (required)
   You will be registered as a user and issued a release key.

Preservation :Clicking this button saves the inquiry key as a text file. Follow the instructions on the screen to save the text file. Enter the product name, company name/contact person, phone number, and e-mail address in this saved text file, and send the text file to the Product ID Issuance Desk by e-mail.

Copy :Clicking this button copies the inquiry key to the Windows clipboard. Paste the inquiry key into your mail.

OK :Clicking this button closes the Inquiry Key display screen.





3. When you receive the release key, restart the P-AIMS system. See “2. Startup and shutdown“ for how to restart the P-AIMS system, and then restart the system.

   If license certification is not finished for the P-AIMS system, the License Certification screen on the right appears before the P-AIMS system restarts.

   Click the Release Key input button to display the Release Key input screen, and enter the release key.

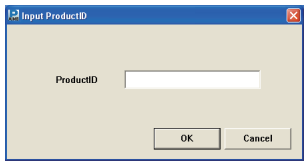
* If you install multiple P-AIMS system software, the same number of license certifications is required. In such a case, the number of release keys sent will be the same as the number of inquiry keys.
  Enter all of the received release keys sequentially, and perform license certification. (There is no set order for entering release keys, so they can be entered in any order.)

License certification is finished once all of the release keys have been entered.

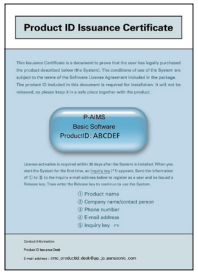
Click the End button. The License Certification screen closes, and the P-AIMS system starts.

* The P-AIMS system will start even if you click the End button without entering the release key. You can use the system as is until license certification is finished. (The system can be used for a period of 30 days.)

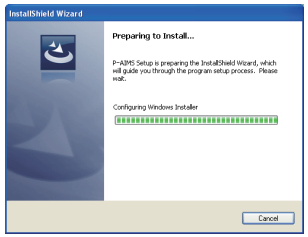
7. Basic Software Installation



1. Insert the Basic Software CZ-CSWKC2 CD of the P-AIMS system you purchased into the CD-ROM drive.
   Installation starts automatically when you insert the CD. If installation does not start, double-click “Setup.exe“ on the CD-ROM drive to start it.
   Enter the Product ID in the Input Product ID screen that appears.
   For the Product ID, see the “Product ID Issuance Certificate“ supplied with the software.



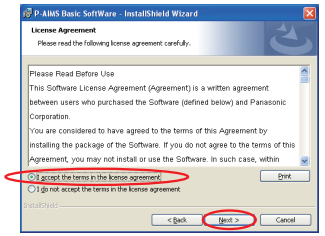
* Keep the “Product ID Issuance Certificate“ in a safe place. The Product ID is required to install the P-AIMS system. The “Product ID Issuance Certificate“ will not be reissued.



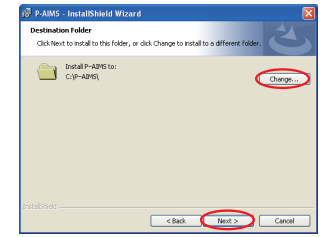
2. The InstallShield(R) Wizard prepares to install the P-AIMS system.



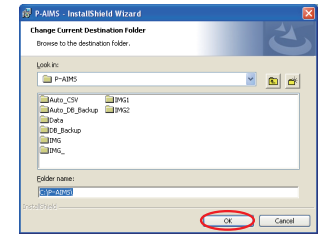
3. After a short while, the "The InstallShield(R) Wizard will install P-AIMS on your computer. To continue, click Next. " message appears. Click the Next > button.



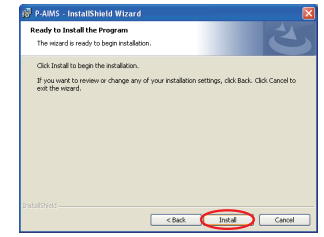
4. Next, the License Agreement screen appears. Carefully read the license agreement, and click "I accept the terms in the license agreement" if you agree to the terms of the license agreement.
   The Next > button becomes active.
   Click the Next > button. (The software cannot be installed if you do not agree to the terms of the license agreement.)



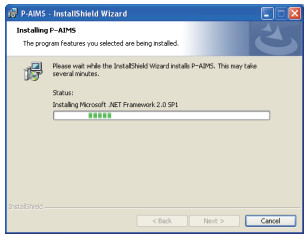
5. A screen for changing the folder to install the P-AIMS system in appears.
   - If you want to change the folder, click the Change... button. A screen for selecting the installation folder appears.
   - If you do not want to change the folder, click the Next > button.



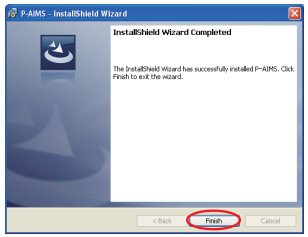
To change the folder, specify a folder and click the OK button. The specified folder is displayed and the previous screen is redisplayed.



6. Click the Install button to begin the installation of the P-AIMS system.



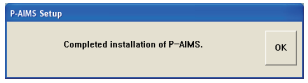
Please wait a while.



7. When the P-AIMS system setup is finished, the installation complete screen appears. If you click the Finish button, the initial settings of the P-AIMS system are configured.

8. When the initial settings are finished, click the OK button in the "Completed installation of P-AIMS" screen that appears.
The installation is now finished.







9. When the installation is finished, registration of the P-AIMS shortcut to the desktop and registration to the Start menu take place.

10. From now on, you can start the P-AIMS system by double-clicking this shortcut.

8. Troubleshooting

Before requesting service, check the following items.
Do not attempt to service the system yourself. Doing so can be dangerous.

Symptom	Cause
There is no screen display, even when the PC is switched on.	· Is the power cord connected? · Is the power switch turned On?
Scheduled operation does not work well.	· Is there a schedule mode or time setting? Even if schedule mode and time settings are made, schedule operation is not possible without confirmation. · Does the setting match the current date and time? If the date and time do not match, operation can start at an unexpected time.
The power goes off at odd times.	· The screen may be blank because of the power-saving auto off function. In this case, the power is not switched off, so move the mouse or press any key.
An error message has appeared in the alarm display area in the upper left of the screen, and does not disappear.	· The message displays the unit number where the alarm occurred, and other information such as content and number of the alarm. Inform your dealer or service provider about the content of the message.
It takes a long time after an operation for the screen to be updated.	· A certain amount of time may be required depending on the state of communications with the connected air conditioners. Please wait until all of the information is received.
While local remote control operation is prohibited on the P-AIMS system, P-AIMS has malfunctioned and become unable to start/stop operation of air conditioners.	· As an ad hoc measure until the service engineer arrives, turn the P-AIMS system off, then turn the power of the indoor unit on again. Operation with the local remote control will be possible. However, this cannot be done in a system without remote control.
After a power outage, the devices do not reset automatically after power is restored.	· The system does not power on equipment automatically after a power outage. The setting for the next programmed schedule will be executed when the time arrives.

9. Afterservice

Please be sure to read this section.

If you have any questions or repair-related consultations
Please consult your dealer about repairs or any questions.
Relocation
⚠ **Warning** Specialist skills are required, so always consult your dealer. Necessary expenses for relocation are to be borne by the customer.

User memo space

If you fill this out at the time of purchase, it is convenient when ordering repairs etc.

Serial No.	
Date of installation	
Dealer	Telephone No. ( )

Operation Manual

Air Conditioning

Intelligent Management System

CZ-CSWWC2

Web Software

P-AIMS

Thank you for purchasing our monitoring and control system.
Before using the system, be sure to read this manual carefully. After reading the manual, store it, in a convenient location for easy reference.

3-4-379

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■Precautions on Using This Product

★IMPORTANT★

- Before you can use the P-AIMS Web software, first perform a work procedure called "license certification."
  Please perform the license certification referring to "6.License certification".
- Duplication of all or part of this software and documentation without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- This software and manual are not to be reproduced, in whole or in part, without permission.
- In principle, each set of this software is purchased for use on a single computer.
- Please note that we bear no responsibility for any effects resulting from the use of this software and manual.
  Panasonic will not be liable for any claim based on errors in calculations of distribution ratios and utility usage caused by faults in this equipment or software.
- The specifications of this software, and the content of this manual, are subject to change without notice, for the sake of improvement.
- This software is used to calculate distribution ratios and charges according to the load ratios estimated for each indoor unit.
  It is not based on the Measurement Act, so it cannot be used for public transactions and similar purposes.
- The content of this manual is limited to explanation of how to use this software.
  It does not cover the usage methods for the operated machinery and optional features, or for the OS etc., so refer also to the relevant manuals for those elements.
- The screen image examples presented in this manual are intended to illustrate the explanation of layouts, and do not represent actual operating conditions. The tenant names displayed are also fictional.
- Displays and operations may differ from the examples in this manual, depending on versions of Excel and the OS used.
- Refer to "Please Read Before Use" for the warranty terms for this software.
- Panasonic will not be liable for any violation of the rights of any third party stemming from use of information in this manual, or for violation of other rights.
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■Introduction

CZ-CSWWC2 Web Software is used to manage the Air Conditioning Intelligent Management (P-AIMS) System over the Web.

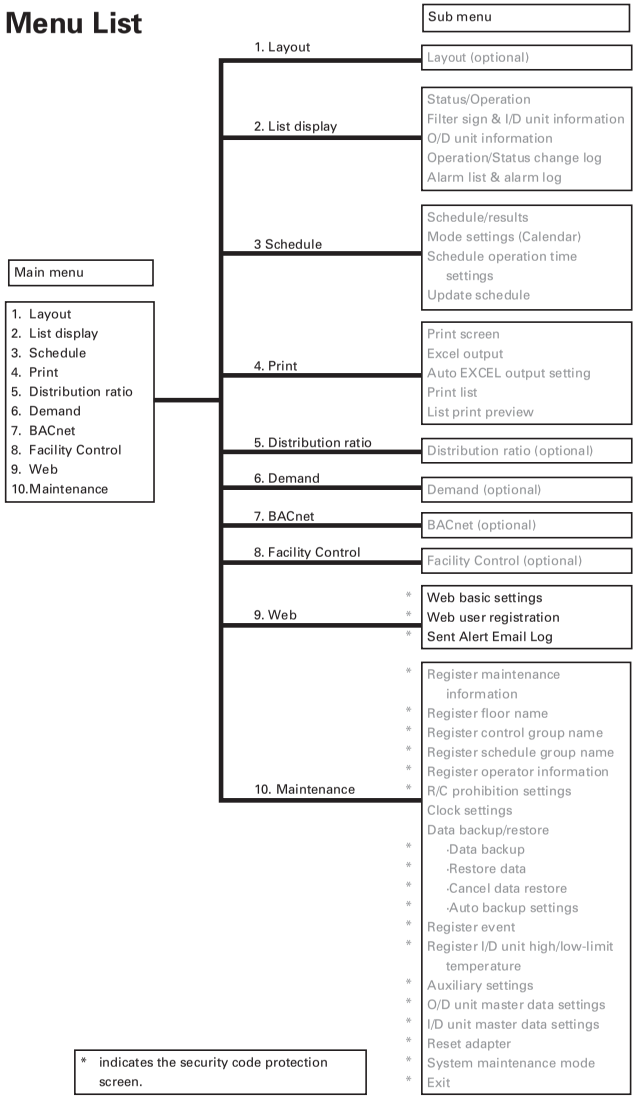
This Web Software must be installed on the same personal computer that runs the P-AIMS System (basic software). By connecting the personal computer to a LAN, the air conditioners can be managed and controlled easily using a Web browser. The user logs into the Web browser using a user ID and password. The authority to operate different air conditioners can be set for each user ID, which enables air conditioners to be operated from a personal computer by each tenant, control group, or indoor unit.

This operation manual describes operations using the Web Software. It does not duplicate explanations of basic functions that appear in the basic software operation manual. Refer also to the basic software operation manual and other optional software operation manuals.

■P-AIMS System Settings and Operations

1. Quick Reference

Menu List

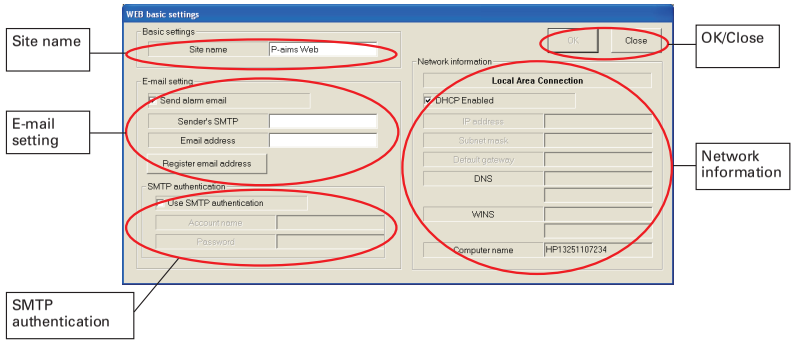


2. Using the System

2-1. Web Basic Settings

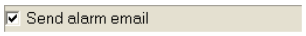
[Procedure]
On the menu bar, select Web – Web basic settings.
(Password: level 2)

On this screen, the site name that uses P-AIMS, and alarm e-mail setting can be made. Set the site name and alarm email setting.





: Enter the site name (40 one-byte characters max.)



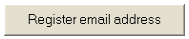
: Check the checkbox to send alarm emails.



: Enter the IP address (or domain name) of the separately subscribed mail (SMTP) server.



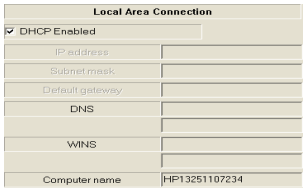
: Enter a sender account name (40 one- byte characters max.)



: Click here to display the Alarm email recipient settings screen.



: Check the checkbox to use SMTP authentication to block unwanted email. Enter the account name and password.



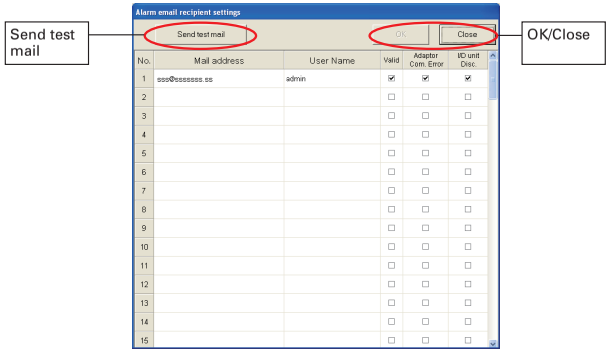
: Displays network information of the personnel computer.



: Registers the entered WEB basic settings.
: Restores the previous settings.
: Closes the WEB basic settings screen.

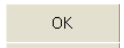
2-1-1. Alarm email recipient settings screen

The Alarm email recipient settings screen is displayed when Register email address is clicked. Email addresses and user names can be registered on this screen.





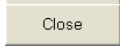
: Click the Send Test Email button to send a test email. (Use this button to check the recipient email address.)



: Registers the entered WEB basic settings.



: Restores the previous settings.



: Closes the WEB basic settings screen.

Key

- Mail address : Enter the recipient email address (recipient account name)
- User name : Select the user name registered on the “Web user registration screen”. An alarm email is sent to the user when an air conditioner that is registered with the user enters alarm status.
- Valid : Sets valid/invalid.
- Adapter Com. Error : An alarm email is sent to the user name when an adaptor that is registered with the user enters communication error status. An alarm email is not sent when the checkbox is not checked.
- I/D unit Disc. : An alarm email is sent to the user when an I/D unit that is registered with the user is disconnected. An alarm email is not sent when the checkbox is not checked.

2-1-1-1. How to enter and change email address

Double click the existing email address to change a part of it. Just enter an address to change the existing email address. The new email address overwrites the existing one. (40 one-byte characters max.)

2-1-1-2. How to change user name

Move the cursor to the user name column to display the user name combo box. User names registered on the Web user registration screen are displayed. Click ▼ and select the corresponding user name.

2-1-1-3. Enable/disable settings



To enable the registered content, click in the Enable space to add a check mark. Click there again to remove the check mark, disabling the setting.

2-1-1-4. Adapter communication alarm email

Check the check box to send an alarm email to the user when an adapter that is registered with the user enters communication error status.

2-1-1-5. I/D unit disconnection alarm email

Check the check box to send an alarm email to the user when an I/D unit that is registered with the user is disconnected.

> * Note that the I/D unit disconnection alarm email may be sent in large volume if an adaptor error occurs.

2-1-1-6. Saving the settings

The initially disabled button and Close button are in the upper right of the screen.

Click the Close button to close the screen.

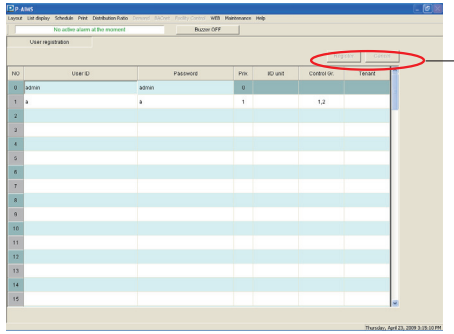
When you changed a setting, the disabled button and Close button changes to OK and Cancel buttones.

Click the Cancel button to restore to the previous setting. The OK and Cancel buttons changes to the disabled and Close button.

2-2. WEB User Registration

[Procedure]
On the menu bar, select WEB – user registration
<Password: level 2>

Set user IDs and passwords to access to the Web software, their privileges and operable indoor units.



Register : Registers changed settings.

Cancel : Restores the previous settings.

Key

- User ID :Enter the user ID (20 one-byte characters max.).
- Password :Enter the password (10 one-byte characters max.).
- Priv. :Specify the privilege for the user.
- I/D unit :Specify the indoor unit
- Control Gr. :Specify the control group name.
- Tenant :Specify the tenant name.

> * Click the I/D unit, Control Gr. or Tenant column to display the screen for specifying the indoor unit, control group, or tenant.

2-2-1. Registration

2-2-1-1. How to enter and change user ID

Double click the existing user ID to change a part of it. Just enter a user ID to change the existing one. The new user ID overwrites the existing one. (20 one-byte characters max.)

2-2-1-2. How to enter and change password

Double click the existing password to change a part of it. Just enter a password to change the existing one. The new password overwrites the existing one. (10 one-byte characters max.)

2-2-1-3. Changing privileges

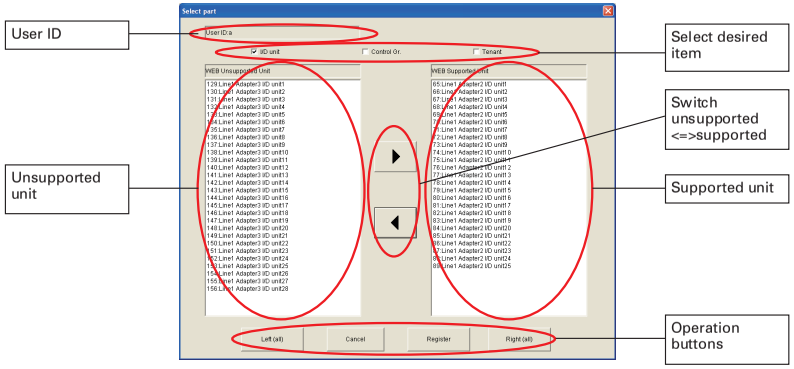
Privilege types are “0: administrative user”, “1: special user”, and “2: general user.”
For only No.0, “0: administrative user” can be set.
For No.001 and later, “1: special user”, and “2: general user” can be set.

2-2-1-4. User privileges

		0: administrative user	1: special user	2: general user
Layout display	Display plain view	○	○	○
	Check unit details	○	○	×
	R/C operation	○	○	○
Status/Operation	R/C operation	○	○	○
Alarm list & alarm log	View alarm log	○	○	×
	Check alarms	○	×	×
	Download alarm log	○	×	×
Schedule/results	View schedule/results	○	○	○
Mode settings	Check set schedule mode	○	○	×
	Set schedule mode	○	×	×
	Change schedule mode name	○	×	×
Schedule operation time settings	Check schedule	○	○	×
	Set schedule (I/D unit display)	○	○	×
	Set schedule (Schedule group display)	○	×	×
Update schedule	Check schedule	○	○	×
	Set schedule (I/D unit display)	○	○	×
	Set schedule (Schedule group display)	○	×	×
T/S ON operation time	Operation time display	○	×	×
Accumulated value	Accumulated value display	○	×	×
Download distribution ratio	Download CSV file	○	×	×

2-2-1-5. How to change I/D unit, control group, and tenant

Click the I/D unit, control group, or tenant column to show the following screen.



User ID:a : Displays the user ID.

I/D unit Control Gr. Tenant : Checked item is the object for the setting. More than one can be selected.

: Moves units between unsupported unit column and supported unit column.
The right arrow moves units from unspported to supported column.
The left arrow moves from spported to unsupported column.

Left (all) : Selects all units in the left field.

Right (all) : Selects all units in the right field.

Register : Registers the current setting and closes the screen.

Cancel : Closes the screen without registering changed setting.

2-2-1-5-1. How to move units between unsupported and supported column

Click a unit in the WEB unsupported (or supported) unit column. The clicked unit is highlighted. If you clicked a wrong one, click a different unit. This unit is highlighted instead.
To select multiple units, click desired units one by one while pressing the [Ctrl] key. Clicked units are highlighted. If you selected a wrong unit, click that unit again to clear the selection.
To select consecutive units, click the topmost unit to highlight it. Then click the unit at the bottom while pressing the [Shift] key. All units between the top and bottom of the consecutive units are highlighted.

Click [▶] to move the units from unsupported to supported unit column when units are highlighted.

Click [◀] to move the units from supported to unsupported unit column when units are highlighted.

To move inconsecutive units, move them in a few times using the above methods.

2-2-1-5-2. How to register / cancel supported units

Click [Register] to register the settings when you moved units between unsupported and supported columns. The screen closes afterwards.

Click [Cancel] to close the screen without registering.

2-2-1-6. Registering changed data

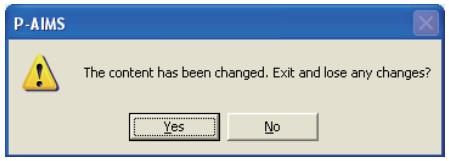
Click [Register] to register changed data.

2-2-1-7. Cancelling the setting

Click [Cancel] to restore the previous setting.

2-2-1-8. Confirmation message

A confirmation message appears if you attempt to use another screen without saving the change to the user registration.



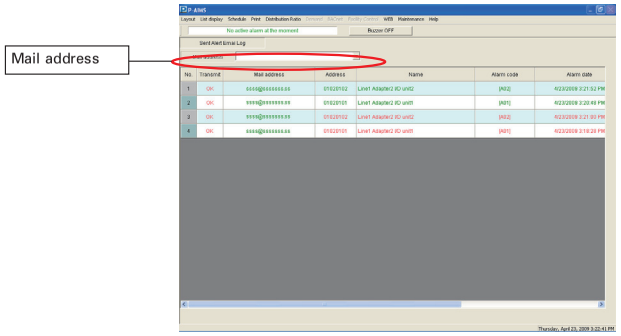
Click [Yes] to close the screen without saving changes.

Click [No] to continue using this screen.

2-3. Alarm Email Log

[Procedure]
On the menu bar, select WEB – Sent Alert Email Log.

This screen displays alarm email log. Up to 200 alarm email records are retained. When the number of records exceeds 200, the oldest records are deleted.





:Select the email address for alarm email log display.

Key

- Transmit :Displays delivery status (Sent: OK, Fail: NG)
- Mail address :Displays the recipient email address
- Address :Displays the address of the unit for which the alarm occurred.
- Name :Displays the name of the unit for which the alarm occurred.
- Alarm code :Displays the alarm code
- Alarm date :Displays the alarm date
- Date and Time Mail Sent :Displays the date and time alarm email sent

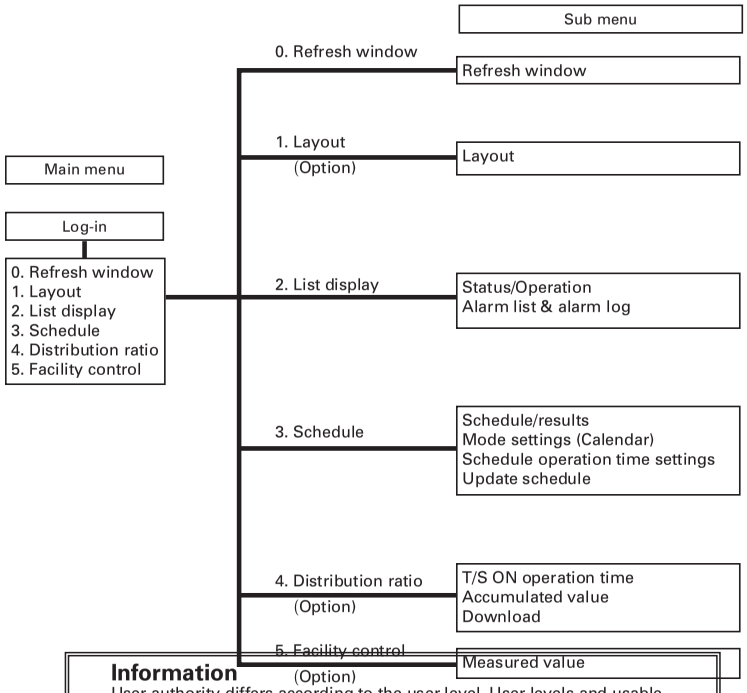
2-3-1. Email log display for a mail address

Select the email address using [Mail address] to display the log for that email address. All logs are displayed when an email address is not selected.

■Web Browser Settings and Operations

3. Quick Reference

Web Menu List



Information

User authority differs according to the user level. User levels and usable functions are indicated in this manual as shown blow.

Administrative user	○	Special user	△	General user	×

※ The user ID defines the authority level. The authority level is not displayed on the Web browser.

○ : All functions can be used.
△ : Some functions cannot be used.
× : Functions cannot be used.

4. Using the System

4-1. Access and Operation through Web Browser

4-1-1. Computer environment requirements

The following environment is required to connect the Web browser running on the customer's PC to the PC running the P-AIMS Web software in order to monitor/operate air conditioners.

Supported browser : Internet Explorer 6.0 or later
Screen resolution : 1024×768 is recommended

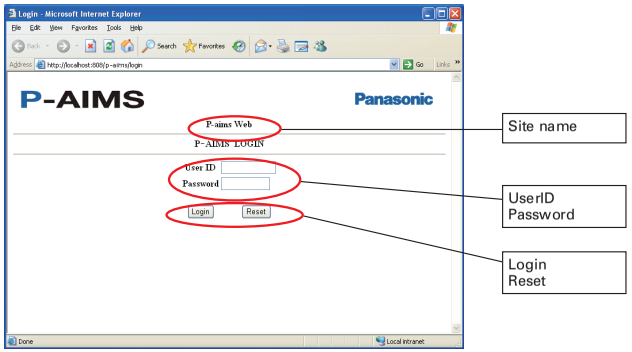
4-1-2. Login

Enter the following in the address bar of the Web browser to connect to the PC running the P-AIMS Web software.

http://P-AIMS address: 808/p-aims/login
or
http://P-AIMS PC name: 808/p-aims/login

For example, enter the following if the IP address of the PC running the P-AIMS Web software is "192.168.1.2":
http://192.168.1.2:808/p-aims/login

Or enter the following if DNS is enabled and the name of the PC running the P-AIMS Web software is "p-aims-web":
http://p-aims-web:808/p-aims/login



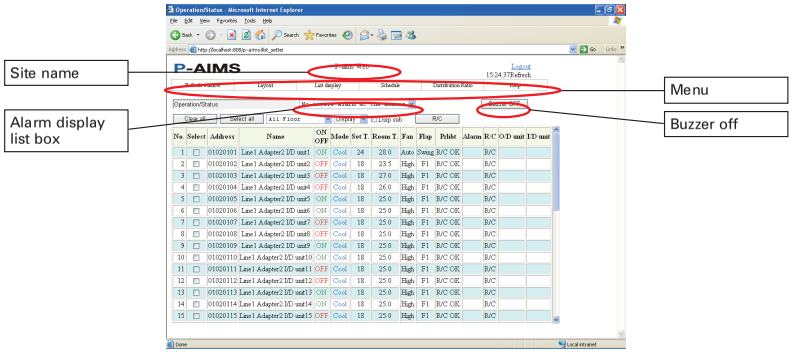
Site name : Shows the site name that was set for P-AIMS.
UserID : Enter the user ID that was set for P-AIMS.
Password : Enter the Password that was set for P-AIMS.

Login : Click to log in after entering the user ID and password.

Reset : Click to reset the login screen.

4-2. Common display area

The screen shown below appears when you log in to the P-AIMS Web software. The upper part of this screen is common to all screens and is displayed permanently on every screen. Also, any active alarm is displayed in this area. Use the menu to display each screen.

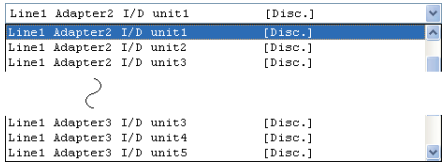


* The menu differs depending on the optional software installed and user authority.
* The common display area is displayed in every screen. However, because the layout screen is displayed in a different window, this area is not displayed.

4-2-1. Alarm display list box

When an alarm occurs, the name of the unit in which the alarm occurred is displayed in the list box in the upper part of the screen. Click at the right of the list box to show the list of current alarms. The scroll bar appears if many alarms are active. When the alarm is reset, that unit disappears from the list.

When an alarm occurs, a buzzer sounds. Click Buzzer OFF to stop the buzzer.



* When an alarm occurs, the alarm information appears in the list box but not on the Status/Operation screen. Refresh the screen to show the alarm information (Refer to 4-2-2 Refresh window).
* The Status/Operation screen is not refreshed automatically when all alarms are off. Refresh the screen display to show remaining alarm information (Refer to 4-2-2 Refresh window).

4-2-2. Refresh window

Only the common display area of the P-AIMS Web software screens is refreshed automatically. Each screen displays the latest information when it is opened, but the actual status will change over time. Click Refresh window in the menu to display the latest information and check the status.



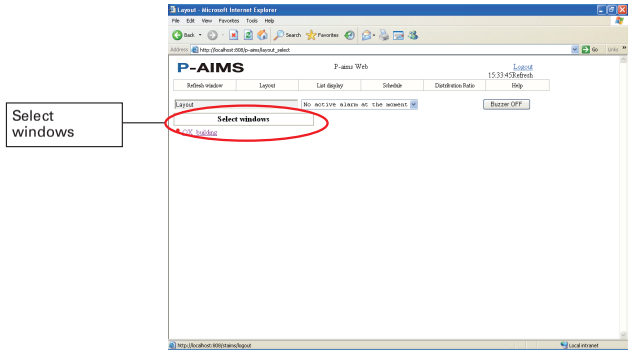
* When an air conditioner is started or stopped using the remote controller, the screen is automatically refreshed after approximately one minute. To refresh earlier, refresh the screen manually.
* The common display area of the screen is refreshed approximately every minute to show the alarm information. Therefore, alarm information is displayed on the Web browser later than in P-AIMS.
* The Refresh window menu is enabled in all screens. However, the Layout screen opens in a different window without the common display area. Use the Refresh button in Internet Explorer to refresh the Layout screen.
* Alternatively, press the [F5] key to refresh screen display.

4-3. Layout Screens (Option)

[Procedure]
Select Layout - Layout from the menu bar.
Optional Layout Display software is required.

Administrative user	○	Special user	○	General user	△

These screens display layout diagrams to check the layout and monitor the status of indoor units. Indoor unit operation can also be started and stopped from this screen.

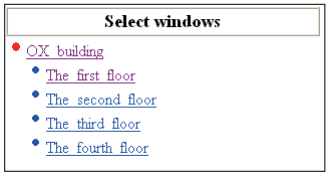


* Only I/D units are displayed in the Web software layout diagram.
* Only units with a registered user ID are displayed.

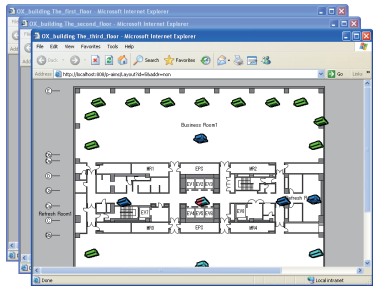
4-3-1. Layout screen display method

4-3-1-1. Layout screen selection method

(1) Click the group name "OX building" in the Select windows area. The following names are displayed: "The first floor," "The second floor," "The third floor," and "The fourth floor".

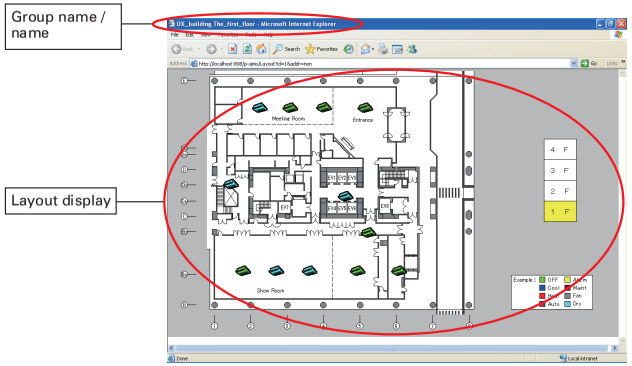


(2) Click "The first floor." The layout of the first floor is displayed in a new window. Each time a name is clicked ("The first floor" to "The fourth floor"), a new window opens to display the layout of the corresponding floor.



4-3-1-2. Layout screens

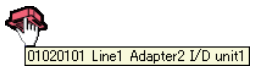
The layout is displayed in a new window.



4-3-2. Layout screen operations

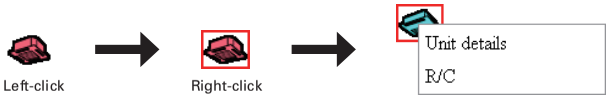
4-3-2-1. Confirming indoor unit names

To check the names of an indoor unit in the layout screen, move the mouse pointer over the desired indoor unit. The mouse pointer changes to and the address number and name are displayed.



4-3-2-2. How to display popup menu

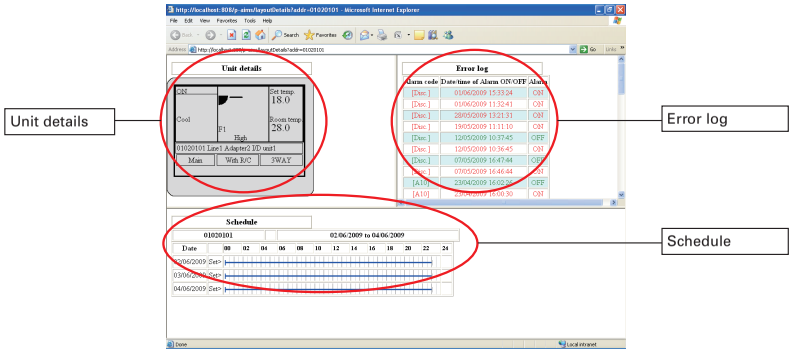
To display the popup menu, move the mouse pointer over the desired indoor unit. Right-click the unit when the mouse pointer changes to . When an indoor unit is selected, the unit appears enclosed in a square frame. Right-click in the frame to display the popup menu.



* The Unit details menu item is not displayed if the user has General user authority.

4-3-2-3. Popup menu "Unit details"

Select Unit details in the popup menu to display a screen that shows "Unit details," "Error log," and "Schedule."



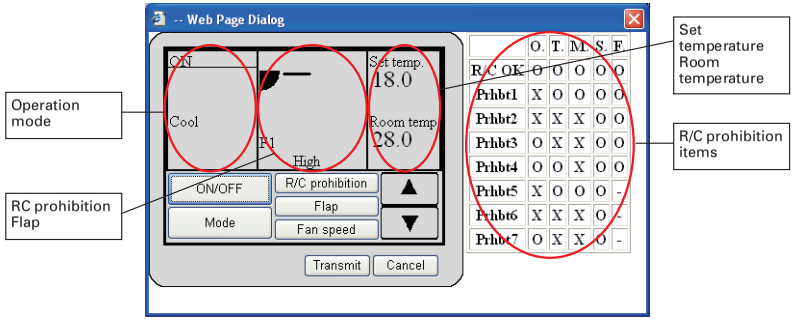
* The screen is not displayed if the user has General user authority.

4-3-2-4. "R/C" Popup menu (Start/stop control method)

Select R/C in the popup menu to display the Remote controller screen. Start, stop, mode, set temperature, fan speed, flaps, and central control can be changed on this screen.

Click Transmit to transmit the settings to the unit. Click the Cancel button to close the R/C screen without transmitting the settings.

* For functions unavailable for the authority level, the buttons are displayed in gray and disabled.



ON/OFF :Switches between "ON" and "OFF" every time it is clicked.

Mode :Switches between "Auto", "Heat", "Cool", "Fan", and "Dry" every time it is clicked.

R/C prohibition :Switches between "RC OK (blank)", "RC Prohibition 1" to "RC Prohibition 7" every time it is clicked.

* RC Prohibitions 1 to 4 are for CZ-CFUNC2.

Flap :Switches between "swing" and "F1" to "F5" every time it is clicked. Some flap settings are unavailable in some modes.

Fan speed :Switches between "Auto", "High", "Mid", and "Low" every time it is clicked.

▲ ▼ :Changes the room temperature setting.

Transmit :Transmits set content to the indoor unit.

* The unit setting is updated in about 1 minute after Transmit is clicked.

R/C prohibition items: Displays currently set R/C prohibition items.
O: Operable
X: Prohibited

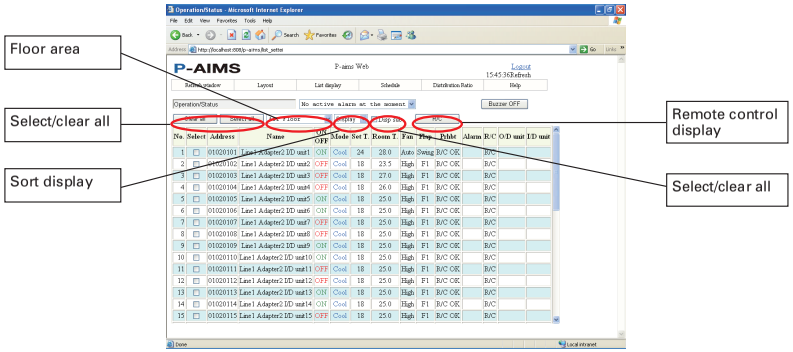
* Buttons disabled due to user authority restrictions or R/C prohibition settings are displayed gray.

4-4. Status/Operation

[Procedure]
On the menu , select “List display” – “Status/Operation”.

Administrative user	○	Special user	○	General user	△

Monitor the status of indoor units here. The operation, mode, set temperatures, room temperatures, fan speeds, flaps, central control, alarms, and absence or presence of remote control units can be monitored. Device operation can also be started and stopped from this screen.
Indoor units can be monitored and controlled by floor and area.



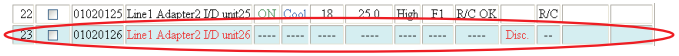
Clear all / Select all : Use to clear selections and select all.
All Floor : Use to select floor areas.
Display : Use to select the display order.
Disp sub : Sub-units are also displayed.
R/C : Use remote control units to stop and start indoor units individually.

Key

- Select :Selects the indoor unit to control.Click to add a check mark.
- Address :Display the address numbers of indoor units.
- Name :Displays the names of the indoor units.
  Normal: black, sub unit: blue, W/O connection: red, maintenance: gray.
- Operation :Monitors the operation status of indoor units.
  ON: Green, OFF: Red
- Mode :Displays the operation modes of indoor units.
  A/Cool, A/Heat: Green, Cool: Blue, Heat: Red, Fan: Gray, Dry: Light blue
- Set T. :Displays the set temperature. The range of temperatures that can be set varies, depending on the connected air conditioner model and the operation mode.
- Room temperature :Displays room temperatures.
- Fan :Displays fan speeds.
  Automatic (automatic fan speed), High, Mid. Low (Displayed as - - if the model concerned cannot display this information.

- Flap :Displays the directions of flaps.
  Swing, F1 - F5 (warm, fan: F1 - F5, for cooling: F1 - F3)
  Displayed as - - if the model concerned cannot display this information.
- Prhbt :Central control (local control prohibited)
  Individual (no prohibition), prohibit 1=prohibit 7 (Settings can be made for various types of central control (Prohibition)
- Alarm :Displays alarm codes if an alarm has been issued by an indoor unit.
  Displays Maintenance if “Register maintenance information” applies.
- RC :Displays “Yes” for indoor units that have remote control
- O/D unit :Displays outdoor unit codes.
- I/D unit :Displays indoor unit codes.

* If it is not possible to communicate with the adapter, or if the model used cannot display the content, the column will display “- -”.

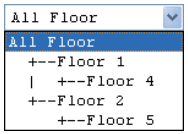


The names of indoor units which are unconnected are displayed in red. Their operating status cannot be checked.

4-4-1. Display method

4-4-1-1. Selecting displayed floor and area

First, select the floor and area.
If the floor and area is “All Floor”, all registered indoor units are displayed. Click the button at the right edge of the floor selection list to display a list of registered floors and areas. From the list, select the floor or area to monitor.



4-4-1-2. Displaying alarms

When an alarm is issued for an indoor unit, the alarm is automatically displayed in the alarm display list box.
The Status/Operation screen is not refreshed automatically so that the alarm information is not displayed. Refresh the window to update the status/operation screen. The error code is displayed in the Alarm column as shown below.
Nothing is displayed if there are no current alarms.

No.	Select	Address	Name	ON OFF	Mode	Set T.	Room T.	Fan	Flap	Prhbt	Alarm	R/C
1	☐	01020101	Line1 Adapter2 I/D unit1	ON	Cool	24	28.0	Auto	Swing	R/C OK		R/C
2	☐	01020102	Line1 Adapter2 I/D unit2	OFF	Cool	18	23.5	High	F1	R/C OK	A10	R/C

* The alarm display is automatically removed when the alarm has been restored. The Status/Operation screen is not refreshed automatically so that the alarm information remains unchanged. Refresh the window to update the status/operation screen.

4-4-1-3. Sorting lists

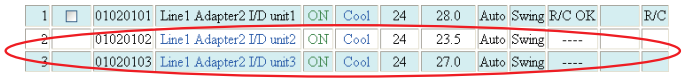
Select the desired display order from the pull-down menu.



Floor :Display is in order of floor name registration.
O/D unit :Display is in order of outdoor unit addresses, from the most recent.
Address :Display is in order of addresses, from the most recent.
Display :Display is in order of most recent registrations to the indoor unit master.

4-4-1-4. Displaying sub-units

Click Disp sub to add a checkmark and display the sub-units. Click again to clear the checkmark and hide the sub-units. Stop and start operations cannot be performed on sub-units.



1	☐	01020101	Line1 Adapter2 I/D unit1	ON	Cool	24	28.0	Auto	Swing	R/C OK		R/C
2		01020102	Line1 Adapter2 I/D unit2	ON	Cool	24	23.5	Auto	Swing	----		
3		01020103	Line1 Adapter2 I/D unit3	ON	Cool	24	27.0	Auto	Swing	----		

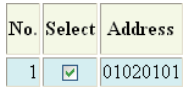
The names of sub-units are displayed in blue.

* Setup and operation of sub-units is linked to the main unit, so starting/stopping them or changing their settings is impossible.
* To check individual alarms from sub-units, it is necessary to display the sub-unit.

4-4-2. Start and stop control method

4-4-2-1. Indoor unit selection method

To start or stop a unit, click on the name of the indoor unit to control. The selected locations have ☑ check marks in the selection column.
Click again on the same location to remove the check mark, canceling the selection.
To select all indoor units, click the Select all button in the upper left of the screen.
To cancel selections of all indoor units, click the Clear all button in the upper left of the screen. Unconnected units and sub-units cannot be selected.



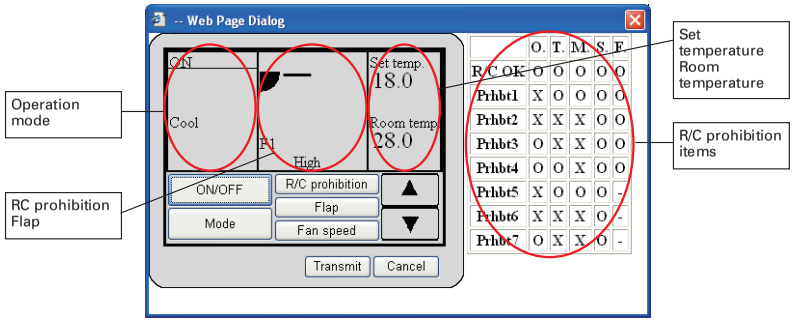
No.	Select	Address
1	☑	01020101

* After selecting the indoor unit, transmit the settings to the actual indoor unit on the Remote Control screen.

4-4-2-2. Start and stop operation method

Click the R/C button in the upper right of the screen when an indoor unit is selected to display the remote control unit screen. The Remote Control screen can be used to change operation, mode, temperature setting, fan speed, flap and prohibition settings. Click the set button, then on the Transmit button to send the setting content to the unit. Click the Cancel button to avoid sending the settings. The Remote Control screen closes.

* When the R/C button is clicked without selecting any indoor units, the R/C screen does not appear
* Buttons for unauthorized functions are displayed in gray and disabled.



ON/OFF :Switches between “ON” and “OFF” every time it is clicked.
Mode :Switches between “Auto”, “Heat”, “Cool”, “Fan”, and “Dry” every time it is clicked.
R/C prohibition :Switches between “RC OK (blank)”, “RC Prohibition 1” to “RC Prohibition 7” every time it is clicked.

* RC Prohibitions 1 to 4 are for CZ-CFUNC2.

Flap :Switches between “swing” and “F1” to “F5” every time it is clicked.
*Some flap settings are unavailable in some modes.
Fan speed :Switches between “Auto”, “High”, “Mid”, and “Low” every time it is clicked.
▲ ▼ :Changes the room temperature setting.
Transmit :Transmits set content to the indoor unit.

* The unit setting is updated in about 1 minute after Transmit is clicked.

R/C prohibition items: Displays currently set R/C prohibition items.
O: Operable
X: Prohibited

* Buttons disabled due to user authority restrictions or R/C prohibition settings are displayed gray.

4-5. Alarm list & alarm log

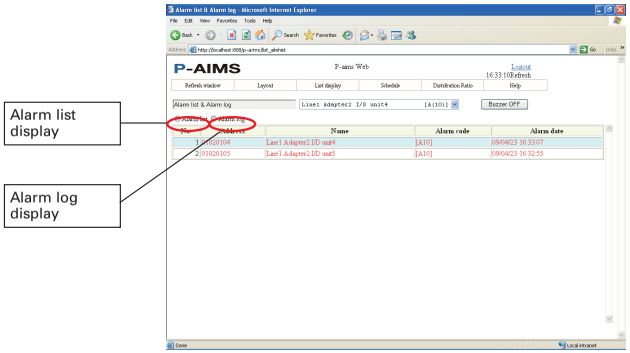
[Procedure]
On the menu bar, select “List display” – “Alarm list & alarm log”.

Administrative user	○	Special user	△	General user	×

This displays the log of alarm occurrence and restoration to date.

4-5-1. Alarm list

This displays current alarms.



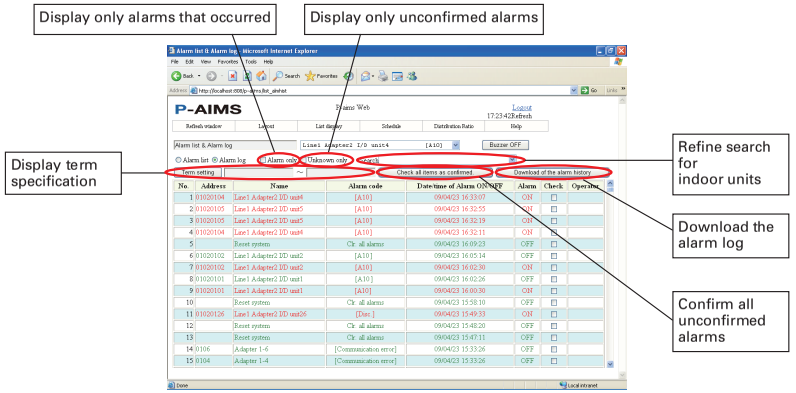
◉ Alarm list :Displays the alarm list.
○ Alarm log :Displays alarm history.

Key
- Address :Displays the addresses of alarms.
- Name :Displays the names of devices which have issued alarms.
- Alarm code :Displays alarm codes at the times alarms are issued.
- Alarm date :Displays the date and time at which the alarm occurred.

* The Alarm list or Alarm log display is not refreshed automatically when the alarm status changes. Refresh the window to update the display. However, when you switch between the Alarm list and Alarm log display, it is automatically refreshed.

4-5-2. Alarm log

This displays the log of alarm occurrence and restoration to date.
Display conditions can be set in order to display only certain alarms.



◉ Alarm list :Displays the alarm list.
○ Alarm log :Displays alarm log.
☐ Alarm only :Displays only the log of alarms which have occurred.
☐ Unknown only :Displays only the log of alarms which have not been confirmed.
Search :Use to select the indoor units to display.
Term setting :Use to specify the period of log to display.
Check all items as confirmed. :Confirm all unconfirmed alarms.
Download of the alarm history :Download the alarm log data.

* Check all items as confirmed. and Download of the alarm history are not displayed for a Special user.

Key
- Address :Displays the addresses of alarms.
- Name :Displays the names of devices which have issued alarms.
- Alarm code :Displays alarm codes at the times alarms are issued/restored.
- Alarm date :Displays dates and times when alarms are issued/restored.
- Alarm :Displays occurrence/restoration status of alarms.
- Check :Displays the status of alarm confirmation by the operator. Add a check mark to confirmed alarms.
- Operator :Displays the name of the person who confirmed the alarm.

* A Special user cannot change the Check and Operator columns.

4-5-2-1. Display method

Click the ◯ Alarm log , to display the alarm log. The log of alarms occurring to date, and their restoration status, can be checked here.

4-5-2-2. Refining the displayed data

Check the ☐ Alarm only checkbox to display only alarms which have occurred. Click again to clear the checkmark and revert the display to its previous state.

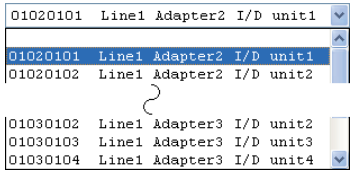
Check the ☐ Unknown only checkbox to display only alarms which have not been confirmed. Click again to clear the checkmark and revert the display to its previous state.

* These two functions can be used in combination.
  For example, if both the ☐ Alarm only and the ☐ Unknown only are checked, the display shows only current alarms that are unconfirmed.

Selecting the indoor unit to display refines the display to cover only that indoor unit.



Click ▼ by the Search dropdown list to display the registered I/D units.



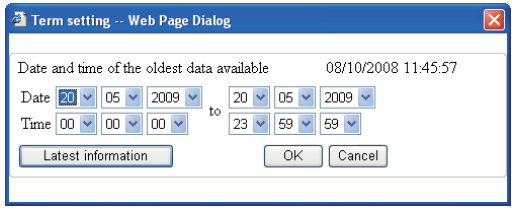
Click on the indoor unit to display. History is displayed for the selected indoor unit.

The ☐ Alarm only and ☐ Unknown only can be used together to display only alarms for the selected indoor unit, or only unconfirmed alarms.

* Select the blank at the top of the list to return to display of all logs.

4-5-2-3. Display range term specification method

Click the Term setting button to display the Term Setting screen.



Specify the start and end dates.
Log is displayed for the specified range.

* Set an end date that is later than the start date. Results will not be displayed correctly if the end date is earlier than the start date.

Specify the display term, and then click the OK button to display history throughout the specified term.
To close the Term Setting screen, click the Cancel button.
To cancel the term setting and display the latest log, click the Latest information button without specifying a term.

* Once a term is specified, the term specification will be as same as previous one when this screen is displayed again.
* The maximum number of display items is 2,000.

4-5-2-4. Alarm confirmation

After confirming alarms, the operator should add check marks to those alarms to manage their status.



Click in the Confirmation column for the confirmed alarms to add check marks.
Click on a check mark to remove it.

Click the operator column to display the screen shown below.
Click ▼ and select the name of the operator.



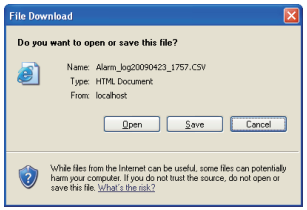
Click OK . The selected name is set in the Operator column and the screen closes.
Click Cancel to close the screen.

* This setting can only be changed by an Administrative user.
* Alarms cannot be confirmed just by checking the Check column and registering the operator name.

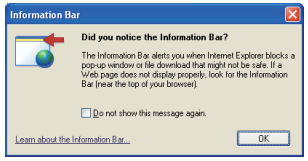
4-5-2-5. Downloading alarm log

The displayed alarm information can be downloaded.
The following shows how to save the data.

(1) Click [Download of the alarm history] to display the File Download screen.

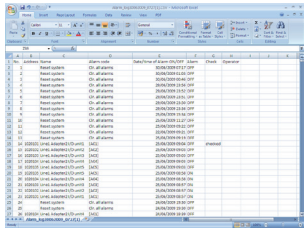


The Information Bar may be displayed due to the Internet Explorer security settings. If the Information Bar appears, follow the instructions displayed.
A message "Did you notice the Information Bar?"
may be displayed, as shown to the right.

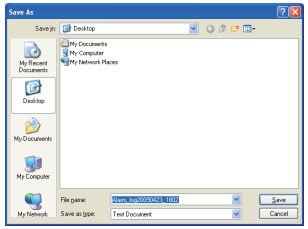


(2) Click [Open] to download the data and display it in Excel.

If Microsoft Excel is not installed, the data is displayed in Internet Explorer. In this case, it may not be possible to display some characters, depending on the language. Save the downloaded file.

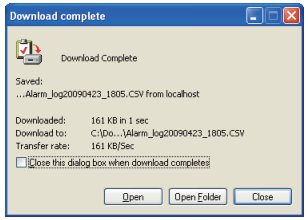


(3) Click [Save] to open the Save As dialog box. Specify the folder to save the file in.



(4) When the saving is complete, the Download complete screen appears as shown in the right.
*It is not displayed depending on the setting.

Click [Open] to display the data in Excel. If Excel is not installed, the data is displayed in Notepad.



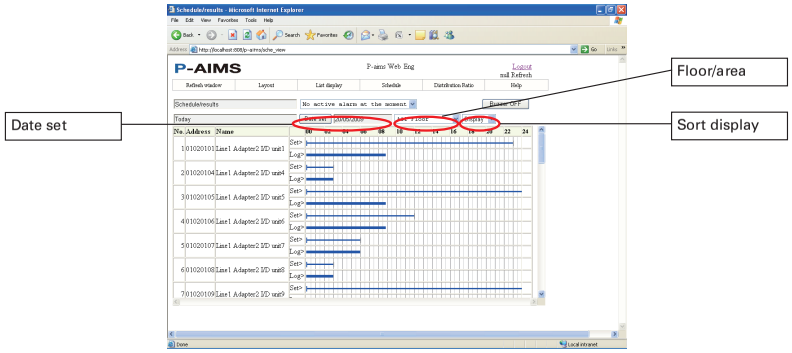
* We recommend installing Microsoft Excel to review alarms in detail.
* This setting can only be changed by an Administrative user.

4-6. Schedule/Results

[Procedure]
On the menu bar, select "Schedule" – "Schedule/results".

Administrative user	○	Special user	○	General user	○

This displays the schedule and results as bar graphs.
The display term can be specified to check the presetting status, the working status of a device relative to its schedule, or other information.



Date set : Use to select the dates to display.

All Floor : Use to select floor areas.

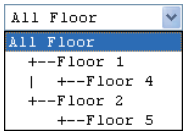
Display : Use to select the display order.

Key
- Address : Displays the addresses of indoor units.
- Name : Displays the names of the indoor units.
- Graph : Upper Schedules. Lower: Displays results.

4-6-1. Display method

4-6-1-1. Selecting displayed floor and area

First, select the floor and area.
If the floor and area is “All Floor”, all registered indoor units are displayed.



Click the button on the right edge of the floor selection list to display a list of registered floors and areas.

From the list, select the floor or area to monitor.
A list of indoor units registered within that floor and area is displayed.

4-6-1-2. Sort lists

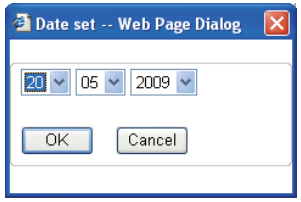
Select the desired display order from the pull-down menu.

Floor :Display is in order of floor name registration.
O/D unit :Display is in order of outdoor unit addresses, from the most recent.
Address :Display is in order of addresses, from the most recent.
Display :Display is in order of most recent registrations to the indoor unit master.



4-6-1-3. Changing display date

When the Schedule/results screen is displayed the first time, it displays data for the current day. To display the schedule/results for another day, click Date set. The screen shown to the right is displayed.



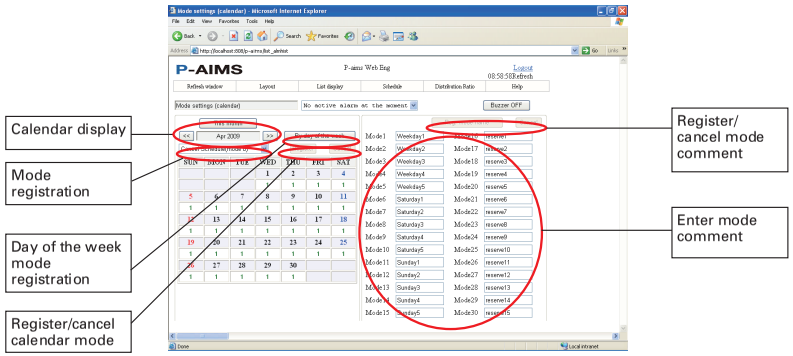
Click and select the date.
Then, click OK to change the display date and close the screen.
Click Cancel to close the Date set screen.

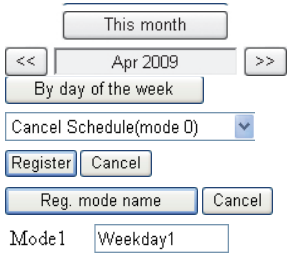
4-7. Mode setting (calendar)

[Procedure]
On the menu bar, select “Schedule” – “Mode settings (Calendar)”.

Administrative user	○	Special user	△	General user	×

Set the Calendar operation mode.





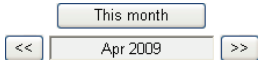
: Use to change the calendar to be displayed.
: Use to set the schedule by day of the week.
: Use to specify the mode.
: Register/cancel the calendar mode.
: Register/cancel the mode name.
: Use to change the mode name.

4-7-1. Display method

4-7-1-1. Calendar display

When the Mode setting screen is displayed the first time, the calendar for the current month is displayed.

Click the << >> buttons on the left and right of the place where the current date and month are displayed above the current calendar, to switch the calendar to earlier and later months.

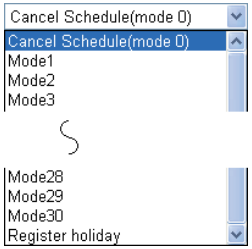


Click the This month button to display the calendar for the current month.

4-7-2. Calendar operation

4-7-2-1. Registering modes/holidays

Specify the desired mode in the mode registration combo box.
Then click the desired date. The selected mode number is registered in the area below the date. To change to another mode, select another mode number and click the registered date. The mode number will be overwritten. The mode, "Cancel schedule (mode 0)" is used to cancel the set mode. (The mode number below the date is deleted.)
When you select the "Register holiday" mode and then click the date on the calendar, the date is displayed in red. Click again to revert the date display to the original color.



* Even if holidays have been registered on the calendar, the schedule will not necessarily switch to holiday operation. Holiday operation requires registration of a schedule mode number for holidays on the calendar.

4-7-2-2. Registering an edited calendar

Once you have finished editing calendar mode numbers and holiday settings, click the Register button to register them.
Click the Cancel button to revert to the settings before editing.

4-7-2-3. Registering in day-of-the-week units

You can specify a set period and only make the mode settings once for each week.

Click the By day of the week button to display the following screen for setting schedule by day of the week.

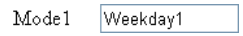


Click by the date displays to specify the term (start and end date) to set the weekly mode.

Click in the combo box for each day of the week and select the mode number.
After registering the mode for each day of the week (it is not necessary to set mode numbers for all days of the week), press the Register button to register the mode number into the calendar for the specified period. Click the Cancel button to cancel registration by the day of the week.

4-7-2-4. Registering mode comments

To edit mode comments, click in the comment area of the mode list.
When the cursor appears, edit the comment.



Once you have finished editing the comment, click the Reg. mode name button to register the setting.
Click the Cancel button to restore the setting before editing.

* The schedule mode names are also used as the mode names for settings on the Schedule – Schedule Operation Time Setting screen.
* Mode registrations to the calendar can be made for a period of one year, starting from the day after the registration is made.
* Modes cannot be changed for dates that have passed.

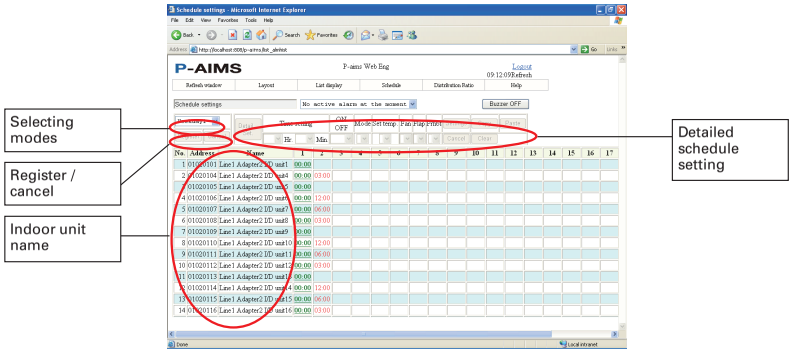
<Information> Requests to the Administrative user
* To enable other users to change schedules using the Web software, register schedules for units instead of for schedule groups.
* If the usage by the users can vary according to the day of the week, we recommend setting a different mode for each day of the week. This allows air conditioners to operate on a weekly schedule.

4-8. Schedule Operation Time Setting

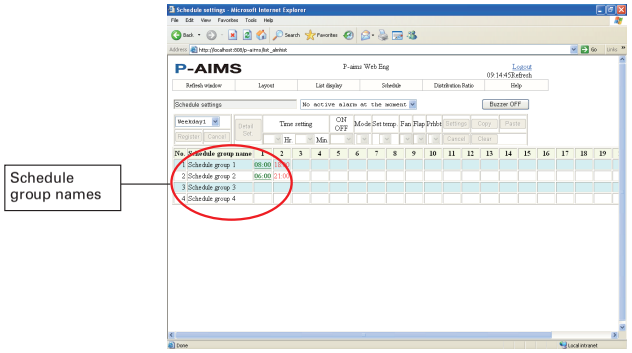
[Procedure]
On the menu bar, select “Schedule” - “Schedule Operation Time Setting”.
*The screen and functions differ according to whether or not a schedule group is registered.

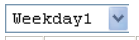
Administrative user	○	Special user	△	General user	×

Screen if no schedule group is registered

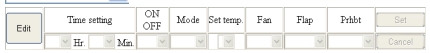


Screen if a schedule group is registered





:Selects the mode to register.



:Sets details for the schedule.



:Use for editing (copying, pasting and clearing settings).



:Register/cancel changes.

Key

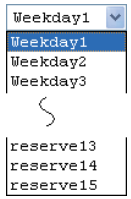
- Address :Displays the address numbers of indoor units. (If no schedule group has been registered)
- Name :Displays the names of indoor units. (If no schedule group has been registered)
- Schedule group name :Displays the schedule group name. (If a schedule group has been registered)
- Schedule time :Displays scheduled times.

* Schedule time registrations can only be applied to the main unit. Sub-units operate according to the schedule of the main unit.
* The underlined display (08:00) of set items indicates that other related items have also been set, such as modes other than On/Off and set temperatures.

4-8-1. Changing schedule times

4-8-1-1. Mode selection

Select the mode for registering the schedule.
Click ⌄ to select the mode name to register schedule time.



4-8-1-2. Setting schedule times

Click the cell to set the schedule for. The background turns yellow.



Under this condition, click the Edit button to enable registration of detailed settings.

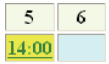


Set the set times and necessary items (ON/OFF, modes, set temperatures, fan speeds, flaps and prohibitions).
Click on ⌄ in each cell and select the item to set.



After editing the detailed settings, click the Set button

Click the Cancel button to cancel detailed settings.



* When making time settings, start from earlier times and proceed to later times. It is not possible to set the same time as an existing setting.
  Example
  10:00 On: :17:00 On
  With the scheduled operation time settings as shown in the example above, it is only possible to set times between the existing times in the range of 10:01–16:59.

4-8-1-3. Confirming schedule time settings

If you select a time cell with a scheduled time setting, the current settings are displayed in gray in the detailed settings column.

4-8-1-4. Editing schedule times

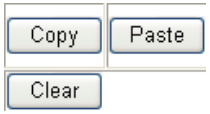
Use the editing buttons on the screen to edit the schedule times.

Copy : Select by clicking on the time cell to copy.

Click the Copy button to store the selected time cell in memory.

Paste : Select the target time cell, and then click the Paste button to paste the copied time.

Clear : Select the time cell to clear, and then click the Clear button to delete the registered time.



* Pasting into the time cell for the same indoor unit is not possible because the times would be the same for the unit.
* Even on a different indoor unit, pasting is impossible if there is an existing registration for the same time or an earlier time.

4-8-1-5. Registering changed data

If the schedule time has been changed, click the Register button at the upper-left of the screen to save the settings. All changed data is saved.

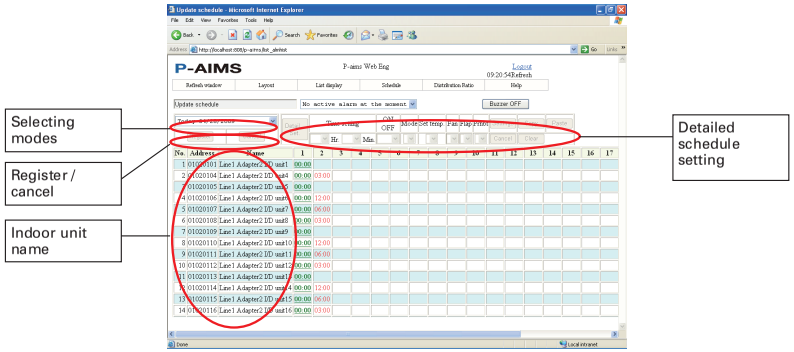
Click the Cancel button to return all changed data to its previous state.

4-9. Schedule Changes

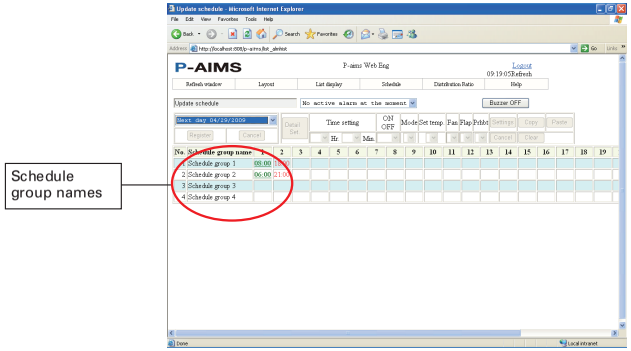
[Procedure]
On the menu bar, select “Schedule” – “Update Schedule”.
*The screen and functions differ according to whether or not a schedule group is registered.

Administrative user	○	Special user	△	General user	×

Screen if no schedule group is registered



Screen if a schedule group is registered





:Select the date to change. (The same day, next day, and day after that can be specified).



:Sets details for the schedule.



:Use for editing (copying, pasting and clearing settings).



:Register/cancel changes.

Key

- Address :Displays the address numbers of indoor units. (If no schedule group has been registered)
- Name :Displays the names of indoor units. (If no schedule group has been registered)
- Schedule group name :Displays the schedule group name. (If a schedule group has been registered)
- Schedule time :Displays scheduled times.

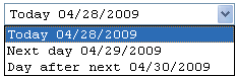
* Schedule time registrations can only be applied to the main unit. Sub-units operate according to the schedule of the main unit.
* The underlined display (08:00) of set items indicates that other related items have also been set, such as modes other than On/Off and set temperatures.

4-9-1. Changing schedule times

4-9-1-1. Selecting the date to display

Select the date to display

Click and select the date to display.



4-9-1-2. Setting schedule times

Click the cell to set the schedule for. The background turns yellow.



Under this condition, click the Edit button to enable registration of detailed settings.



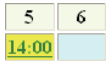
Set the set times and necessary items (ON/OFF, modes, set temperatures, fan speeds, flaps and prohibitions).

Click on in each cell and select the item to set.



After editing the detailed settings, click the Set button

Click the Cancel button to cancel detailed settings.



* When making time settings, start from earlier times and proceed to later times. It is not possible to set the same time as an existing setting.
Example
10:00 On: :17:00 Off
With the scheduled operation time settings as shown in the example above, it is only possible to set times between the existing times in the range of 10:01–16:59.

4-9-1-3. Confirming schedule time settings

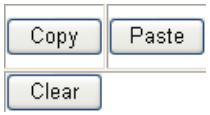
If you select a time cell with a scheduled time setting, the current settings are displayed in gray in the detailed settings column.

4-9-1-4. Editing schedule times

Use the editing buttons on the screen to edit the schedule times.

Copy : Select by clicking on the time cell to copy.

Click the Copy button to store the selected time cell in memory.



Paste : Select the target time cell, and then click the Paste button to paste the copied time.

Clear : Select the time cell to clear, and then click the Clear button to delete the registered time.

* Pasting into the time cell for the same indoor unit is not possible because the times would be the same for the unit.
* Even on a different indoor unit, pasting is impossible if there is an existing registration for the same time or an earlier time.

4-9-1-5. Registering changed data

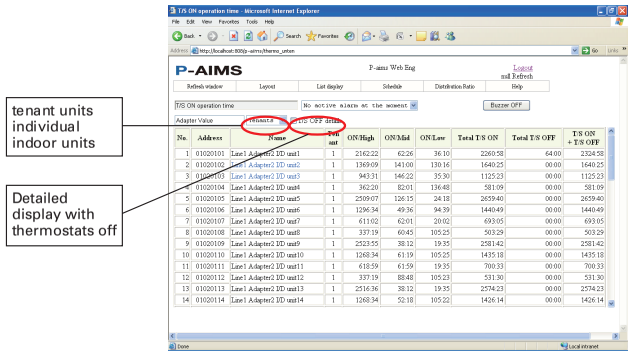
If the schedule time has been changed, click the Register button at the upper-left of the screen to save the settings. All changed data is saved.

Click the Cancel button to return all changed data to its previous state.

4-10. Operation time with thermostat on

[Procedure]
On the menu bar, select “Distribution ratio” - “T/S ON operation time”.
(Optional Distribution Ratio software is required.)

Administrative user	○	Special user	×	General user	×



Tenants : Selects the display order.

T/S OFF details : Displays details of thermostat off times.

Key

- Address : Displays the addresses of indoor units.
- Name : Displays indoor unit names or tenant names.
- Tenant : Displays tenant numbers.
- ON/High : Displays the time of operation with the thermostat on and high fan speed.
- ON/Mid : Displays the time of operation with the thermostat on and medium fan speed.
- ON/Low : Displays the time of operation with the thermostat on and low fan speed.
- Total T/S ON : Displays the total time of operation with the thermostat on and high, medium and low fan speed.
- OFF/High : Displays the time of operation with the thermostat off and high fan speed. (If thermostat off detailed display is used)
- OFF/Mid : Displays the time of operation with the thermostat off and medium fan speed. (If thermostat off detailed display is used)
- OFF/Low : Displays the time of operation with the thermostat off and low fan speed. (If thermostat off detailed display is used)
- Total T/S OFF : Displays the total time of operation with the thermostat off and high, medium and low fan speed.
- T/S ON + T/S OFF : Displays the total operation time at all fan speeds, with the thermostat both on and off.

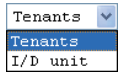
4-10-1. Display method

4-10-1-1. Sorting lists

Click and select the desired display order from the sorting combo box.

Tenants : The list is displayed in tenant units.

I/D unit : The list is displayed in individual indoor units.



4-10-1-2. Detailed display with thermostats off

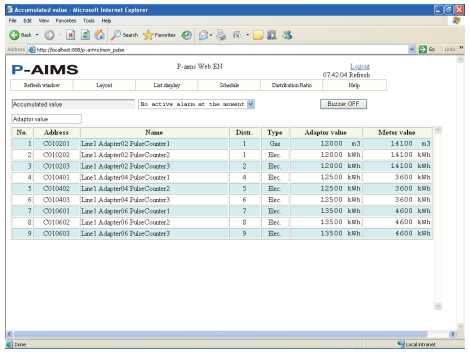
When you click T/S OFF details to add a checkmark, “OFF/High”, “OFF/Mid”, ” OFF/Low” are displayed in the list. Click again to clear the checkmark, and “OFF/High”, “OFF/Mid”,” OFF/Low” disappears.

4-11. Accumulated value

[Procedure]
On the menu bar, select “Distribution ratio” – “Accumulated value”.
(Optional Distribution Ratio software is required.)

Administrative user	○	Special user	×	General user	×

This displays the current value of the adaptor's accumulated pulses.



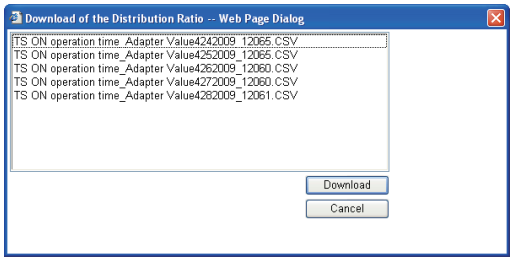
Key
- Address :Displays the addresses of indoor units.
- Name :Displays the names of accumulated pulse meters.
- Distr. :Displays distribution group numbers.
- Type :Displays the types of pulse meter.
- Adapter value :Displays the current values of the adapters on the pulse meter.
- Meter value :This displays the value with the addition of balance data between an arbitrary value for the pulse meter and the adapter value.

4-12. Download

[Procedure]
On the menu bar, select “Distribution ratio” – “Download”.
(Optional Distribution Ratio software is required.)

Administrative user	○	Special user	×	General user	×

Download CSV files calculated on the cut-off day.



Download : Use to download

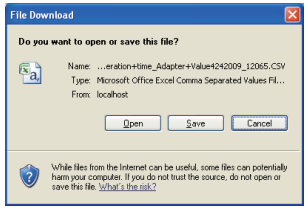
Cancel : Use to close the Download of the Distribution Ratio screen.

4-12-1. Downloading

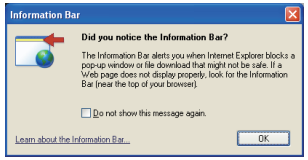
4-12-1-1. How to download

The download procedure is described below.
(1) Click the file to download to highlight it

(2) Click Download to display the File Download screen.

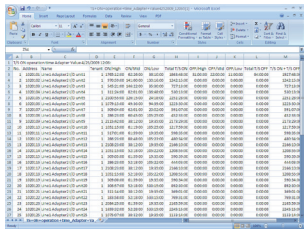


The Information Bar may be displayed due to the Internet Explorer security settings. If the Information Bar appears, follow the instructions displayed.
A message “Did you notice the Information Bar?” may be displayed, as shown to the right.

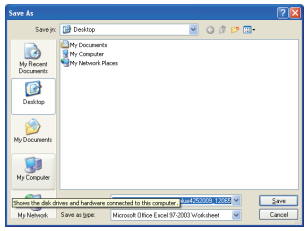


(3) Click [Open] to download the data and display it in Excel.

If Microsoft Excel is not installed, the data is displayed in Internet Explorer. In this case, it may not be possible to display some characters, depending on the language. Save the downloaded file.

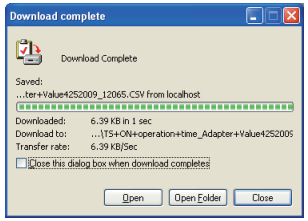


(4) Click [Save] to open the Save As dialog box. Specify the folder to save the file in.



(5) When the saving is complete, the Download complete screen appears as shown in the right.
*It is not displayed depending on the setting.

Click [Open] to display the data in Excel. If Excel is not installed, the data is displayed in Notepad.

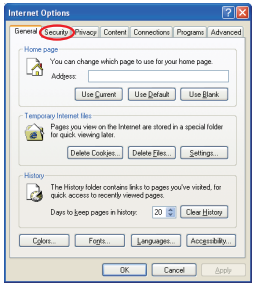


* We recommend installing Microsoft Excel to calculate distribution ratio data.
* Excel is used to calculate and check data.
* Only an Administrative user can save this data.

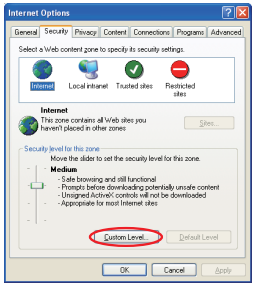
<Reference> How to Display the File Download Screen

If the File Download screen is not displayed even if you click [Download], follow the procedure below to change the Internet Explorer settings.

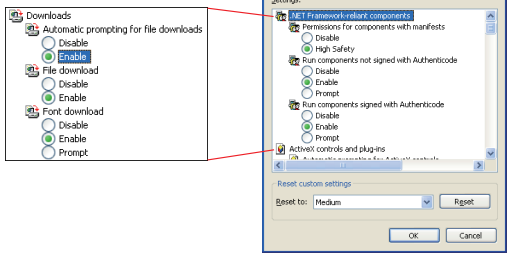
(1) On the [Tools] menu of Internet Explorer, click [Internet Options] and the Internet Options screen is displayed. Click the [Security] Tab.



(2) The Internet Options screen switches to the Security Tab.
Click [Custom Level...].



(3) The Security Settings – Internet Zone screen is displayed.



From the list of setting items, find [Downloads], and click [Enable] on the [File download] and [Automatic prompting for file downloads] items.

(4) After you change the settings and click [OK], the question "Are you sure you want to change the settings for this zone?" is displayed. Click the [Yes] button to change the settings. When these settings are changed, [Security level for this zone] in screen (2) changes to [Custom]. Click [OK] to close the Internet Options screen.

5. Supplementary Information

- This Web Software must be installed on the personal computer running the CZ-CSWKC Basic Software. Refer also to the Supplementary Information in the CZ-CSWKC Basic Software operation manual.
- When connecting P-AIMS through the Internet, take adequate security measures such as installing firewall or antivirus software. To set up the firewall or antivirus software, refer to respective manuals.
- The Administrator user ID and password are provided as default. Change the user ID and password for security reasons. Be sure not to let a third party become aware of the new user ID and password.
- Please note that we will not provide compensation in the following circumstances:
  Any fault caused by a third party who became aware of the user ID and password.
  Any fault caused by sharing a PC between P-AIMS and another application.
- Limitations on changing settings
  Some types of air conditioners are limited in the settings which they support. For example, cooling-only air conditioners cannot be set to heating. Floor-type models typically support only high fan speeds. Ceiling mounted models do not have flaps, and therefore cannot change the fan direction.
  You should be aware of the limitations of the air conditioner models in your system.
  For more information, contact your dealer or service provider.
- After the settings of an indoor unit are changed from the P-AIMS System, the display may revert temporarily to the former settings. This is more likely to occur with all-unit operations. The cause is communications delay, not any malfunction in the system. If you wait a few minutes, the display will show the correct information.
- Errors occurred while operating during a thunder storm or because of electromagnetic interference.
  Power the P-AIMS System off and then on again.
  As a rule, the system should be powered off only in cases such as the above.
  Correct management of air conditioning is not possible when the system is powered off.

6. License Certification

Before using the Web Software, first perform a work procedure called "license certification."

To perform license certification, make an inquiry by sending the inquiry key to the inquiry e-mail address below. You will be registered as a user and issued a release key, and then receive a reply.

<Contact Information>
Product ID Issuance Desk,

E-mail address: cmc_productid_desk@gg.jp.panasonic.com

When you make an inquiry, send the following information together with the inquiry in order to be registered as a user and issued a release key.

(1) Product name
(2) Company name/contact person
(3) Phone number
(4) E-mail address
(5) Inquiry key

* If you do not input a release key, you will no longer be able to use the system after 30 days elapses. Obtain a release key and perform license certification as soon as possible.
* Make an inquiry as soon as possible because it may sometimes take several days to be issued a release key.

License Certification Procedure

The procedure from after the P-AIMS system is installed up until the end of license certification is described below.

(1) Check the inquiry key from the License Certification screen.

(2) Send the inquiry key to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com).
Also notify us of the product name, company name/contact person, phone number, and e-mail address.

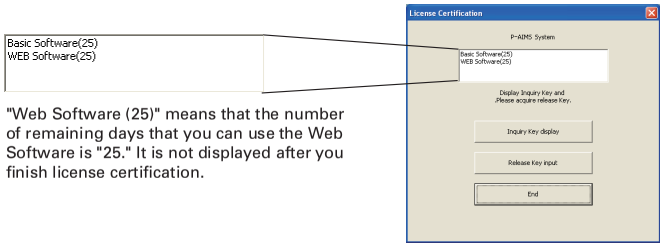
(3) A release key is issued.
You are registered as a user and a release key is issued. A reply is sent to the registered mail address.

(4) Input the release key from the License Certification screen.

(5) The license certification procedure is finished.

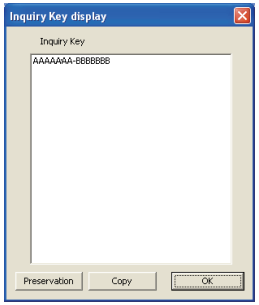
Performing License Certification

1. A License Certification screen such as one shown below appears when you start a P-AIMS system for which license certification is not completed.



"Web Software (25)" means that the number of remaining days that you can use the Web Software is "25." It is not displayed after you finish license certification.

* After you start a P-AIMS system for which license certification is not finished, the License Certification screen will appear at 9:00 a.m. and 3:00 p.m. This screen is not displayed after you finish license certification.
If you install optional software, the License Certification screen will appear until license certification is finished for all of the software.



2. If you click the Inquiry Key display button in the License Certification screen, the Inquiry Key display screen appears, and the inquiry key is displayed in the screen.
Send the key displayed in this screen to the Product ID Issuance Desk (cmc_productid_desk@gg.jp.panasonic.com) by e-mail.
At the same time, also notify us of the following items.
   (1) Product name (required)
   (2) Company name/contact person
   (3) Phone number
   (4) E-mail address (required)

You will be registered as a user and issued a release key.

Preservation :Clicking this button saves the inquiry key as a text file. Follow the instructions on the screen to save the text file. Enter the product name, company name/ contact person, phone number, and e-mail address in this saved text file, and send the text file to the Product ID Issuance Desk by e-mail.

Copy :Clicking this button copies the inquiry key to the Windows clipboard. Paste the inquiry key into your mail.

OK :Clicking this button closes the Inquiry Key display screen.





3. When you receive the release key, restart the P-AIMS system.

If license certification is not finished for the P-AIMS system, the License Certification screen on the right appears before the P-AIMS system restarts.

Click the Release Key input button to display the Release Key input screen, and enter the release key.

* If you install multiple P-AIMS system software, the same number of license certifications is required. In such a case, the number of release keys sent will be the same as the number of inquiry keys.
Enter all of the received release keys sequentially, and perform license certification. (There is no set order for entering release keys, so they can be entered in any order.)

License certification is finished once all of the release keys have been entered.

Click the End button. The License Certification screen closes, and the P-AIMS system starts.

* The P-AIMS system will start even if you click the End button without entering the release key. You can use the system as is until license certification is finished. (The system can be used for a period of 30 days.)

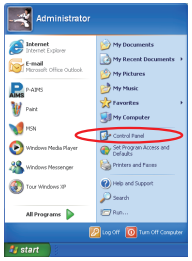
7. Preparation

7-1. Firewall setting

Set up the firewall before installing the Web Software.

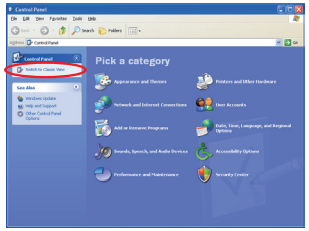
1. Click start at the bottom-left corner of the screen to display the menu.

   Click “Control Panel”.

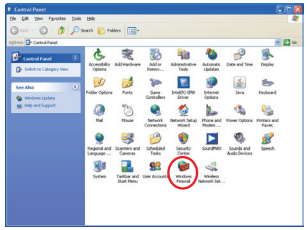


2. The Control Panel window opens.

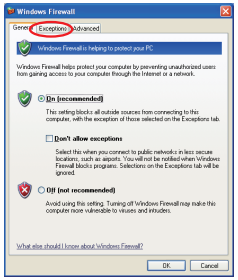
   If the window appears as shown in the right, click “Switch to Classic View” to change the view. (Omit this step if the window already appears as shown in step 3.)



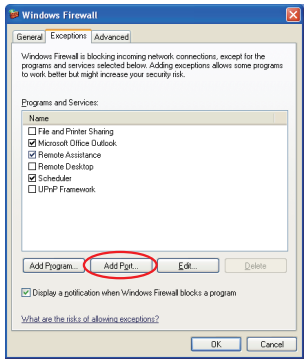
3. Windows classic style Control Panel window appears.
   Double click “Windows Firewall”.



4. The Windows Firewall screen appears.
   Click the Exceptions tab.



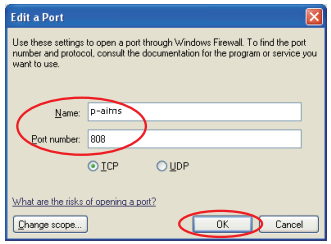
5. Add the port number to exceptions.
   Click Add Port... .



6. The Edit a Port screen appears.

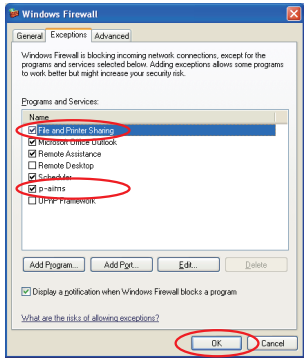
   Enter the following:
   Name :”p-aims”
   Port number :”808”

   Click OK .



7. Check the list under “Name” in the Exceptions tab.

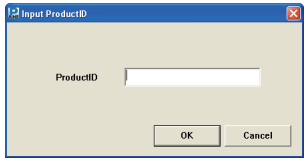
   Has “p-aims” been added?
   Is “File and Printer Sharing” checked?
   If both are checked, click OK .

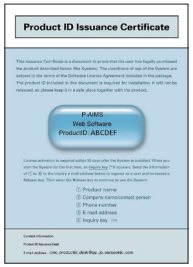


7-2. Installation

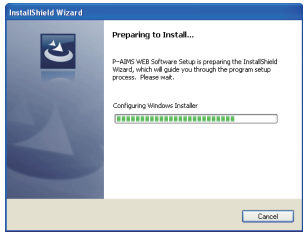
During installation, a screen prompting restart of the operating system may appear. In that case, restart the operating system.

1. First, stop the P-AIMS system.
   Insert the Web Software CZ-CSWWC2 CD of the air-conditioning integrated system (P-AIMS system) you purchased into the CD-ROM drive. The program on the CD-ROM starts automatically and makes preparations for installation. If installation does not start, double-click Setup.exe of the CD-ROM drive to start it.
   Enter the Product ID in the Input Product ID screen that appears.
   For the Product ID, see the Product ID Issuance Certificate supplied with the software.



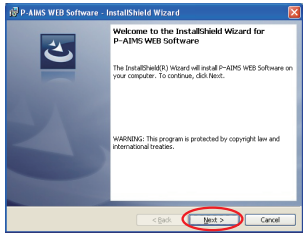


2. The InstallShield Wizard prepares to install the P-AIMS system.

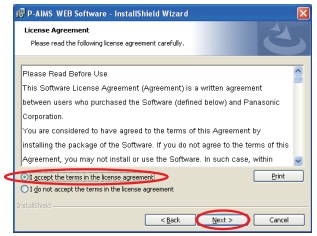


> * Keep the Product ID Issuance Certificate in a safe place. The Product ID is required to install the air-conditioning integrated system. The Product ID Issuance Certificate will not be reissued.

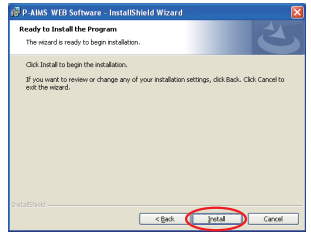
3. After a short while, the "The InstallShield(R) Wizard will install P-AIMS Web Option on your computer. To continue, click Next." message appears. Click the Next > button.



4. Next, the License Agreement screen appears. Carefully read the license agreement, and click "I accept the terms in the license agreement" if you agree to the terms of the license agreement.
   The Next > button becomes active.
   Click the Next > button. (The software cannot be installed if you do not agree to the terms of the license agreement.)



5. The “The wizard is ready to begin installation. Click Install to begin the installation.” message appears. Click the Install button.



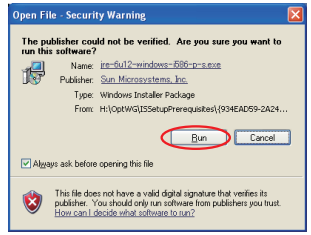
6. The installation of the P-AIMS system begins.

   Please wait a while.

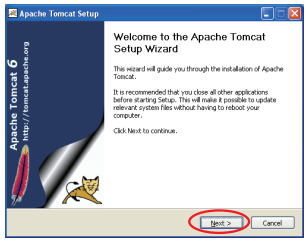


7. The Security Warning screen appears. Click Run.

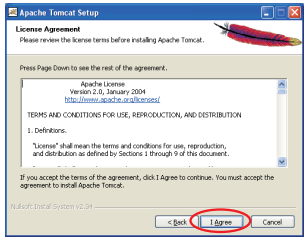
   This screen may not appear, depending on the computer setting. In that case, proceed directly to the next step.



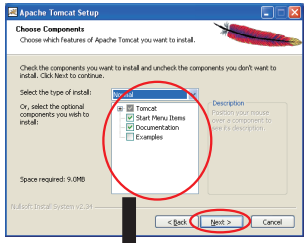
8. When the P-AIMS Web Software setup is finished, the Apache Tomcat Setup screen appears.
   Click Next >.

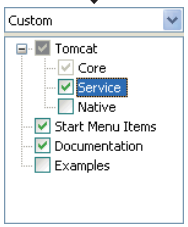


9. The setup screen inquires if you agree with the license agreement. Click I Agree.

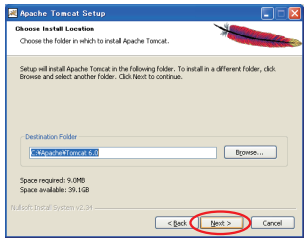


10. Change the Apache Tomcat component settings.
    Double click “Tomcat” to display functions of Tomcat. Click “Service” to add a checkmark.
    Click Next >.

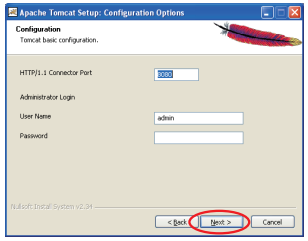




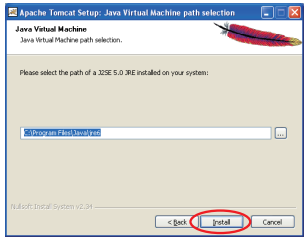
11. Use the default destination folder for Apache Tomcat installation.
    Click Next >.
    Note: Do not change the default destination folder. If it is changed, the Web Software will not operate properly.



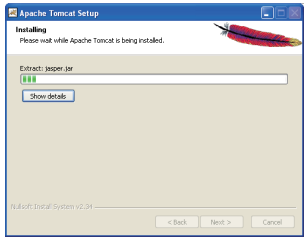
12. Also do not change the configuration setting.
    Click Next >.



13. Use the default setting for Java installation destination.
    Click Install.



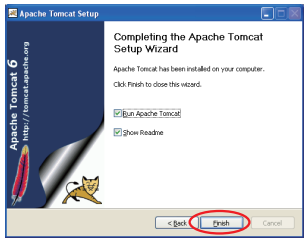
14. The installation of Apache Tomcat begins. Please wait a while.



15.When the Apache Tomcat installation is finished, the following checkboxes are displayed.

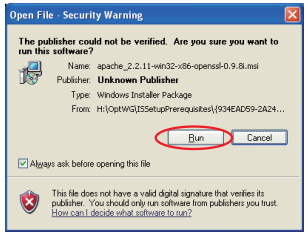
☐Run Apache Tomcat
☐Show ReadMe

Uncheck both of the checkboxes and click Finish.

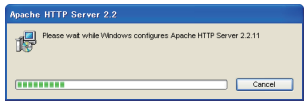


16.The Security Warning screen appears.
Click Run.

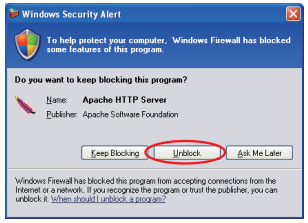
This screen may not appear depending on the computer setting. In that case, proceed directly to the next step.



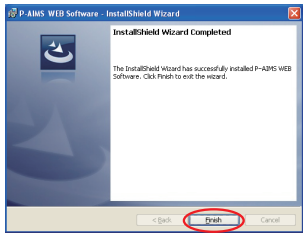
17.Apache HTTP Server is automatically set.



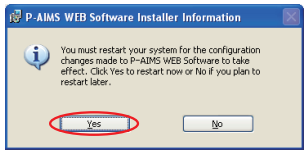
18.Windows Firewall inquires if you want to block Apache HTTP Server.
Click Unblock.
This screen may not appear depending on the computer setting. In that case, proceed directly to the next step.



19.The Web Software installation is complete.
Click Finish.



20.When the Web Software installation is complete, a screen prompts you to restart the system.
Remove the Web Software CD and click Yes.



* Caution
If you have not finished the firewall setting described in 7-1, perform the setting first and then restart the system.

7-3. Display after restart

When the system restarts, P-AIMS also starts. The Web functions are enabled and the Web menu item can be selected.



7-4. Settings

Once installation is complete, settings are required for "Web basic settings", "Web user registration", etc. Refer to the explanations in the corresponding sections for information on these settings.

For information on basic operations of the P-AIMS system, refer to the P-AIMS Basic Software operation manual.

7-5. WEB Software Pre-check Sheet

The P-AIMS system Web Software (P-AIMS Web Software) requires connection to an intranet or LAN. We need to check the user's personal computer (network) environment before installing the software.
Check the appropriate checkboxes and enter necessary information in the pre-check sheet below and send it to the Panasonic engineer in charge of test operation.

■ Requests
Do not connect to the network before the following settings are complete.
Use a Category 5(*) or higher LAN cable.

* One of the electric characteristic grades of communication cables standardized by the US Telecommunications Industry Association (TIA) and the US Electronic Industries Association (EIA). The Category 5(*) LAN cable is capable of data transmission up to 100MHz bandwidth.)

Take adequate security measures such as setting a firewall or installing antivirus software to protect the network from unauthorized external access.

The following environment is required to connect to the P-AIMS WEB Software from the Web browser on the customer's personal computer to operate the air conditioners. Check the applicable checkboxes.

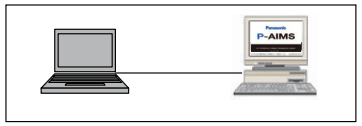
a ☐ Supported browser : Internet Explorer 6.0 or later
b ☐ Screen resolution : 1024 × 768 or more is recommended
c ☐ Communication protocol : IPV4 (IPV6 is not supported)

Proceed if all checkboxes are checked.

Network Connection Environment Check

(1) Does the P-AIMS Web Software connect to the personal computer for Web operation on a one-to-one basis?

"One to one"



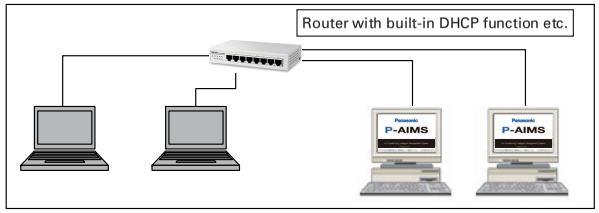
d ☐Yes →No information required in advance.
The Panasonic engineer in charge of test operation will make the settings during test operation.
e ☐No →Go to (2).

(2) Is the network that you would like to connect to an existing network?
f ☐Yes →Go to (3).
g ☐No →Go to (6).

(3) Is a DHCP server used?
h ☐Yes →Go to (4).
i ☐No →Go to (5).

Using the DHCP server

[Using the DHCP server]



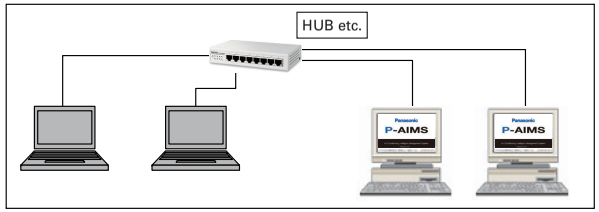
***Enter the device names that are set for the P-AIMS Web Software.**

(4) Device name for the P-AIMS Web Software
j [ ]

(5) If connecting to more than one P-AIMS system
k [ ]
[ ]
→Go to (7).

(6) Using a fixed IP address

[Using a fixed IP address]



***Enter the IP address that is set for the computer running the P-AIMS Web Software.**

IP address of the computer running the P-AIMS Web Software
l [ ]
If connecting to more than one computer running P-AIMS Web Software
m [ ]
[ ]
Subnet mask for the computer running P-AIMS Web Software
n [ ]
[ ]
Default gateway for the computer running P-AIMS Web Software
o [ ]
→Go to (7).

Is the network construction complete? (Responsibility of the user.)

p ☐Yes →Go to (3).

q ☐No →The user is responsible for the network construction. When the network construction is complete, go to (3).

(7) Would you like to use the function to send an email when an alarm occurs?

r ☐Yes →Go to (3).

s ☐No →That is all. We appreciate your cooperation.

Email Delivery Function Check

The P-AIMS Web Software incorporates a function to send an email when an alarm occurs. This function requires the following environment.

t ☐Mail transmission protocol:SMTP (Exchange Server is not supported)
If OK, go to (8).

(8) Do you have a contract for a mail server connection?

u ☐Yes →Complete the following.

Email delivery server address (SMTP)

v [ ]

Sender account name

w [ ]

Recipient account name 1

x [ ]

Recipient account name 2

[ ]

Recipient account name 3

[ ]

Thank you for your cooperation.

Glossary

- Intranet -
  In-house network constructed using standard Internet technologies such as TCP/IP communication protocol.

- LAN -
  LAN (Local Area Network) is an in-house communications network. It connects computers and devices such as printers in the same building using twisted pair cables, coaxial cables, or optic-fiber cables for data transmission.

- Internet -
  The Internet is a network of interconnecting networks that use Internet protocols.

- WAN -
  WAN is the abbreviation of Wide Area Network. This word is used as a contrast with LAN, which is constructed, managed, and operated by the user.

- Java Applet -
  Java Applet is a Java application loaded into a Web browser through the network and then implemented.

- Communication protocol -
  Set of protocols when computers communicate through a network. It is sometimes called the communication procedure or networking protocol.

- DHCP -
  A protocol that automatically assigns necessary information such as an IP address to a computer which temporarily connects to the Internet. Information such as Gateway server IP addresses, DNS server IP addresses, and IP address ranges that can be assigned to a subnet mask and client is set in the DHCP server. The DHCP server provides this information to a computer accessing the Internet via a dial-up connection or some other method. When the client ends communication, it automatically recovers the address and assigns it to another computer. DHCP allows users who are not familiar with network settings to connect to the Internet easily. It also allows the network administrator to easily manage many clients.

- Hub -
  Hub (networking device) - A device for connecting multiple network devices with cables when using Ethernet (10BASE-T, 100BASE-TX, etc.), USB, or IEEE 1394.

- Router -
  In the computer network a router is a communication device that relays and connects different networks. It has become widespread since TCP/IP was first used as a communication protocol.

- IP address -
  The IP address is a number for identifying the device that sends and receives packets. It is defined by the IP. It was originally used for the Internet in a limited sense, but is now also used for LAN as the Internet has become more widespread.

- Subnet mask -
  A subnet mask is a number for identifying the network address and host address in the IP address.

- SMTP Simple Mail Transfer Protocol -
  A protocol to send email. The protocol specification is defined by RFC821.

- Exchange Server -
  A mail server released by Microsoft.

◉ Account -
In the computer field, an account is the right to log into a specified domain (network or computer.)
A user indicates the user of a computer system.
An account assigned to a user is also called a "user account."
There are accounts for logging into a network and accounts for sending and receiving email.
A password is always associated with an account (ID). A user can log into the network or computer that he or she is authorized for by entering the account ID and password.
In some cases, this right (ID) and password together are referred to as an account.

User memo space

If you fill this out at the time of purchase, it is convenient when ordering repairs etc.

Serial No.	
Date of installation	
Dealer	Telephone No. ( )

5-1. Communication Adaptor / CZ-CFUNC2

■ Instructions for the Electrical Installer (CZ-CFUNC2)

For your safety

- Read the following instructions carefully, and carry out secure installation and electrical work.
- The precautions given in this manual consist of specific "Warnings" and "Cautions". They provide important safety-related information. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠ **Warning**	This symbol refers to a hazard or unsafe procedure or practice that can result in severe personal injury or death.
⚠ **Caution**	This symbol refers to a hazard or unsafe procedure or practice that can result in personal injury or product or property damage.

* After installation is completed, perform a test run to check for operating trouble. Explain operating procedures to the customer following the central control device Operation Manual and then request the customer to store this Instructions for the Electrical Installer together with the central control device Operation Manual.

⚠ Warning

- Be sure to arrange installation by the dealer where the system was purchased or by a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Be sure that this unit is securely installed in accordance with this Instructions for the Electrical Installer. Electric shock or fire may result if any installation or wiring procedures are incorrectly performed.
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual. Insufficient electrical circuit capacity or incorrect installation may cause electric shock and fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.
- Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.
- The installation location requires the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.
- Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations. The circuit breaker must be an approved 10-16 A, having a contact separation in all poles.

⚠ Caution

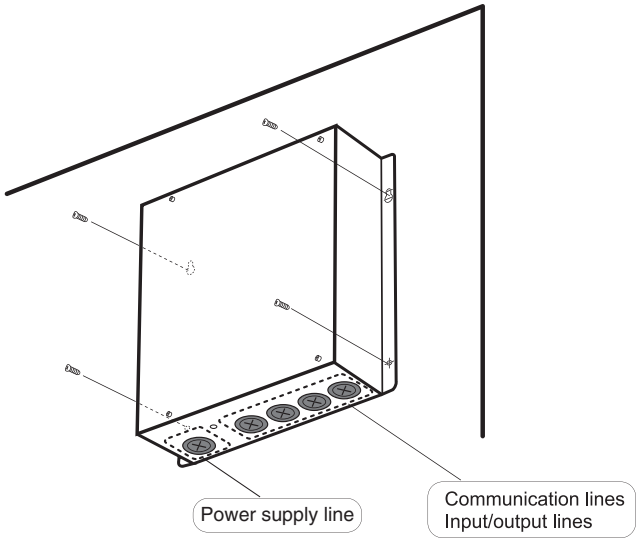
- Ground yourself to discharge static electricity before performing any wiring.

1 Installing

Note

- Do not run the indoor/outdoor communication lines, input/output lines, and power cables through the same conduit, or twist those cables together, or place the cables near one another. It can cause malfunction.
- Install the main unit away from any sources of electrical noise.
- Avoid installing in any locations where the unit may come into contact with water, or in any extremely humid locations.
- Avoid installing in any location that is subject to excessive vibration or physical impacts.

(1) After determining the attachment position, secure the installation hardware as shown in the dimensions diagram. If the included screws will not work for the installation, prepare appropriate screws (such as metric ones) for use at the site.
(2) Attach the main unit and fasten the installation hardware as illustrated.
(3) If the installation hardware is loose or appears like it will fall out, remove the upper case on the unit and secure with screws in the failsafe screw holes.

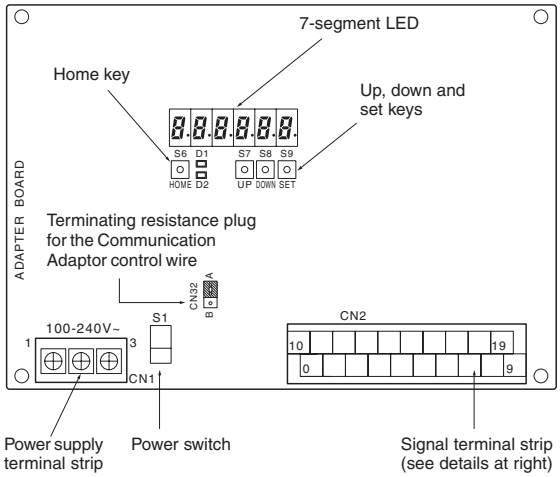


2 Wiring

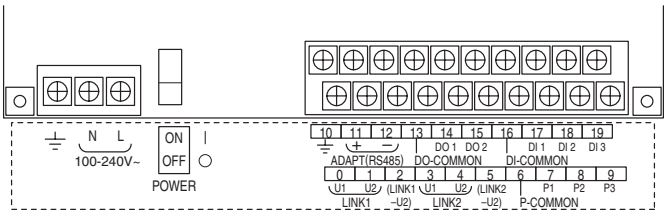
Always shut off the power supply (breaker) before installing or uninstalling the Communication Adaptor.
Remove the two screws at the front of the unit and remove the upper case.

Arrangement of the terminal board and switches

Detailed board illustration



Detailed terminal assembly illustration



ADAPT +/- :	Communication Adaptor control wire (RS-485)
LINK 1/2:	Inter-unit control wiring (HBS)
P1:	Pulse meter inputs (gas flow meter and fuel flow meter) (*)
P2 and P3:	Pulse meter input (power flow meter) (*)
DI1:	All stop input (*)
DI2:	All operation input (*)
DI3:	Reserved
DO1:	All alarm output (*)
DO2:	All operation output (*)

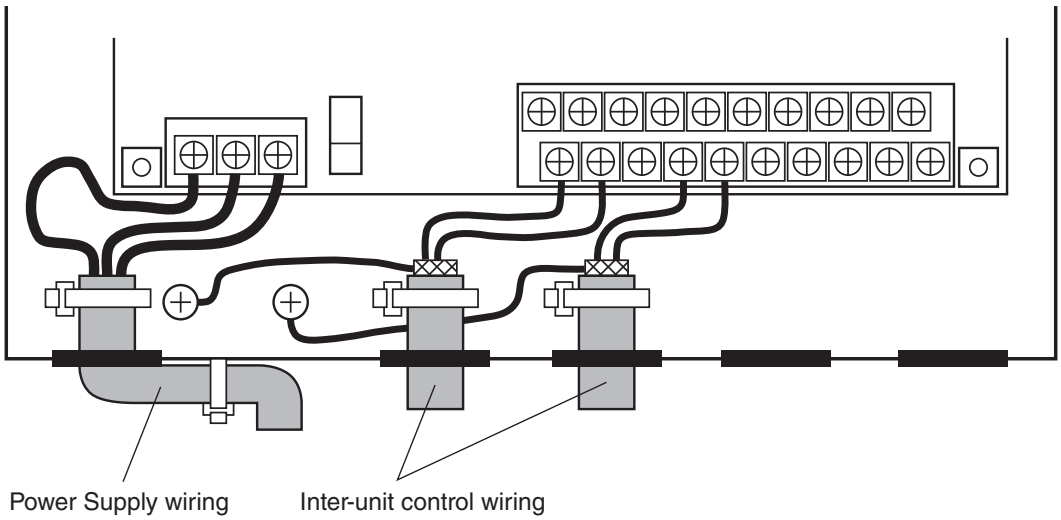
(*) Input/output function when connecting to the Intelligent Controller

(1) Connecting the power supply

The unit can use AC power sources between 100 and 240 V.
Connect the power supply to terminals 2 (N) and 3 (L) on the power terminal strip CN1. (Connect the AC neutral end to N.)
Connect the ground line securely.

(2) Connecting the communication line

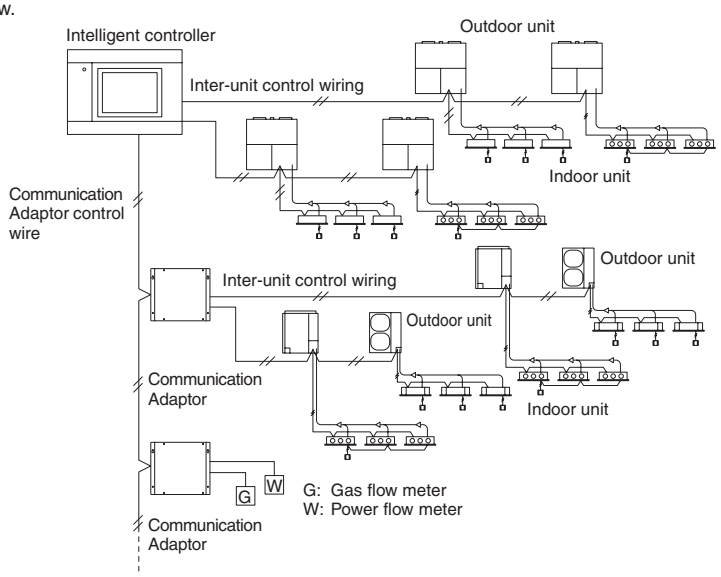
- For the Communication Adaptor control wires, use only two-conductor **shielded wire** with a cross-section between 0.5 and 2.0 mm^2 (MVVS or CPEVS).
- Be sure to ground only one end of the shielding.
- The overall length of each line should be 1 km or less.
- Do not run the communication line through the same conduit as the power supply, use the same cable as the power supply, or run close to the power supply line (maintain at least 30 cm separation).
- Do not run the LINK1 and LINK2 signal lines through the same conduit, use the same cable for wiring, or run them close together.
- Use different communication and power cables so they can be differentiated visually.



5. Control Adaptor

Basic wiring diagram (Example using an Intelligent Controller)

Wire up the Communication Adaptor control wire and Inter-unit control wiring as shown in the figure below.



Wiring procedure

- **Inter-unit control wiring**

  Use the shielded wire for inter-unit control wiring.
  Connect terminals 0 and 1 (LINK1) on the Communication Adaptor signal terminal strip CN2 to the inter-unit control wiring terminals of the indoor or outdoor unit. There is no polarity.
  If connecting two inter-unit control wiring systems, connect terminals 3 and 4 (LINK2) on CN2 in the same manner.

- **Communication Adaptor control wire**

  Connect terminals 11 and 12 (ADAPT + and -) on the Communication Adaptor signal line terminal strip CN2 with the same terminals on the other Communication Adaptor. **The terminals have polarity.** Connect so the positive and negative elements are correct.
  When connecting, **be sure to use crossover wiring, not a branching configuration.**

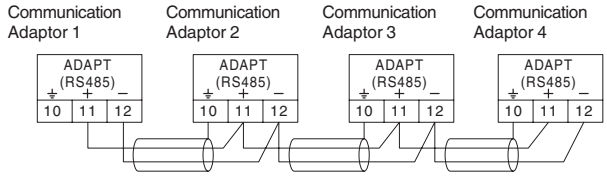
3 Precautions for the Communication Adaptor control wire

(Some items are duplicated in other sections.)

(1) The overall length should be 1 km or less.

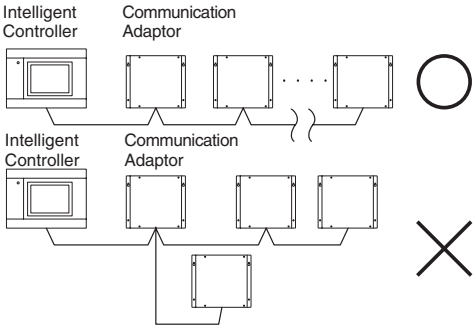
(2) The communication wire has polarity. Connect so the positive and negative elements are correct.

(3) Use only shielded wire. Be sure to ground only one end of the shielding.

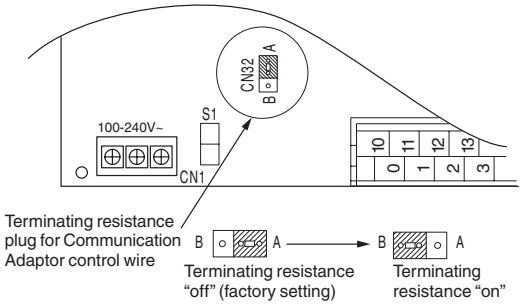


(4) Be sure to use crossover wiring, not a branching configuration.

* Connect the Intelligent Controller to the end of the crossover configuration.



(5) Change the terminating resistance plug CN32 to the “B” side (with terminal resistance) on the board for the Communication Adaptors (**2** of them) at both ends of the configuration.



(6) Do not hook more than 16 units up to the Communication Adaptor. The system you are using (such as an Intelligent Controller) may have further restrictions. Consult the installation manual for your system.

* The Intelligent Controller has a maximum restriction of seven units.

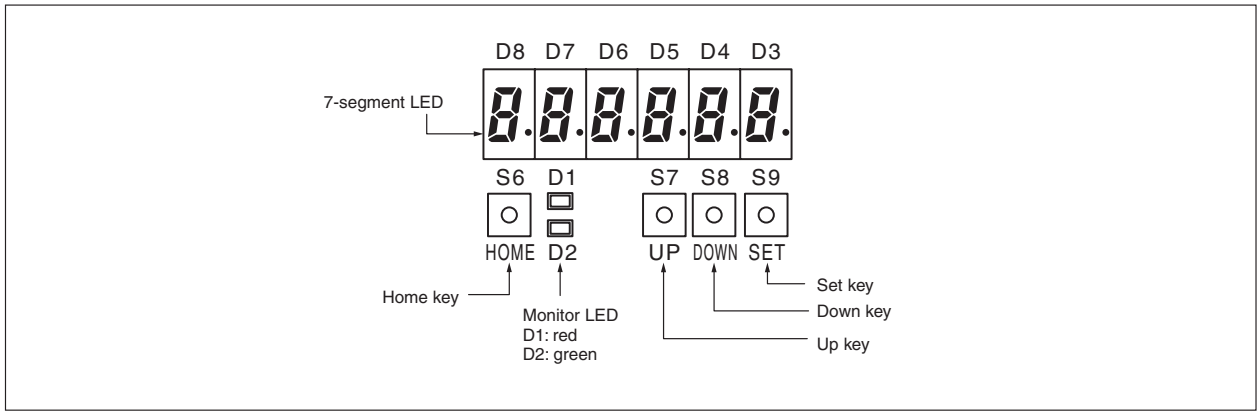
(7) Make sure that high voltage (ex. 230 V) AC lines are not connected to the Communication Adaptor control wire or the inter-unit control wiring terminals.

* If high voltage AC is accidentally applied to the inter-unit control wiring terminals, a fuse will blow to protect the controller board.
If this happens, disconnect the AC line, and connect the U2 terminal wire of the inter-unit control wiring to the spare terminal. (Do not change the U1 terminal wire.)
Spare terminals are located right next to U2.

Change terminal number 1 LINK1-U2
→ to terminal number 2 (LINK1-U2)
Change terminal number 4 LINK2-U2
→ to terminal number 5 (LINK2-U2)

4 Setting the Communication Adaptor board

The switches on the board control the adaptor numbers, turn the inter-unit control wiring connection on and off, and control other settings.

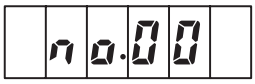


(1) Switch operation overview

Turn on the Power switch(S1) on the board.

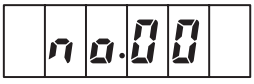
① Item selection
Use the UP and DOWN keys to find the desired item, then press the SET key to select.

② Changing the settings
Use the UP and DOWN keys to change the setting, then press the SET key to confirm.

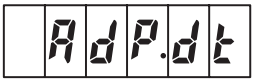
Hold down the HOME key for at least two seconds to reset to the default setting  (Any settings in progress will be lost.)

(2) Adaptor number setting procedure

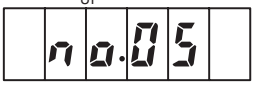
① Hold down the HOME key for at least two seconds so the initial display shows as follows:

 (no.00)

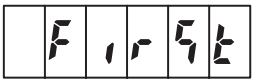
After 2 seconds

 (AdP.dt)

② Press the UP key five times so the following display appears:

 (no.05)

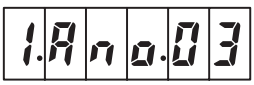
This automatically switches to the below display after 2 more seconds. (Operation is not necessary.)

 (FirSt)

③ Press the SET key so the below display appears. (Only the green monitor LED is on.)

 (1.Ano.00) (Factory setting)

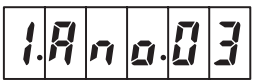
④ Hold down the SET key for at least 1 second so the “00” part blinks, indicating that the setting can be changed. (The green and red monitor LEDs are both on.)
Use the UP and DOWN keys to set the adaptor number.
For example, to set number 3, press the UP key three times. The following will display:

 (1.Ano.03)

⑤ Press the SET key for at least 1 second to confirm. (Only the green monitor LED is on.)

(3) Setting the inter-unit control wiring connection on/off

① Repeat steps ① to ③ in section (2) "Adaptor number setting procedure" above. The following will display:



(1.Ano.03) (When the adaptor number is 3)

② Press the [○ UP] key once so the following display appears:



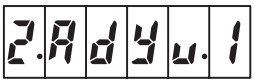
(2.Adyu.0) (Factory setting)

③ Hold down the [○ SET] key for at least 1 second so the "0" part blinks, indicating that the setting can be changed. (The green and red monitor LEDs are both on.)

Use the [○ UP] and [○ DOWN] keys to turn the inter-unit control wiring connection on or off as shown in the table below.

Setting value	Inter-unit control wiring connection
0	LINK1: On, LINK2: On (factory setting)
1	LINK1: On, LINK2: Off
2	LINK1: Off, LINK2: On
3	LINK1: Off, LINK2: Off

For example, to connect the inter-unit control wiring only to LINK1, press the [○ UP] key once. The following display will result:



(2.AdYu.1)

④ Press the [○ SET] key for at least 1 second to confirm. (Only the green monitor LED is on.)

(4) Other settings

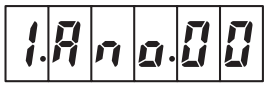
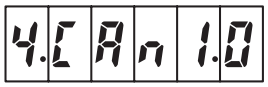
With the display status showing as in number ③ in section (2) "Adaptor number setting procedure", press the [○ UP] and [○ DOWN] keys to select the setting items shown in the table below. Set as needed.
The setting procedure is the same as above.
(Press the [○ SET] key for at least 1 second, press the [○ UP] and [○ DOWN] keys to change, then press the [○ SET] key at least one second to confirm.)

Note

① When configuring, do not set the same adaptor number more than once.
* Use numbers between 1 and 7 for connecting to an Intelligent Controller.
② Turn the inter-unit control wiring connection on/off as appropriate.
(Set to "Off" for LINKs with no connection.)
③ For connecting the inter-unit control wiring to only one link, use the "LINK1" side.

5. Control Adaptor

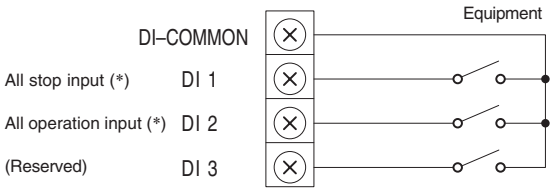
Table 3-2 Communication Adaptor setting items

	Display	Setting item (grayed in areas indicate factory setting)
	 (1.Ano.xx)	**[1] Adaptor number setting** xx = 00 to 15: adaptor number Sets the Communication Adaptor number. Set 1 to 7 for the Intelligent Controller, making sure the same number is not used twice. When actually communicating from a master system, the link system address LINK1 is 2n and LINK2 is 2n + 1, where n is the Communication Adaptor number. Thus, when the adaptor number is 2, the LINK1 address is 4 and the LINK2 address is 5.
	 (2.AdYu.x)	**[2] Inter-unit control wiring connection settings** x = 0: LINK1 on, LINK2 on x = 1: LINK1 on, LINK2 off x = 2: LINK1 off, LINK2 on x = 3: LINK1 off, LINK2 off Set so any LINK (inter-unit control wiring) connected to the air conditioner is “on”, and any LINK not connected is “off”. * For solo installation (pulse meter dedicated), use x = 3: LINK1 and 2 both set to off.
	 (3.Cont.x)	**[3] Base unit settings** Always use 0 (the initial value).
↑ DOWN UP ↓	 (4.CAn1.x)	**[4] Settings for the number of Communication Adaptor units in one link, part 1** x = 0 to 7 x = 0: First Communication Adaptor in the LINK1 link x = 1: Second Communication Adaptor in the LINK1 link x = 7: Eighth Communication Adaptor in the LINK1 link
	 (5.CAn2.x)	**[5] Settings for the number of Communication Adaptor units in one link, part 2** x = 0 to 7 x = 0: First Communication Adaptor in the LINK2 link x = 1: Second Communication Adaptor in the LINK2 link x = 7: Eighth Communication Adaptor in the LINK2 link Set the Communication Adaptor unit number for each LINK system when connecting multiple Communication Adaptors to one inter-unit control wiring.
	 (6.PUL.xx)	**[6] Minimum pulse input detection time setting** x = 03: 30 msec x = 10: 100 msec If connecting a pulse meter with a pulse width between 30 and 100 msec, set to 30 msec.
	 (7.LoCA.x)	**[7] Interface Adaptor connection settings** x = 0: LINK 1 on, LINK2 on x = 1: LINK 1 off, LINK2 on x = 2: LINK 1 on, LINK2 off x = 3: LINK 1 off, LINK2 off Set whether there is a Interface Adaptor (for turning off and on) for each LINK system. If the setting is “off”, startup will be faster as no Interface Adaptor detection is run.
	 (8.SCAn.x)	**[8] Initial communication setting** Always use 0 (the initial value).

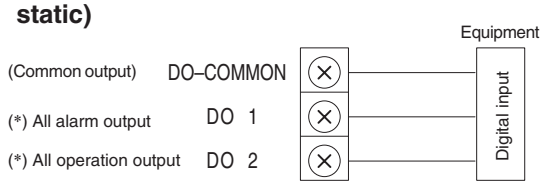
3

5 Connecting to external equipment

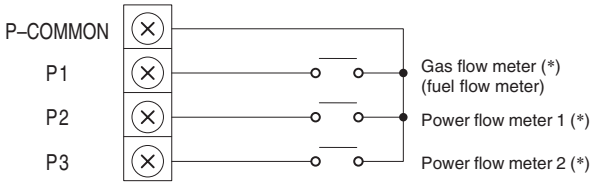
(1) External all input (No-voltage a-contact static)



(2) External all output (No-voltage a-contact static)



(3) Pulse meter input (No-voltage a-contact pulse)

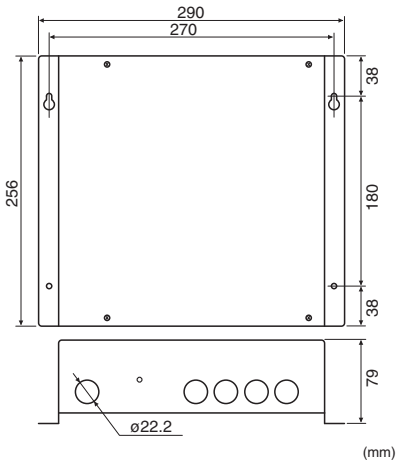


- Minimum pulse width: 100 msec
- Minimum pulse interval: 1 sec

(*) Input/output function when connecting to the Intelligent Controller

- Keep the signal input line lengths to 20 meters or less. For distances greater than this, install a standalone Communication Adaptor or use a relay.
- For use in areas that may be susceptible to electrical noise, use a two-conductor shielded cable (with one line grounded), with a cross-section at least 0.5 mm^2.
- Do not apply external voltages to the input terminals.
- About 10 mA of 5 V DC voltage is applied to the contact point for input terminal detection.
- The output terminal allowable contact voltage and current are 30 V DC and 0.5 A.

6 Outer dimensions



7 Specifications

Rated voltage	Single phase 100-240V~
Rated frequency	50/60 Hz
Power consumption	5.6 W max
Operating temperature	–10 to +50°C
Operating humidity	20 to 80% (no condensation)

Appendix A. Connecting to an Intelligent Controller

Before making the initial settings for the Communication Adaptor, check to ensure the below operations are complete.

(1) Is the air conditioner test operation complete?
(2) Is the wiring for the air conditioner and the Communication Adaptor complete?

To set, follow steps 1 to 5 below in sequence.

(1) Adaptor number setting

- **This is a required setting.**
- Set the address for the Communication Adaptor control wire.
  For the Intelligent Controller internal board, the address is 0. Set a value between 1 and 7 for the external adaptor, ensuring no value is used twice.
  Refer to the number (2) "Adaptor number setting procedure" in section 4 "Setting the Communication Adaptor board".
  * Refer to Table 3-2 [1].

(2) Inter-unit control wiring connection setting

- **This setting is required for two or more Communication Adaptors.**
- Two links can be connected to a Communication Adaptor.
  For links without an air conditioner or other such connection, set the LINK to "off".
- The Intelligent Controller can be connected to only four links that are set to be active.
  Refer to the number (3) "Setting the inter-unit control wiring connection on/off" in section 4 "Setting the Communication Adaptor board".
  * Refer to Table 3-2 [2].

(3) Number of Communication Adaptor units in one link setting

- **This setting is required only for using an Intelligent Controller in conjunction with a AMY Software.**
- When adding another Communication Adaptor to the inter-unit control wiring, the adaptor address for the added unit needs to be changed.
  * Refer to Table 3-2 [4] and [5].

(4) Minimum pulse input detection time setting

- **This setting is not required if pulse input (P1, P2, P3) is not used.**
- Use a pulse meter whose minimum pulse width is normally at least 100 msec.
  If and only if a pulse meter 30 msec or higher must be used, use this setting.
  * Refer to Table 3-2 [6].

(5) Interface Adaptor connection setting

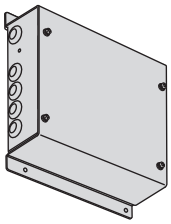
- By not using a Interface Adaptor, the configuration confirmation time can be shortened.
- **Not using this setting will not affect operation of the device.**
  * Refer to Table 3-2 [7].

Complete!

5. Control Adaptor

5-2. Cloud Adaptor / CZ-CFUSCC1

■ **Installation Instructions**



Panasonic

Installation Instructions
Cloud adaptor

Model No. **CZ-CFUSCC1**

Safety Precautions

Please Read Before Starting

This controller must be installed by the sales dealer or installer. These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

⚠ WARNING This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

⚠ CAUTION This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This controller shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this controller, provide the Installation Instructions to the servicing personnel.

⚠ WARNING

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death.**
- This controller is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
  Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.
- Provide a power outlet to be used exclusively for this controller.
- Turn off the circuit breaker of the controllers before installation.
- Do not supply power to the controller until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clamper so that the power supply terminal board is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the controller must be grounded. ⏚
- Select an installation location which is rigid and strong enough to support or hold the controller, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances. Modified or disassembled controller may cause fire, electric shock or injury.
- Do not clean inside the controller by users. Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.

⚠ CAUTION

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the controller at the following locations.
  - Areas where leakage of flammable gas may be expected
  - Places where large amounts of oil mist exist
  - Locations where external air may enter the room directly (This may cause “condensation”.)
  - Locations where high-frequency emissions are generated
  - Locations where voltage fluctuation frequently occurs
- Do not wash with water.

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Panasonic Corporation
http://www.panasonic.com

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Specifications

Model No.	CZ-CFUSCC1
Dimensions (mm)	<H> 255 × <W> 275 × <D> 80
Weight	1.9 kg
Temperature/ Humidity range	0 °C to 40 °C / 20 % to 80 % (no condensation)
Rated voltage/ Rated frequency	Single phase 100-240 V ~ 50/60 Hz
Power consumption	Max. 15 W
Number of connectable units	Indoor unit - Up to 64 units per link* Outdoor unit - Up to 30 units per link

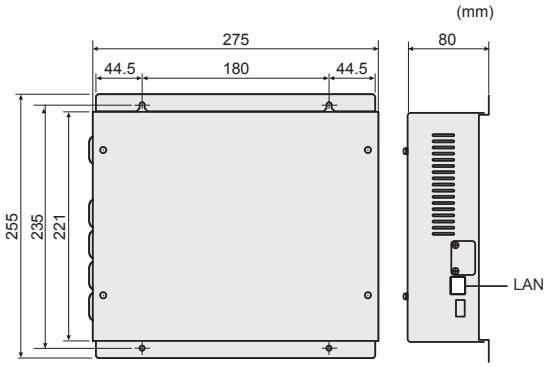
*: The number of indoor units includes the Interface Adaptor.

Supplied accessories

Installation Instructions (1)	License List Disc (1)

* Wiring are not included (field supplied item).

Dimensions (Part Names)



Caution for Network Connection

When connecting to Internet, implement security measures against illegal access from outside.
For detailed connection and setup method, consult the network administrator.

Installation Precautions

● Installation Location

- Avoid the following locations for installation.
  - Under direct sunlight
  - Location near heat source
  - Location where the controller will be splashed with water or affected by dampness or humidity
  - Uneven surface
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller away from any sources of electrical noise.
- Install the controller at a location with suitable temperature and humidity for using.

● General Precautions on Wiring

- Regulations on wire diameters differ from locality to locality.
  For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning.
  You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)
- Do not bury the wiring in the ground.
- Do not store the power supply wiring and other wiring in the same metal tube or bundle them together. (An operational error from noise may occur.)

Symbols on the controller

This symbol refers to “Protective earth”.

This symbol refers to “Caution of Electrostatic”.

This symbol refers to “ON (power)”.

This symbol refers to “OFF (power)”.

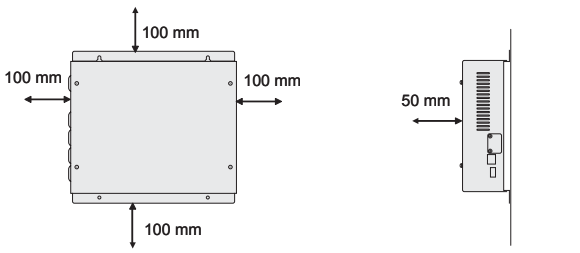
5. Control Adaptor

Mounting

● Mounting Position

Secure space as shown below when mounting 2 or more of this controller or mounting other devices side by side.

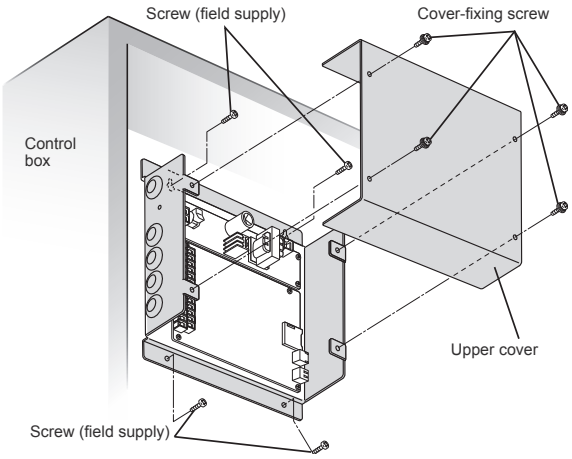
Up, down, left and right direction: 100 mm or more	Front: 50 mm or more



● How to Mount (Control Box)

1. Attach the controller to the control box so that the wiring can be taken out from the left side. (See the illustration below.) (Screws (field supply): 4)
   • Tighten the screw securely.
2. Remove the upper cover. (Cover-fixing screws: 4)

● After the connection and setting (pages 4 to 10) are complete, attach the upper cover. (Cover-fixing screws: 4)



Wiring

● Power Supply Wiring

- Be sure to use a dedicated line for power source.
- Be sure to earth this controller.
- Do not connect the earth wiring to those of gas pipe, water pipe, lighting rod, telephone, etc.

● Type of wiring
- Use a flexible wiring of 2 mm² (Recommended).
- Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).

● Total Wire Length
30 m or less

● Inter-Unit Control Wiring

● Type of wiring
- Use a flexible shield wiring of 0.5 to 2 mm².

● Total Wire Length
1000 m or less

● Number of connectable units and devices (Up to total of 100 units and devices can be connected.)

Indoor unit	Up to 64 units per link *
Outdoor unit	Up to 30 units per link
Central control device	Up to 10 units

*: The number of indoor units includes the Interface Adaptor.

● External I/O Wiring

● Type of wiring
- Use a flexible wiring of 0.5 to 2 mm².

Attention
- When using the controller at a location susceptible to noise, use a shield wiring.

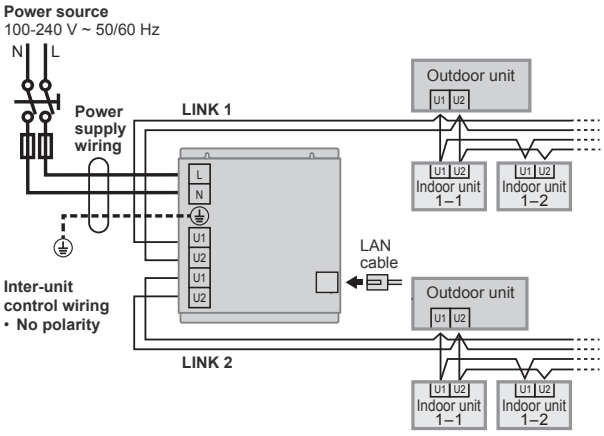
● Total Wire Length
20 m or less

● LAN Cable

● Type of wiring
- Category 5 or above straight cable

● Total Wire Length
100 m or less

● Basic Wiring Diagram

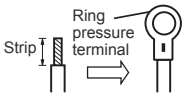


Wiring (continued)

Before connecting the wiring, be sure to turn the circuit breaker off. After all wiring arrangements are complete, turn the circuit breaker on. If the power supply wiring is mistakenly connected to a terminal board other than the power supply terminal board, the devices to be connected to this controller or this controller will malfunction. After connecting the wiring, confirm that the power supply wiring is properly connected.

● How to Attach the Ring Pressure Terminal

● For power supply wiring
- Process the end of each wiring, and attach the ring pressure terminal (field supplied item).

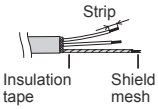


● For shield wiring
- Process the end of the each wiring, and attach the ring pressure terminal (field supplied item).

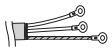
① Remove wiring coat.



② Cover with the tape.

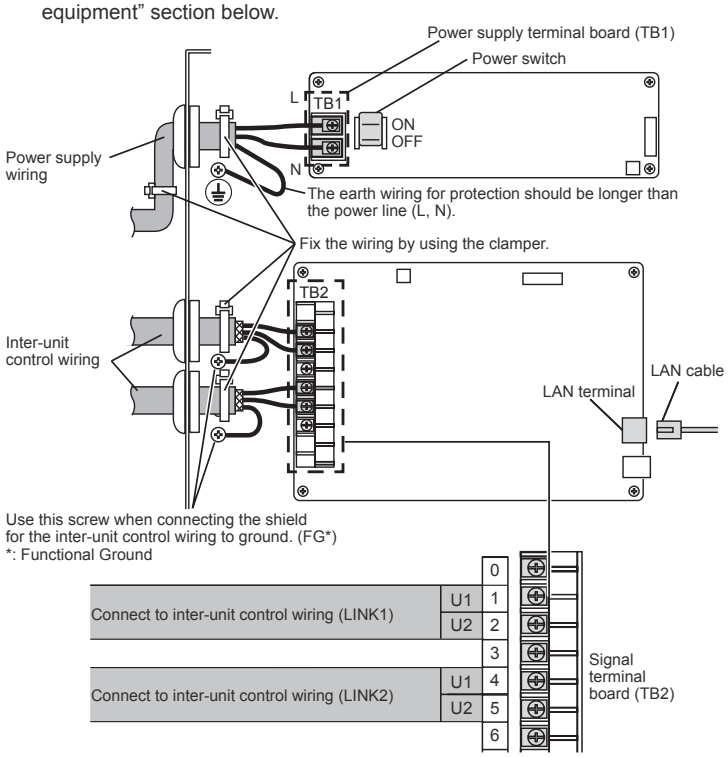


③ Attach ring pressure terminal.

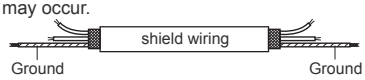


● Connecting Wiring

- When connecting external equipment, refer to the “Connecting to external equipment” section below.



Attention
- Ground the shield on both sides of shield wiring, otherwise an operation error from noise may occur.



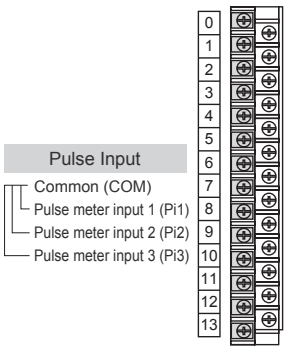
- Do not run the inter-unit control wiring through the same conduit as the power supply wiring, or run close to the power supply wiring (maintain at least 30 cm separation).
- Use different inter-unit control wiring and power supply wiring so they can be differentiated visually.

Connecting to External Equipment

● Outputs of Pulse meter (Gas meter, Power meter and Heat meter) can be input to signal terminal board.
● Keep the external I/O wiring lengths of 20 meters or less. If a longer length is needed, use a relay.

Controller side		External equipment side		
Condition	Terminal name	Terminal	Circuit example	Condition
Non-voltage contact “a” Pulse • Contact allowable voltage : DC5 V±10 % • Contact allowable current : Max. 10 mA	Common (COM) Pulse meter input 1 (Pi1) Pulse meter input 2 (Pi2) Pulse meter input 3 (Pi3)	7 8 9 10	COM	• Pulse width : 30 msec or more / 100 msec or more • Pulse interval : 1 sec or more

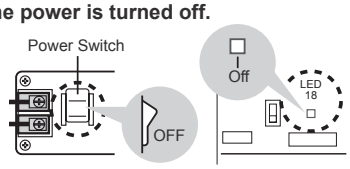
Signal terminal board (TB2)



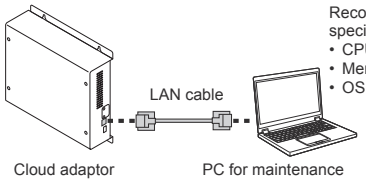
Setting

Preparation before Setting

1 **Confirm the power is turned off.**

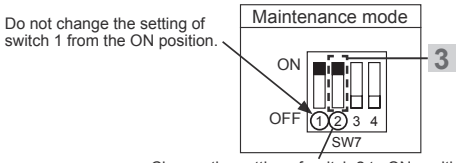


2 **Using the LAN cable, connect the PC for maintenance directly to the cloud adaptor.**

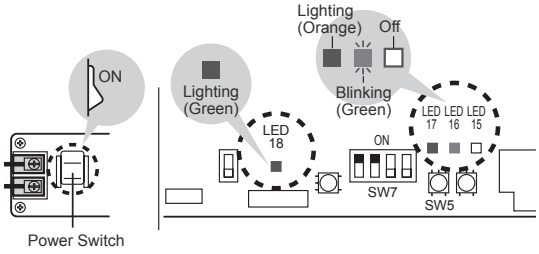


Recommended PC specifications
- CPU: Core i5 2.0 GHz
- Memory: 4G
- OS: Windows 7/8.1

3 **Using the DIP switch, set the mode of the cloud adaptor to the maintenance mode.**



4 **Turn the power on.**
- Confirm that the Orange LED (LED 17) is lighting, Green LED (LED 16) is blinking at a slow speed, and the Green LED (LED 18) is lighting.



■ **If the Orange LED (LED 17) does not light and the Green LED (LED 16) does not blink at a slow speed.**
Refer to the “Test Operation” section (page 11).

5 **Start up the PC, and set if the network settings as follows.**

IP address	192. 168. 1. 100
Subnet mask	255. 255. 255. 0
Default gateway	192. 168. 1. 254

6 **Enter the following URL in the Web browser, and access the cloud adaptor.** http://192. 168. 1. 1/

Recommended Web browser specifications
- Internet Explorer (IE) 11

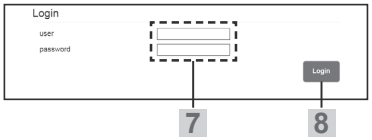
- The login screen appears.



■ **If the login screen does not appear**
Check if the LAN port LED on the PC is blinking.
Not blinking
→Connect the LAN cable correctly.
Blinking
→Check the settings in step 5.

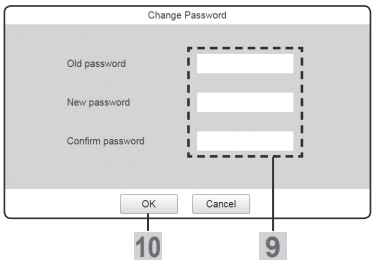
7 **Enter the user name and password shown below.**
- user : ca_user
- password : KYJN2015ca

8 **Press** Login .



Note
- If you fail to login 10 consecutive times, login operation will be disabled for 30 minutes.
- If no operation is performed for 30 minutes, the login screen will appear at the next operation.

9 **Enter the current (old) password and new password (twice).**
- Change the password to the one actually used.



10 **Press** OK .

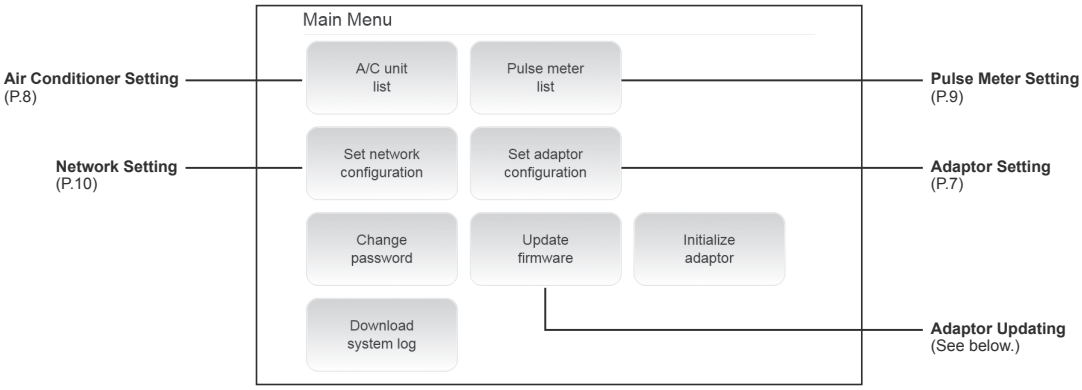
■ **To cancel**

Press Cancel .

Setting (continued)

Indoor unit (I/D) and Outdoor (O/D) unit are included in Air conditioner (A/C unit).

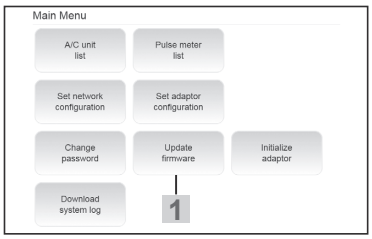
The setting contents described on pages 6 to 10 can be set on the main menu.



Adaptor Updating

If the latest firmware of the cloud adaptor is available, store the FW (firmware) file on the PC for maintenance and update the cloud adaptor.

1 **Press** Update firmware .



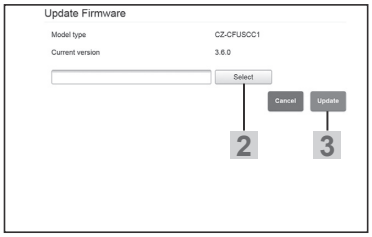
2 **Press** Select .

- Select the FW (firmware) file on the PC using the file selection dialogue. Its path is displayed in the text box.

3 **Press** Update .

(The adaptor updating is started.)

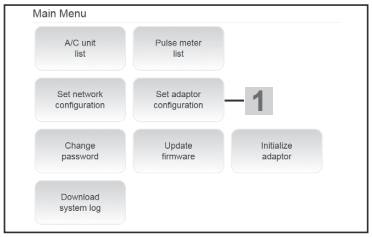
- To cancel it during update, press [Cancel] on the progress screen.
- Approx. 2 minutes after completing update, the login screen is automatically displayed. Log in again to move to the next step.



5. Control Adaptor

Adaptor Setting

1 **Press** Set adaptor configuration **.**



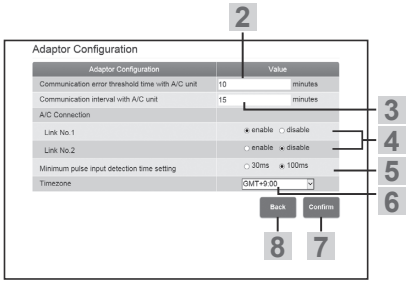
2 **Enter the time for the cloud adaptor to determine the communication with the air conditioner has failed.**
(Possible input range: 5 to 99 minutes)

3 **Enter [Communication interval with A/C unit].**
(Possible input range: 5 to 99 minutes)

4 **Select either [enable] or [disable] for [Link No.1] and [Link No.2] respectively.**

5 **Select [Minimum pulse input detection time setting].**
(30ms,100ms)

6 **Select [Timezone].**
(1-hour increments: -12:00, ⋯, +14:00)



7 **Press** Confirm **.**

(The adaptor setting is stored.)

■ **To cancel**

Press Back

- If the setting items are changed, press [Yes] to cancel on the confirmation screen and return to the main screen.

8 **Press** Back **.**

(The main menu is displayed.)

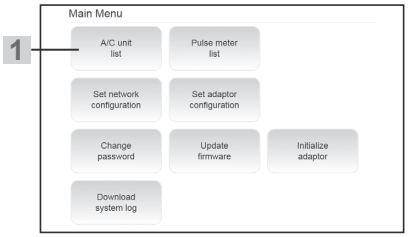
3

Setting (continued)

Air Conditioner Setting

1 **Press** A/C unit list **.**

When “Now initializing. Please wait.” is displayed, wait for the A/C unit list to be displayed.



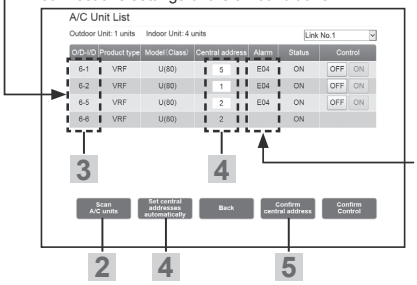
2 **Press** Scan A/C units **.**

(Air conditioners connected to the cloud adaptor are detected, and the A/C unit list is updated.)

- The following message is displayed if abnormality is found on the air conditioner.
  Confirm the message, and press [Close].
- Scan the A/C units again after fixing the abnormality.

Message	Meaning
ODU missing	The outdoor unit for refrigerant system of the indoor unit is missing.
ODU main unit missing	The outdoor sub unit without the main unit is found.
IDU main unit missing	The indoor sub unit without the main unit is found.
Central address duplicate	Central address is duplicated.
Scan Time Out Error	A time-out occurred while scanning.

If the red characters are displayed, confirm and adjust the connections/settings of the air conditioner.



An alarm that has occurred on the indoor unit is displayed. (This screen is updated every 10 seconds.) If the alarm code is related to the configuration error, check and fix the connections/settings of the air conditioners.

3 **Check if the connected indoor units are all displayed, and confirm that the number of the connected outdoor units and the number of detected units correspond with each other.**

■ **If some of the indoor units are not displayed/ unexpected indoor units are displayed.**
Check if wiring is properly done, or the address setting for air conditioners is correct.
→After correction, redo from step 2.

4 **Enter the central address.**

■ **To assign manually**
Select the central address text box of the indoor unit on the [A/C Unit List] screen, and enter it.

■ **To assign automatically**
Press Set central addresses automatically **.**

(Values that have been unused within the same link no. are input in the blank field in ascending order.)

5 **Press** Confirm central address **.**

(The input central address is applied to all the indoor units.)

Attention

- Be sure to set the central address for the indoor unit to control and monitor using the cloud adaptor.

Note

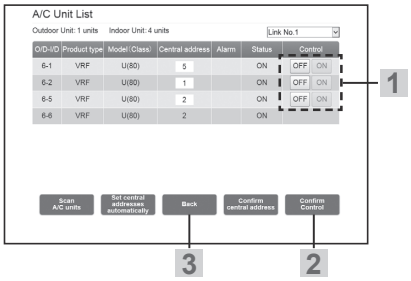
- If the text box is blank or any duplication is present between main indoor units, an alarm is displayed.

Air Conditioner Test Operation

1 **Check if** ON **and** OFF **properly work.**

2 **Press** Confirm Control **.**

- Check if pressing the button switches the ON/OFF display in the control field of the corresponding indoor units and the ON/OFF operation of the actual indoor units.
- Check all the indoor units for proper operation.
- Check the status while communicating over a radio device with the PC operator.



3 **Press** Back **.**

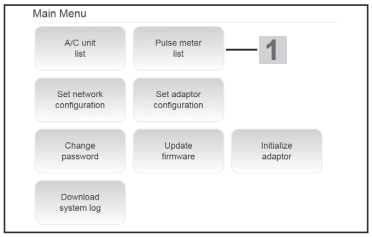
- The main menu is displayed.
- If [Confirm central address] button is not pressed after changing the central address, a confirmation screen is displayed.
  →Selecting [YES] discards the changed contents.

3

Pulse Meter Setting

1 **Press** Pulse meter list **.**

(The ports that can be set are displayed.)



2 **Set [Meter type].**

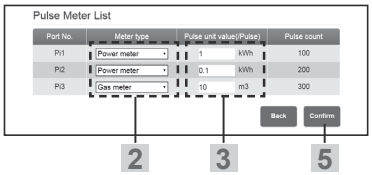
3 **Set [Pulse unit value (/Pulse)].**

4 **Repeat steps 2 to 3 for all of the ports.**

5 **Press** Confirm **.**

(The changed settings are enabled. (Setting complete))

- If Confirm is not pressed after changing the pulse meter a confirmation screen is displayed.
  →Selecting [YES] discards the changed contents.



Attention

- Please take note of the input contents displayed when the confirm button is pressed.

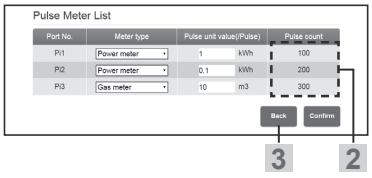
Pulse Meter Test Operation

1 **Remove one end of the wiring connected to the pulse meter.**
(Do not remove the other end connected to the cloud adaptor.)

2 **Short-circuit at the pulse meter side using wire, etc., and check if the number of pulses of the corresponding port increases each time it is short-circuited.**

Note

- While short-circuiting, communicate over a radio device with the PC operator.



3 **Press** Back **.**

(The main menu is displayed.)

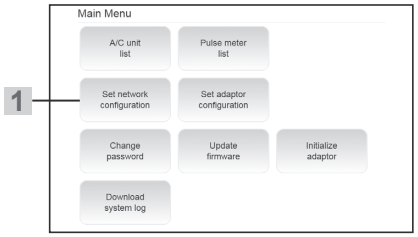
4 **Restore one end of the wiring connected to the pulse meter.**

Setting (continued)

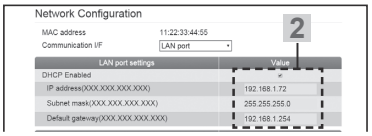
Network Setting

1 **Press** Set network configuration .

- Make the setting according to the cloud adaptor setting instructions.



2 ■ **When DHCP is used in the network environment**
Add a check mark for [DHCP Enabled].
■ **When other than the above**
Remove the check mark for [DHCP Enabled], and enter IP address, Subnet mask and Default gateway of the cloud adaptor.

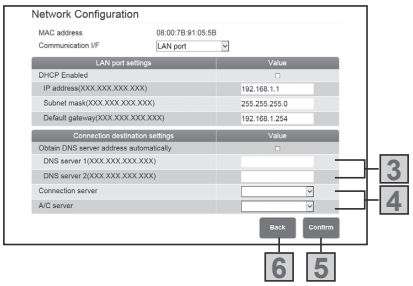


3 ■ **When the DNS server information can be automatically obtained in the current environment**
Add a check mark for [Obtain DNS server address automatically].
■ **When other than the above**
Remove the check mark for [Obtain DNS server address automatically], and enter the IP address of DNS server 1 and DNS server 2.

4 **Select [Connection server] and [A/C server].**

■ **To cancel**
Press Back .

- If the setting items are changed, press [Yes] to cancel on the confirmation screen and return to the main screen.



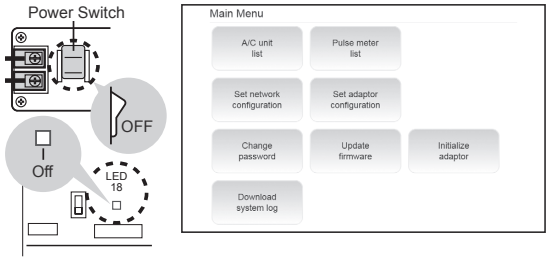
5 **Press [Confirm] .**
(The setting items are stored.)

6 **Press** Back .

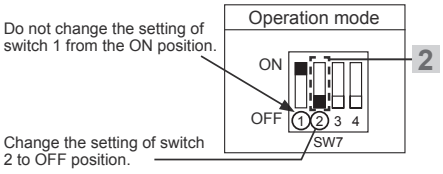
(The main menu is displayed.)

Preparation before Operation

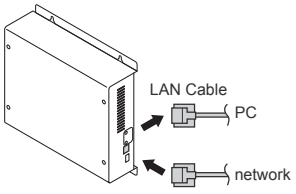
1 **Turn off the power switch while the main menu is displayed.**



2 **Using the DIP switch, set the mode of the cloud adaptor to the operation mode.**



3 **Remove the LAN cable from the cloud adaptor, and connect the other to the network.**

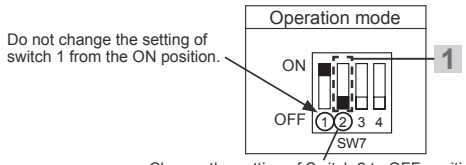


3

5. Control Adaptor

Test Operation

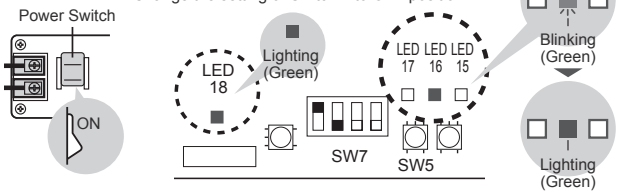
1 **Confirm that the DIP switch is in the operation mode.**



2 **Turn the power on.**

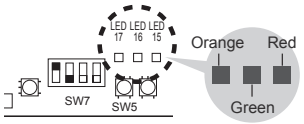
- Make sure at least 30 seconds have passed after power-off. Then, turn the power on.

When the green LED (LED16) changes from blinking to lighting,
the set up procedures are complete.



Self-diagnostics table and detected contents

- Blinking or lighting pattern table (LED 15 to 17)
  Check the table below and Service Manual.



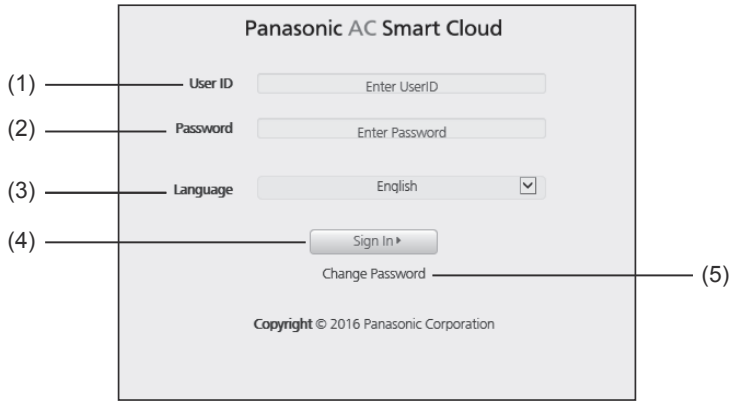
■ Lighting
■ Blinking slow (once per about 2 seconds)
■ Blinking fast (once per about 1 second)
□ Off

LED	Status and Solution	LED	Status and Solution
■ ■ □	**The cloud adaptor is in the maintenance mode.** (page 10) →After maintenance, change it to the operation mode.	■ ■ □	**Updating the firmware.** →Wait until the firmware is completely updated.
■ ■ ■ ■ ■ ■	**Communication failure (Both Link 1 and 2)** →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Both Link 1 and 2)	□ ■ □	**Initializing.** →Wait until the initialization is completed. When the initialization is not completed by 40 minutes after connecting the network, contact our sales/service outlet or your certified dealer for additional instructions.
□ ■ ■ □ ■ ■	**Communication failure (Link 1 only)** →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Link 1 only)	■ ■ □	**Communication is prohibited.** →When the maintenance work is done for air conditioners, press the communication prohibition button (SW5).
■ ■ ■ ■ ■ ■	**Communication failure (Link 2 only)** →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Link 2 only)	■ ■ ■	**The authentication information cannot be updated.** →Contact our sales/service outlet or your certified dealer for additional instructions., and check if the authentication information has been registered.
□ ■ ■	**Network connection failure** →Restart the cloud adaptor in the maintenance mode, and check if the network settings are correct. (page 10)	□ ■ □	**The service has not started yet.** →If this blinking pattern is observed even after the scheduled service start date, contact our sales/service outlet or your certified dealer for additional instructions.
□ □ ■	**Internal failure has occurred.** →Turn the cloud adaptor off, and contact our sales/service outlet or your certified dealer for additional instructions.		
■ □ ■	**Memory card failure** →Turn the cloud adaptor off, and contact our sales/service outlet or your certified dealer for additional instructions.	□ ■ ■	**Configuration error of the air conditioner or the cloud adaptor** →Check the following, and scan the A/C units again. • Are the number of the indoor/outdoor units, address, main-sub relationship, and the central address correct? • Is the adaptor configuration correct?

3 **Attach the upper cover to the cloud adaptor.** (page 3)

Starting Panasonic AC Smart Cloud

Launch your Web browser and enter the specified URL to display the login screen.
(https://ac.smartcloud.panasonic.com/)
You must enter a password to log in to Panasonic AC Smart Cloud.
Enter a user ID and password. If the language in the Language field is incorrect, change the language.
If you forget your password, contact our sales/service outlet or your certified dealer.



(1)	User ID	Enter a user ID.
(2)	Password	Enter a password. If the password is entered incorrectly 10 times, the Password entry field is locked for one hour, and password cannot be enlarmtered. The lock is removed after one hour.
(3)	Language	Select a language. (English, Italian, German, French, or Spanish)
(4)	Sign In	After entering the user ID and password, click this button to log in.
(5)	Change Password	Change the password. The effective period for a password is 60 days. It is necessary to change the password periodically.

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RAC Interface Adaptor (CZ-CAPRA1)

ENGLISH

About This Adaptor

■ Overview

This adaptor serves as an interface required to connect a central control device such as an intelligent controller with a room air conditioner. Using this adaptor can operate or monitor the room air conditioner from the central control device. Panasonic room air conditioners equipped with the CN-CNT terminal are supported.

■ Features

- The following operations from the central control device can be performed.
- Operations to start/stop the room air conditioner, switch the operation mode, and set the temperature, fan speed and fan direction (up/down).
- Monitoring the operation status and abnormality of room air conditioner.
- Prohibiting the remote control operation of room air conditioner
  - When the prohibition setting of the remote controller is set, all operation by the user is prohibited. Make the air conditioner setting by the central control device with due consideration about the ambient situation.
- Using ON/OFF contact of external connection can start/stop the room air conditioner, prohibit/permit the remote control operation, and perform the emergency stop. A coin timer or card key can also be connected.
- Retrieving the operation signal or abnormal signal of room air conditioner (An external power source (DC12V) is separately required).

■ Restricted matters for controlling the room air conditioner from the central control device

- The group control is not possible.
- The energy-save function, quiet operation function and demand function cannot be set.
- The outdoor unit status, and the fan or sensor status of indoor unit cannot be monitored.
- Room air conditioner-specific functions (iAUTO-X, NANOE-G, MILD DRY, POWERFUL, QUIET, AIR SWING (◄/►) etc.) cannot be set.
- Room air conditioner-specific functions may be cancelled by operating the central control device.

■ Capacity setting on the central control device side

When calculating the proportional distribution on the central control device, set the capacity of the room air conditioner on the central control device side.

■ Alarm indications

If an abnormality is detected by this adaptor, any of the following alarms is displayed on the central control device.

- C14: An alarm has occurred on the room air conditioner
  For details of the alarm, check the operating instructions of the room air conditioner.
- C15: Abnormal communication between this adaptor and room air conditioner
  Check the wiring condition.
- C19: Duplication of the adaptor address
  Set the address switch not to duplicate the adaptor address.

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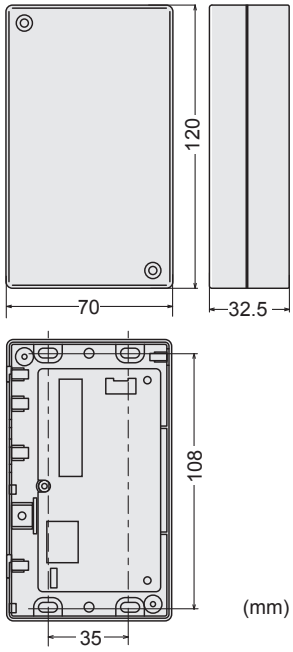
Specifications

Model No.	CZ-CAPRA1
Dimensions (H × W × D)	120 x 70 x 32.5 (mm)
Weight	130 g
Temperature/ Humidity range	0 ˚C to 40 ˚C / 20 % to 80 % (no condensation) *Indoor use only.
Power Source	DC12 V (supplied with room air conditioner)

Supplied accessories	
RAC connection wiring (1) 5P White 4P Red Length: 1.9 m	Screw (4) M3.8 x 16
Clamper (3)	Installation Instructions (1)

Dimensions



*Wirings other than the RAC connection wiring are not included (field supplied item).
*When outputting the operation status or alarm status, a 12 V DC external power source for relays is required (field supplied item).

Installation Precautions

■ Installation Location

- Avoid the following locations for installation.
  - Location where the controller will be splashed with water or affected by dampness or humidity • Under direct sunlight • Location near heat source • Uneven surface
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller away from any sources of electrical noise.
- Install the controller at a location with suitable temperature and humidity for using.

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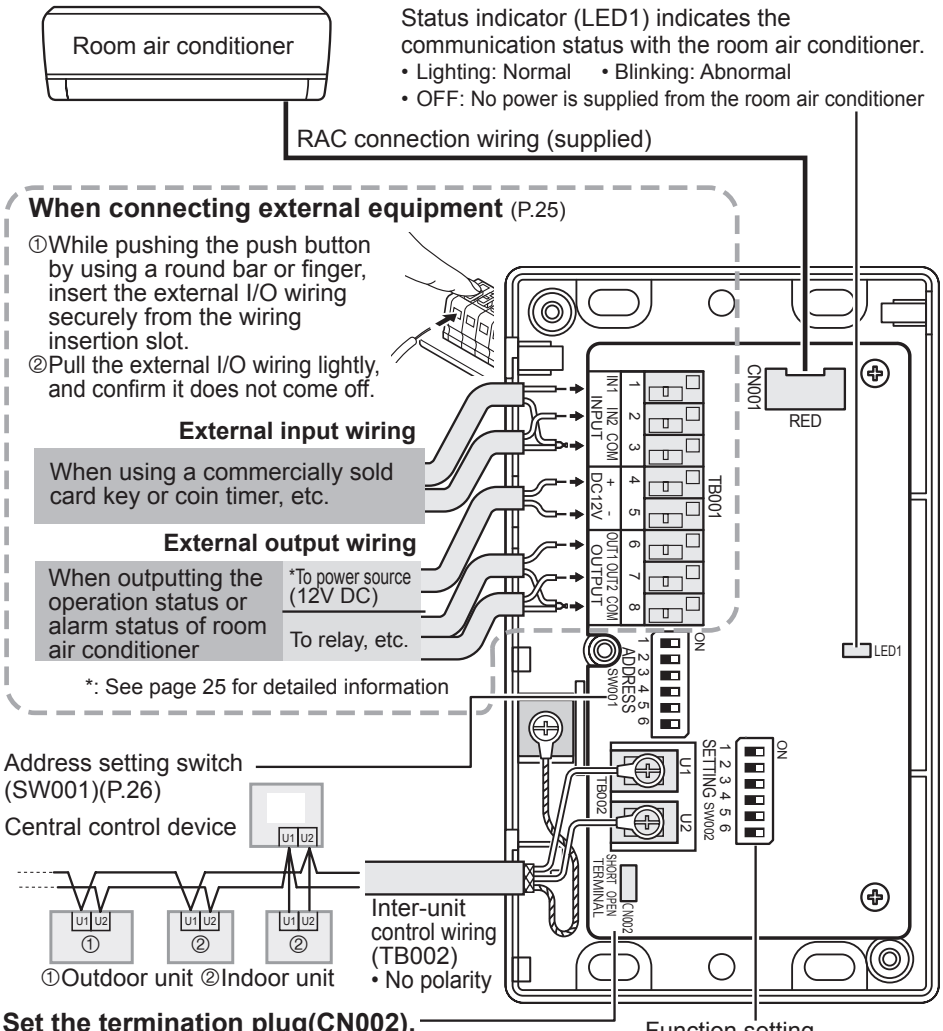
Basic Wiring Diagram



Be sure to set the termination plug.

① If using one outdoor unit, set the termination resistor to SHORT at one location. If using more than one outdoor unit, set it to SHORT at two locations.
*The termination plug can be set using this adaptor or the control board of outdoor unit.

② When setting using this adaptor, set the plug to "Termination resistor SHORT" as shown at right.
*No setting is required for the outdoor unit for room air conditioner since it has no termination plug.

*Depending on the system to configure, the inter-unit control wiring may not be connected to this adaptor, however, set the termination resistor of this adaptor to SHORT to ensure the stable operation of this adaptor.

Mounting and Wiring

■ General Precautions on Wiring

- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)

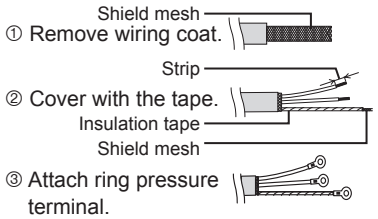
■ Inter-Unit Control Wiring

- Type of wiring
  Use a flexible shield wiring of 0.5 to 2 mm^2.
- Total wire length:1000 m or less
- Number of connectable units and devices
  (Up to total of 100 units and devices can be connected.)

Indoor unit	Up to 64 units*
Outdoor unit	Up to 30 units
Central control device	Up to 10 units

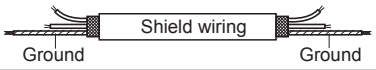
*: The number of indoor units includes the Interface Adaptor and this adaptor.

- Attach the ring pressure terminal (field supplied item).



Attention

- Ground the shield on both sides of shield wiring, otherwise an operation error from noise may occur.



■ Mounting and Wiring Method

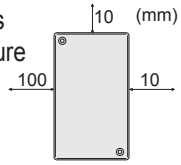
1 Connect the RAC connection wiring (supplied) to the room air conditioner.

For attachment/removal of the front panel grille of the room air conditioner, connector position, printed circuit board position and wiring arrangement, refer to the [Installation Instructions] of the room air conditioner.

① **Connect the RAC connection wiring to the CN-CNT connector of the room air conditioner.**

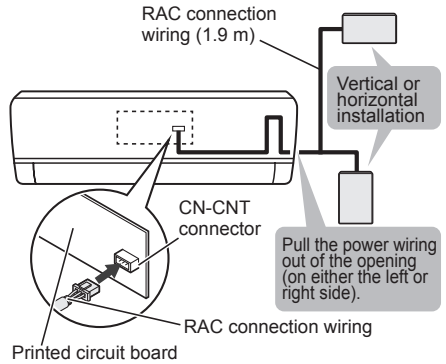
② **Determine the installation position of this adaptor, and make a wiring arrangement to suit the position.**

- Secure space as shown in the figure when pulling the wiring out of the opening.



③ **Attach the front panel grille of the room air conditioner.**

- Bundle excess wirings, and store them in the room air conditioner.



*Depending on the model, the board location differs.

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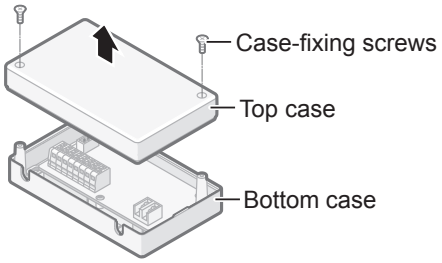
5. Control Adaptor

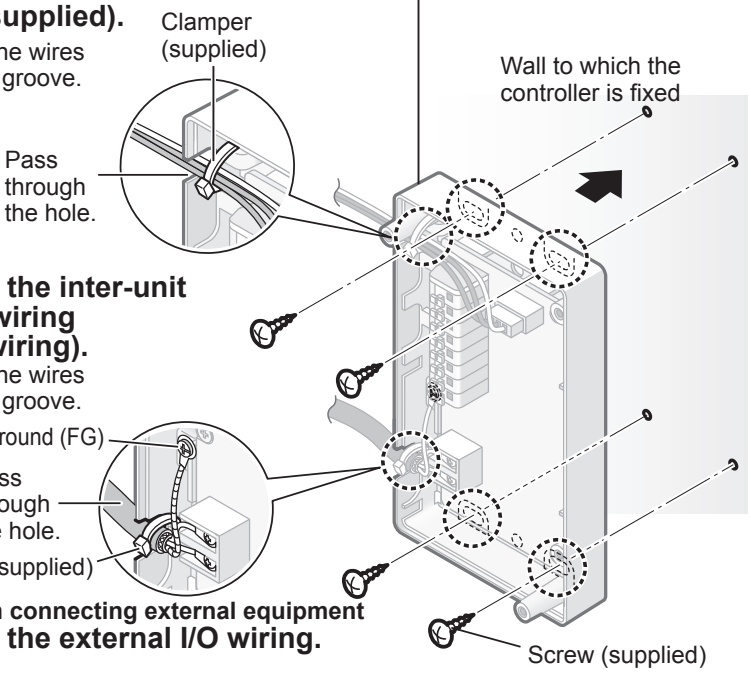
2 **Remove the top case. (Case-fixing screws: 2)**



3 **Mount the bottom case to the wall.**

4 **Connect the RAC connection wiring (supplied).**

- Arrange the wires along the groove.

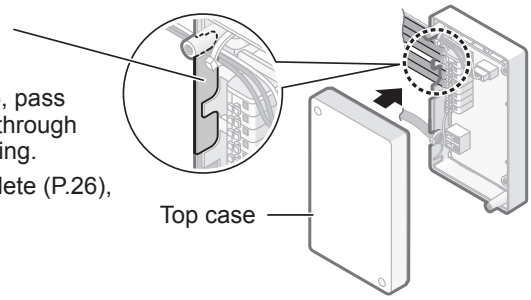


5 **Connect the inter-unit control wiring (shield wiring).**

- Arrange the wires along the groove.

6 **Only when connecting external equipment**
Connect the external I/O wiring. (P.25)

- Cut here with a nipper and remove the burr with a file.
- As shown in step 4 or 5, pass the clamper (supplied) through the hole, and fix the wiring.



● When the settings are complete (P.26), attach the top case.

Connecting External Equipment

■ External Input Wiring

- Type of wiring
  Use a flexible wiring of 0.5 to 0.75 mm^2.
- Total Wire Length
  100 m or less
  If a longer length is needed,use a relay.

Attention

- Use only a single wiring or stranded wiring.
- Wiring tip arrangement.
- Arrange the external output wiring as well.



■ Connection Specifications

	Controller side		External equipment side		
	Condition	Terminal name	Terminal	Circuit example	Condition
Control input	Non-voltage contact "a" Static or Pulse • Contact allowable voltage: DC5 V ± 10% • Contact allowable current: Max. 10 mA	Input 1 (IN 1) Input 2 (IN 2) Common (COM)	1 2 3	COM	• Pulse width: 300 msec or more

■ External Output Wiring

- Exteranl output wiring specification is the same as external input wiring .
- When outputting the operation status or alarm status, a 12 V DC external power source for relays is required.
  - Recommended product: COSEL PBA10F-12
  - Allowable wattage: 15 W or less
- Use the following specifications for DC power wiring.
  - Type of wiring: Use a flexible wiring of 0.5 to 0.75 mm^2
  - Arrange the power line as short as possible.

■ Connection Specifications

	Controller side		External equipment side		
	Condition	Terminal name	Terminal	Circuit example	Condition
DC Power input	Non-voltage contact "a" Static or Pulse There is a polarity. (Make sure that the polarity (+/-) is correct before connecting.)	DC power + (DC 12 V +) DC power - (DC 12 V -)	4 5	+ DC power (12 V) -	• Power Supply for relays (Supply 12 V DC externally)
Status output	Voltage contact "a" Static (Relay output) • Contact allowable voltage:Max. DC12 V • Contact allowable current:Max. 100 mA • Minimum application load:DC5 V 1 mA	Alarm output (OUT 1) Operation Output (OUT 2) Common (COM)	6 7 8	Coil Relay Relay	• Rated coil voltage: 12 V DC

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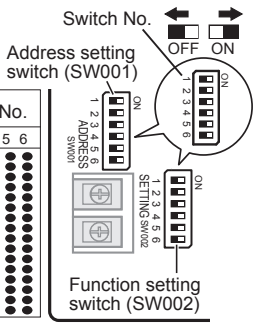
Setup

Be sure to turn the power OFF for setting.

1 Only when using this adaptor more than one set the address setting switch (SW001).

Avoid duplication referring to the combination table below.

- The system address is registered as 31.
- If the Interface Adaptor is present in the system, do not allow the address to duplicate with the Interface Adaptor.



Address	Switch No. 1 2 3 4 5 6	Address	Switch No. 1 2 3 4 5 6	Address	Switch No. 1 2 3 4 5 6	Address	Switch No. 1 2 3 4 5 6
1	● – – – – –	17	● – – – – ●	33	● – – – – –	49	● – – – – ●
2	– ● – – – –	18	– ● – – – ●	34	– ● – – – –	50	– ● – – – ●
3	● ● – – – –	19	● ● – – – ●	35	● ● – – – –	51	● ● – – – ●
4	– – ● – – –	20	– – ● – – ●	36	– – ● – – –	52	– – ● – – ●
5	● – ● – – –	21	● – ● – – ●	37	● – ● – – –	53	● – ● – – ●
6	– ● ● – – –	22	– ● ● – – ●	38	– ● ● – – –	54	– ● ● – – ●
7	● ● ● – – –	23	● ● ● – – ●	39	● ● ● – – –	55	● ● ● – – ●
8	– – – ● – –	24	– – – ● – ●	40	– – – ● – –	56	– – – ● – ●
9	● – – ● – –	25	● – – ● – ●	41	● – – ● – –	57	● – – ● – ●
10	– ● – ● – –	26	– ● – ● – ●	42	– ● – ● – –	58	– ● – ● – ●
11	● ● – ● – –	27	● ● – ● – ●	43	● ● – ● – –	59	● ● – ● – ●
12	– – ● ● – –	28	– – ● ● – ●	44	– – ● ● – –	60	– – ● ● – ●
13	● – ● ● – –	29	● – ● ● – ●	45	● – ● ● – –	61	● – ● ● – ●
14	– ● ● ● – –	30	– ● ● ● – ●	46	– ● ● ● – –	62	– ● ● ● – ●
15	● ● ● ● – –	31	● ● ● ● – ●	47	● ● ● ● – –	63	● ● ● ● – ●
16	– – – – ● –	32	– – – – ● ●	48	– – – – ● –	64	– – – – ● ●

● : ON - : OFF

2 Set the function setting switch (SW002).

***:Factory setting**

- **[SW1] Switching the setting method for the central address.**
  OFF*: Sets using the central control device.
  ON : Sets using the address setting switch of this adaptor.
  (Adaptor address set in step 1 is central control address)
  When setting the SW1 to ON:
  - The central address is shared with the adaptor address.
  - The central address is fixed by the address switch.
- **[SW2] Switching the prohibition method for the remote control switch**
  OFF: Remote control operation is prohibited.
  ON*: Remote control operation is permitted, and then operation is cancelled.
- **[SW3] Recovery from power failure**
  OFF*: - (Depends on the room air conditioner setting.)
  ON: Recovers in the state before power failure.
- **[SW4] Not in use** (For function enhancement)
- **[SW5/6] Switching the contact input signal** (table below)

Status SW5	Status SW6	Contact input details	External equipment operation details
OFF*	OFF*	Input 1: Start/stop signal (Static)	Short circuit : Start Open circuit: Stop
		Input 2: Signal (Static) prohibiting remote control	Short circuit : • Remote control operation is prohibited. Open circuit : • Remote control operation is permitted.
OFF	ON	Input 1: Start/stop signal (Pulse)	Open circuit → Short circuit (300 ms or more) → With Open, the start/stop status is reversed. (Start ⇔ Stop)
		Input 2: Signal (Static) prohibiting remote control	Short circuit : • Remote control operation is prohibited. Open circuit : • Remote control operation is permitted.

Status SW5	Status SW6	Contact input details	External equipment operation details
ON	OFF	Input 1: Card key/Coin timer signal	Short circuit : • Remote control operation is permitted. Open circuit : • Room air conditioner stops. • Remote control operation is prohibited. • All operation using the central control device is permitted.
		Input 2 : Not in use	–
ON	ON	Input 1: Emergency stop signal	Short circuit : • Room air conditioner stops. • Remote control operation is prohibited. • Operation using the central control device is prohibited.(Start / stop and changing the remote control prohibition setting are prohibited.) Open circuit : • Remote control operation is permitted.
		Input 2 : Not in use	–

5. Control Adaptor

5-4. Local Adaptor for ON/OFF control / CZ-CAPC2

Safety Precautions

- Read these Safety Precautions before beginning installation or electrical work, and perform the work only in the correct manner.
- Precautions in this manual are given in the form of "Warnings" or "Cautions." Both types of precautions contain important information related to your safety, the safety of users, and the correct operation, installation or maintenance of the air conditioning system. Be sure to carefully observe all relevant precautions.

WARNING	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
CAUTION	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

When installation work is completed, perform a test run and check that no trouble occurs. Also be sure to explain the methods for using the product to the customer, based on the contents of the Operation Manual. In addition, request that the customer keep and conveniently store the "Information for the Person in Charge of Installation (Electrical) Work and Servicing " together with the Operation Manual.

WARNING

- Request installation and electrical work only from the dealer or a qualified air conditioning specialist. Attempting to carry out installation work on your own, and doing so incorrectly, may result in electrical shock, fire, or other hazards.
- Installation procedures must be performed correctly, carefully following the instructions in this document.
  Failure to do so may result in electrical shock, fire, or other hazards.
- Electrical work must be performed by a qualified electrician. It must be performed in accordance with technical standards related to electrical equipment, interior wiring regulations, local codes, and the contents of these instructions.
  Insufficient power circuit capacity or improper electrical work may result in electrical shock or fire.
- Use only the designated cables for wiring, and connect them securely. Fasten cables so that no external force is applied to the terminal connections.
  Insufficient connections or cable fastening may result in heat generation, fire, or other hazards.
- The installation location requires the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.
- Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations. The circuit breaker must be an approved 10-16 A, having a contact separation in all poles.

CAUTION

- Do not install in kitchens, workshops, or other locations where there is oil mist in the air.
- Do not install next to windows or in other locations exposed to direct sunlight or in direct contact with outside air.
- Do not install near an elevator, automatic door, industrial sewing machine, or other devices that can be expected to produce electrical noise.
- To prevent possible hazards from insulation failure, the unit must be grounded.

Accessories for Interface Adaptor

No.	Supplied parts	Qty.
①	Fastening screws, Tapping screws 4 x 8 	4
②	Binding strap 	2
③	Terminals (M3) 	11

Installing the Interface Adaptor

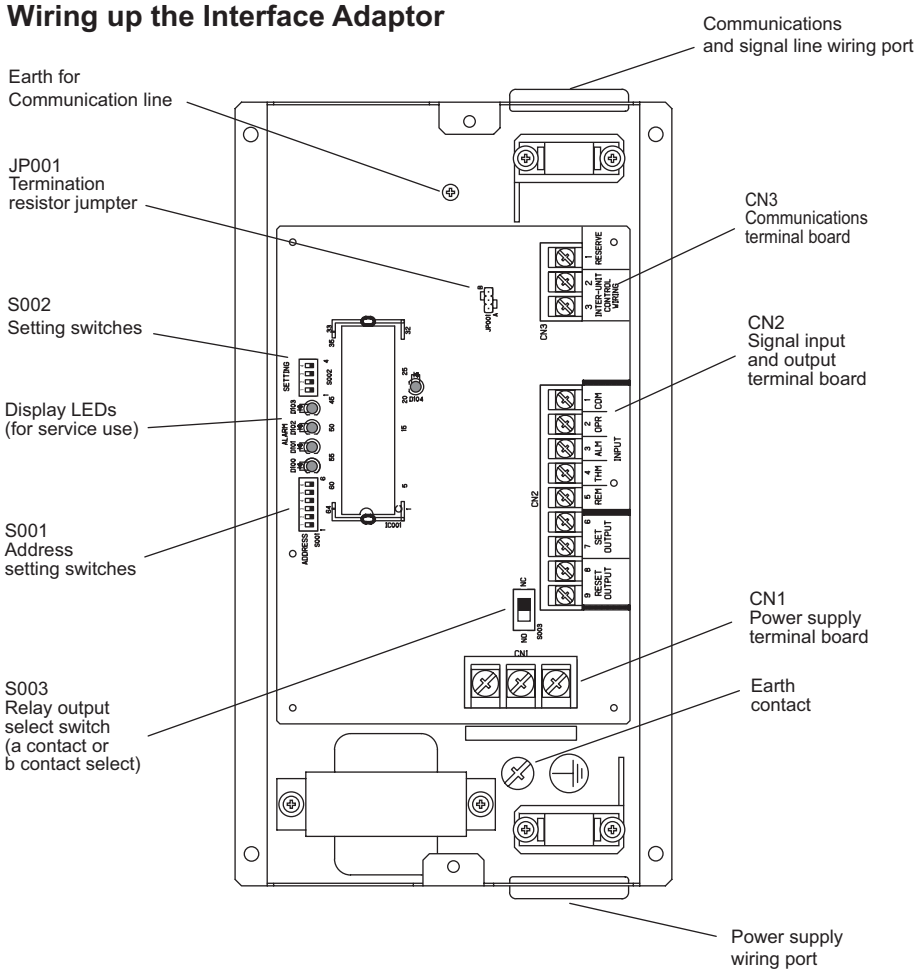
<Note 1> Avoid twisting the inter-unit control wiring or the input/output wiring together with power or other wiring, and avoid running them in the same metal conduit. Doing so can cause malfunction.

<Note 2> Install the interface adaptor at a location away from any sources of electrical noise.

<Note 3> Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

5. Control Adaptor

Wiring up the Interface Adaptor



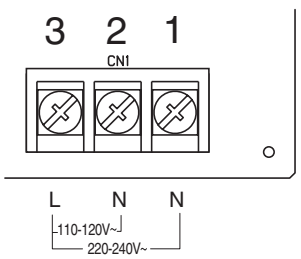
(1) Connecting the power supply

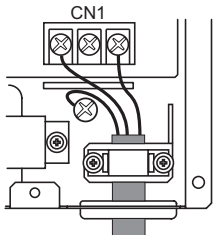
This interface adaptor can use either 110-120 V AC or 220-240 V AC power supply.

Use terminals 2 and 3 for 110-120 V AC, or terminals 1 and 3 for 220-240 V AC.

※ Be sure of the power supply voltage before connecting the power supply terminals. Connecting the wrong power supply voltage could result in fire or other damage.

※ Connect the power supply wires securely to the power supply terminals, using M4.5 round connectors with insulator holddown.





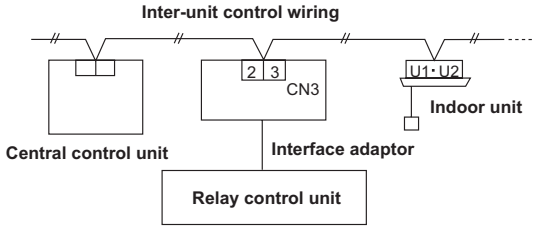
Wiring sample for 220-240 V AC

5. Control Adaptor

(2) Connecting to the central control unit

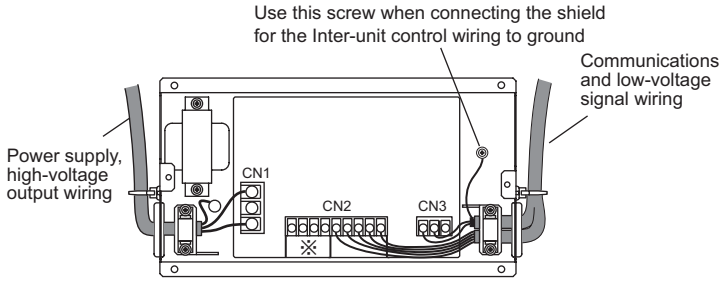
Connect the interface adaptor inter-unit control wiring (CN3, (2) and (3)) to the central control unit inter-unit control wiring, as shown in the diagram below. Use the shielded wiring.

- These signal lines do not have polarity; either signal line may be connected to terminals (2) and (3).
- These terminals may also be connected to the inter-unit control wiring of other indoor or outdoor units.
- Ground the communication wiring.



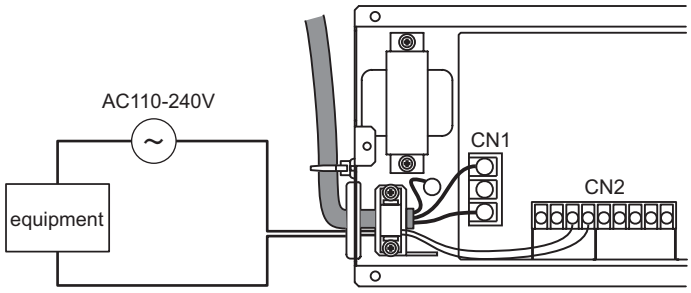
Securing the wiring

Make sure to secure all wiring using the clip wires inside the unit, and the cable clamps outside the unit.



※ If the SET / RESET output uses high voltage signaling (110 - 240 V AC), pull that signal line out through the power supply wiring port. Bundling the high voltage signal line with the communications lines or low-voltage signal lines, or allowing it to touch them, may result in malfunction.

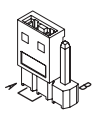
Circuit example for high-voltage set output



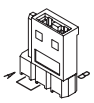
Termination Plug (JP001)

If the system is comprised of a single interface adaptor, and there are no air conditioner units connected directly to the inter-unit control wiring, then a jumper must be installed on the B side of the termination plug (JP001) of the single interface adaptor.

Jumper on the A side of JP001: termination resistor not connected (factory default setting)
Jumper on the B side of JP001: termination resistor connected



no termination resistor

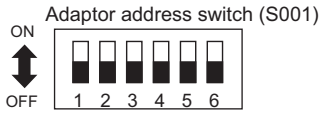


termination resistor connected

3

5. Control Adaptor

How to Set the Adaptor Address



The adaptor address corresponds to the indoor unit number.
If multiple interface adaptors are used, make sure each adaptor has a unique address.

(1) Setting the central control address from the central control unit
(Setting switch S002-3 OFF)

This mode is useful for systems with both interface adaptors and indoor units which are connected directly to inter-unit control wiring, and when the central control unit sets or changes central control addresses.

Set the interface adaptor addresses, beginning with address 1.
※Interface adaptors are registered as system address 31.

Example: When the interface adaptor address is set to 1, then the interface adaptor unit number becomes 31-1.
In this case, the central control unit is free to set the interface adaptor's central control address.

(2) Setting the central control address using the interface adaptor address switches
(Setting switch S002-3 ON)

The inerface adaptor address becomes the central control address.
Set the interface adaptor address as desired.
※ Interface adaptors are registered as system address 31, and the adaptor address and central control address will be the same.

Example: If the interface adaptor address is set to 5, then the interface adaptor unit number becomes 31-5, and its central control address becomes 5.

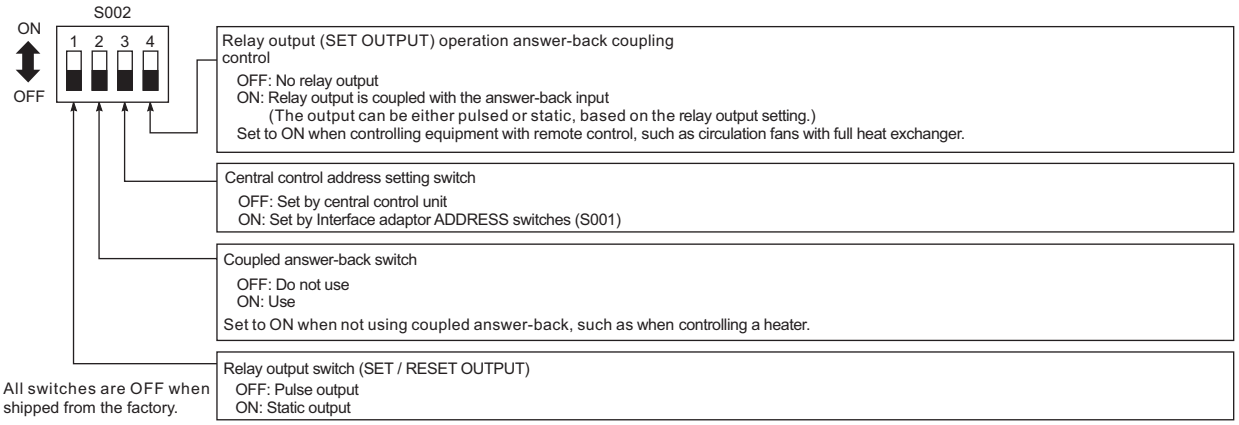
※ The central control address is fixed by the adaptor address switches.
(The central control address may not be changed by the central control unit.)

Set the address so that it does not match that of any indoor unit central control address.

Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6
1	○ ○ ○ ○ ○ ○	17	○ ○ ○ ○ ● ○	33	○ ○ ○ ○ ○ ●	49	○ ○ ○ ○ ● ●
2	● ○ ○ ○ ○ ○	18	● ○ ○ ○ ● ○	34	● ○ ○ ○ ○ ●	50	● ○ ○ ○ ● ●
3	○ ● ○ ○ ○ ○	19	○ ● ○ ○ ● ○	35	○ ● ○ ○ ○ ●	51	○ ● ○ ○ ● ●
4	● ● ○ ○ ○ ○	20	● ● ○ ○ ● ○	36	● ● ○ ○ ○ ●	52	● ● ○ ○ ● ●
5	○ ○ ● ○ ○ ○	21	○ ○ ● ○ ● ○	37	○ ○ ● ○ ○ ●	53	○ ○ ● ○ ● ●
6	● ○ ● ○ ○ ○	22	● ○ ● ○ ● ○	38	● ○ ● ○ ○ ●	54	● ○ ● ○ ● ●
7	○ ● ● ○ ○ ○	23	○ ● ● ○ ● ○	39	○ ● ● ○ ○ ●	55	○ ● ● ○ ● ●
8	● ● ● ○ ○ ○	24	● ● ● ○ ● ○	40	● ● ● ○ ○ ●	56	● ● ● ○ ● ●
9	○ ○ ○ ● ○ ○	25	○ ○ ○ ● ● ○	41	○ ○ ○ ● ○ ●	57	○ ○ ○ ● ● ●
10	● ○ ○ ● ○ ○	26	● ○ ○ ● ● ○	42	● ○ ○ ● ○ ●	58	● ○ ○ ● ● ●
11	○ ● ○ ● ○ ○	27	○ ● ○ ● ● ○	43	○ ● ○ ● ○ ●	59	○ ● ○ ● ● ●
12	● ● ○ ● ○ ○	28	● ● ○ ● ● ○	44	● ● ○ ● ○ ●	60	● ● ○ ● ● ●
13	○ ○ ● ● ○ ○	29	○ ○ ● ● ● ○	45	○ ○ ● ● ○ ●	61	○ ○ ● ● ● ●
14	● ○ ● ● ○ ○	30	● ○ ● ● ● ○	46	● ○ ● ● ○ ●	62	● ○ ● ● ● ●
15	○ ● ● ● ○ ○	31	○ ● ● ● ● ○	47	○ ● ● ● ○ ●	63	○ ● ● ● ● ●
16	● ● ● ● ○ ○	32	● ● ● ● ● ○	48	● ● ● ● ○ ●	64	● ● ● ● ● ●

● : ON　○ : OFF

Setting Switches



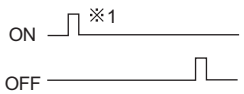
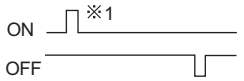
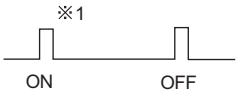
5. Control Adaptor

Connection as a Relay Control Unit

The interface adaptor output terminal and input terminal specifications are given below.
Use the signals most appropriate for the type of equipment being controlled.

(1) Output terminals

The interface adaptor provides four styles of ON (set relay) and OFF (reset relay) output signals for use by the equipment being controlled. Select the style appropriate for your application. For more information, see the "Relay Circuit Examples" section.

Output style	Contact outputs (relay contact)	Setting method
Pulse contact output ON (set) output: a contact OFF (reset) output: a contact		・S002-1: OFF ・S002-4: OFF ・S003: NO
Pulse contact output ON (set) output: a contact OFF (reset) output: b contact		・S002-1: OFF ・S002-4: OFF ・S003: NC
Pulse contact output ON (set) output: a contact Both start and stop signals are sourced in turn from the ON (set) relay		・S002-1: OFF ・S002-2: OFF ・S002-4: ON ・Only the ON contact output is used. ・The OFF contact output becomes a local prohibit signal (see ※2)
Static contact output (continuous contact)		・S002-1: ON ・Only the ON contact output is used. ・The OFF contact output becomes a local prohibit signal (see ※2)

※1 The pulse width is approximately 0.5 seconds.
※2 The output changes according to a signal from the Central control unit.
Use this signal as needed.
Individual permission: OFF (continuous contact)
Local prohibit: ON (continuous contact)

< Contact capacity >

Output	Contact capacity (resistive load)
ON (set) relay output (CN1, terminals 6 and 7)	250 V AC, 10 A (inductive load: 5 A) Minimum usable load: 5 V, 100 mA
OFF (reset) relay output (CN1, terminals 8 and 9)	250 V AC, 3 A Minimum usable load: 5 V, 100 mA

Caution:
Note that the ON (set) relay output and OFF (reset) relay output have different contact capacities.

(2) Input terminals

・Status monitor signals from the equipment being controlled are received by the relay contacts.
・The local start/stop input uses a pulse style, so connect it to a momentary input device, such as a push switch.

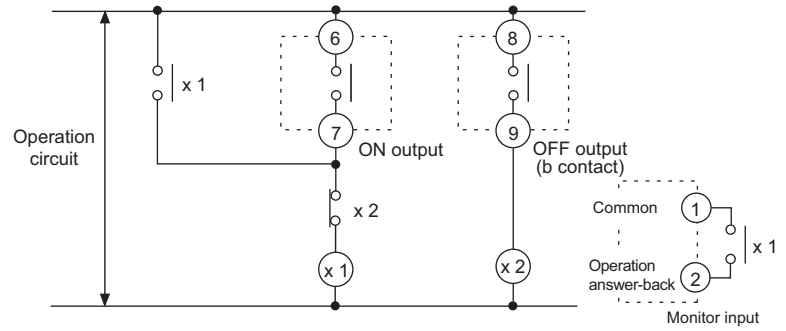
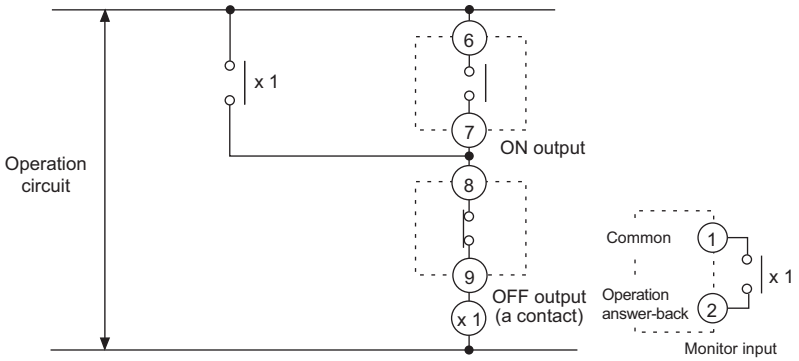
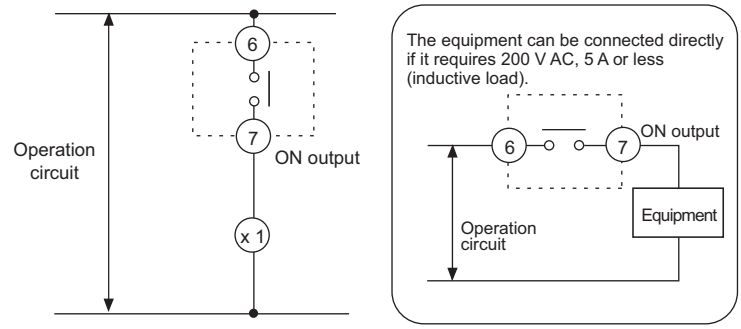
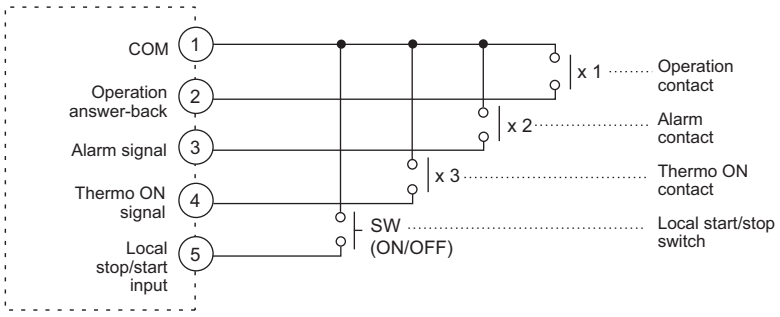
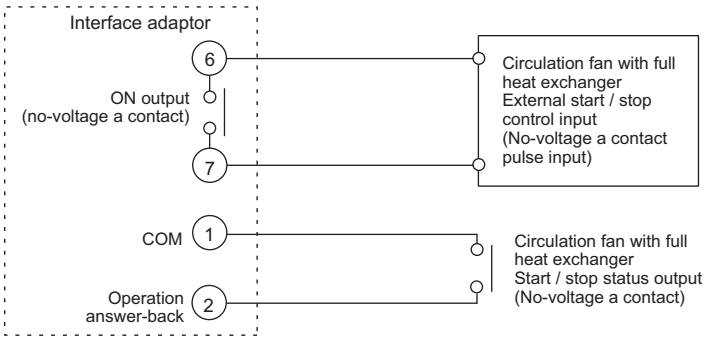
Input	Terminal numbers	Input style	Usage
Operation answer-back input	1, 2	No-voltage a contact (static)	Monitor the operation (start/stop condition)
Alarm signal input	1, 3	No-voltage a contact (static)	Monitor general alarms
Thermo ON signal input	1, 4	No-voltage a contact (static)	Monitor the load when the thermo is ON, and report to the central control unit
Local start/stop input	1, 5	No-voltage a contact (pulse)	Equipment ON/OFF from interface adaptor

Circuit contact voltage and current: 12 V DC, 10 mA

Caution:
When local prohibit (central) is set by the central control unit, the local start/stop input will be ignored.
When stopped, the alarm input will be ignored.

5. Control Adaptor

Relay Circuit Examples

Style	Installed equipment (areas within the dashed lines are the interface adaptor)	Notes
Pulse contact output (no-voltage contact) (ON output a contact + OFF output a contact)		1) X1, X2 are auxiliary devices 2) The interface adaptor OFF output uses the a contact (S003 set to NO) 3) Switch S002-1 is OFF, switch S002-4 is OFF
Pulse contact output (no-voltage contact) (ON output a contact + OFF output b contact)		1) X1 is an auxiliary device 2) The interface adaptor OFF output uses the b contact (S003 set to NC) 3) Switch S002-1 is OFF, switch S002-4 is OFF
Continuous contact output (no-voltage contact) (ON output a contact)		1) X1 is an auxiliary devices 2) Switch S002-1 is ON 3) The equipment can be controlled directly (power supply directly shut off) by the ON output if it requires 250 V AC, 5 A or less (inductive load) 4) The output will be OFF during a commercial power outage 5) The OFF output may be used for individual / central selection (will be ON when the central control unit is set to "central", off when the central control unit is set to "individual").
Input (no-voltage a contact)		1) X1, X2, X3 are auxiliary devices; SW is a push switch. 2) If operation answer-back from the equipment is not used, switch S002-2 is ON. In this case, the internal answer-back will be OFF during a commercial power outage. 3) If the answer-back input is unused, it should not be connected. (Only connect inputs that are used.)
Connecting to a circulation fan with a full heat exchanger		1) Switch S002-1 is OFF, switch S002-2 is OFF, switch S002-4 is ON 2) The circulation fan with full heat exchanger's external start/stop control input uses no-voltage a contact pulse, and its start/stop condition output uses no-voltage a contact. **Caution:** If the Central control unit or circulation fan with full heat exchanger remote control repeatedly and continuously initiates start/stop operations, the circulation fan with full heat exchanger may not be able to recognize the settings.

5. Control Adaptor

Alarm Display

Alarm			Service display lamps			
Item	Meaning	Action	D100	D101	D102	D103
Alarm from connected equipment	An alarm signal was received by the interface adaptor from a connected piece of equipment during operation.	Investigate the reason for the alarm from the connected equipment, and remove the cause of the alarm.	※	●	●	●
System stop	The system is stopped.	Not an alarm	※	※	※	※

※: blink ●: Off

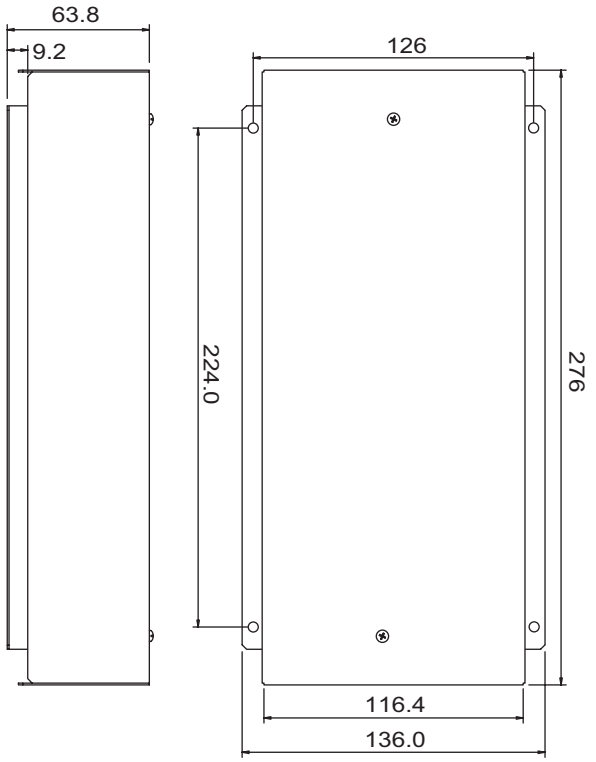
Of the items listed above, only the alarm from connected equipment is passed to an upstream central control unit, which will display "C12". If the central control unit does not have an LCD display, then its warning LED will blink.

Specifications

Power source	110 -120V / 220-240 V ~ 50 / 60Hz , single-phase
Power consumption	4.9 W
Operating environment	0-40℃, 20-80% humidity, indoor only
External dimensions	50 mm (h) x 235 mm (w) x 96.5 mm (d)
Weight	Approx. 1.3 kg

External dimensions

Unit: mm



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5. Control Adaptor

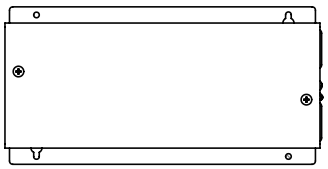
5-5. Local Adaptor for ON/OFF control / CZ-CAPC3

Panasonic

■ Installation Instructions

Interface Adaptor

Model No. CZ-CAPC3



Safety precautions

Please Read Before Starting

- This adaptor must be installed by the sales dealer or installer. These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

⚠ **WARNING**	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
⚠ **CAUTION**	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This adaptor shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this adaptor, provide the Installation Instructions to the servicing personnel.

⚠ WARNING

⚠ ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- This adaptor is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown. Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.
- Provide a power outlet to be used exclusively for this adaptor.
- Turn off the circuit breaker of the adaptors before installation.
- Do not supply power to the adaptor until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clamper so that the power supply terminal board is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the adaptor must be grounded.
- Select an installation location which is rigid and strong enough to support or hold the adaptor, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances. Modified or disassembled adaptor may cause fire, electric shock or injury.
- Do not clean inside the adaptor by users. Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.
- Ensure the electricity is off when connecting or performing maintenance on lighting or electrical devices and make sure there are no other people around.
- Take precautions when switching on the electricity again when automatic restoration features are being used.

⚠ CAUTION

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the adaptor at the following locations.
  - Areas where leakage of flammable gas may be expected
  - Places where large amounts of oil mist exist
  - Locations where external air may enter the room directly (This may cause “condensation”.)
  - Locations where high-frequency emissions are generated
  - Location where voltage fluctuation frequently occurs
- Do not wash with water.

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Panasonic Corporation
http://www.panasonic.com

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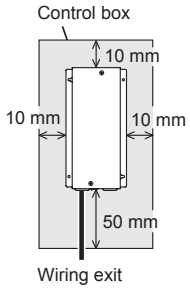
5. Control Adaptor

NOTICE

- The English text is the original instructions. Other languages are translation of the original instructions.
- Refer to the PDF data for the Installation Instructions in other languages. Please contact to your local dealer to find PDF file for other languages. (French, Spanish, German, Italian, Dutch, Portuguese, Russian, Ukrainian, Kazakh, Polish, Turkish)

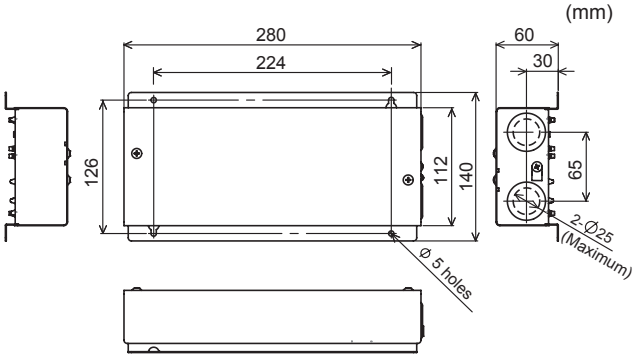
Installation precautions

- Avoid the following locations for installation.
  - Near a window where the unit is exposed to direct sunlight or the open air
  - In unstable locations or locations where the unit is exposed to shocks or vibrations (may cause the unit to fall)
  - Near heat sources
  - Where condensation forms
- Install the unit vertically to the floor.
- Install so that there is at least 50 mm gap from the side where the wirings exit and at least 10 mm in each other direction. (Refer to the diagram at right)
- Install at least 1 m away from TV, radio, PC, etc. (The unit may cause picture distortion or noise)
- Do not modify the unit such as by trying to install the circuit board into another device.
- Use wiring with at least 1 mm in thickness of insulation including the sheath.



Dimensions

(mm)



Specifications

Model No.	CZ-CAPC3
Dimensions	(H) 140 mm × (W) 280 mm × (D) 60 mm
Weight	950 g
Temperature/ Humidity range	0 °C to 40 °C / 20% to 80% (Indoor use only)
Rated voltage/ Rated frequency	Single phase 100–240 V / 50–60 Hz
Power consumption	Max. 3.0 W

Supplied accessories

< >: Number of pieces

Screws Tapping screws M4 × 10 <4>	Clamper <2>
Installation Instructions <1>	

✶ Wiring are not included (field supplied item).

Feature for automatically restoring after a power outage

This unit is equipped with functionality to automatically restore itself after a power outage.
(Refer to “4. The setting switches” for information on how to set)
After the power is restored, this feature automatically restores the unit to the operational state it was in before an unexpected short-term power outage occurred.
When using the feature for automatically restoring power after an outage, if the power switch is switched off on purpose during operation in order to perform maintenance on the device, for example, then after the power switch is switched back on, **the unit will start working automatically**.

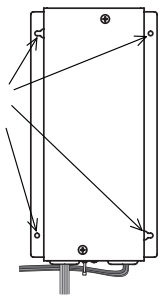
✶ Before performing maintenance on the unit, switch this breaker off for safety purposes.
✶ Before handing over this unit, make sure you explain to the person in charge of safety and the client that **a feature for automatically restoring after a power outage is used in this unit**.

1. Mounting

- Install near the target device or in a control box.
- When connecting to a relay control device, connect to the device with wiring for input and output of 3 m or less. (Connection wiring should be 0.5 mm^2 or more, and select connection wiring for the output wiring with sufficient capacity to suit the capacity of the device.)
- Apart from the vertical mounting style, you can also mount the unit horizontally so the wirings exit the left or right sides.

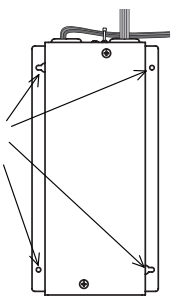
- When mounting so the wirings exit from the bottom

Fix with 4 screws (supplied)



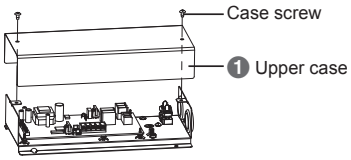
- When mounting so the wirings exit from the top (Allowed only when installing inside a control box)

Fix with 4 screws (supplied)



2. Wiring

1 Remove the upper case.
(Case screws: 2)



2 Connect the power supply wiring.

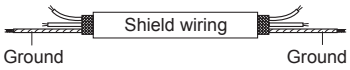
- Type of wiring
  - Usage standard: 600 V vinyl wiring (field supplied item)
  - Use a flexible wiring of 2 mm^2 (recommended).
  - Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).
- Connect the power supply wiring to the power supply terminal board and the earth wiring to the earth terminal ⏚.
  - Power supply terminal board screw: M4
  - Tightening torque: 0.5 N·m (recommended)
- Prepare the end of the lead wiring for terminal connection.

3 Connect the inter-unit control wiring.

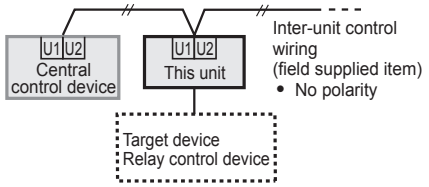
- Type of wiring
  - Use flexible shield wiring of 0.5 to 2 mm^2.
- Total wire length: 1000 m or less
- Other terminal boards for inter-unit control wiring for indoor or outdoor units can also be connected.
- No polarity

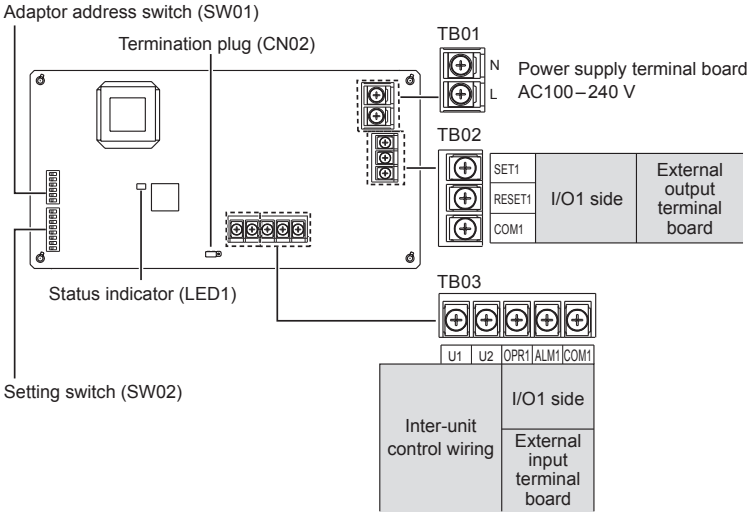
Attention

- Ground the shield on both sides of shield wiring, ohterwise an operation error from noise may occur.



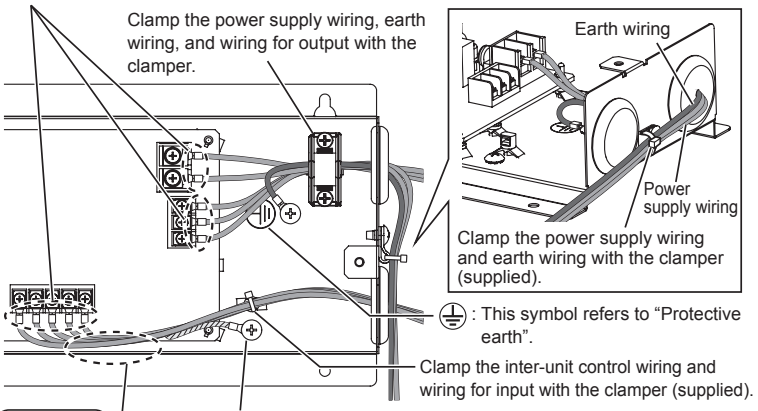
Basic Wiring Diagram





Attention

- Do the wiring work so there is no stress on the lead wiring of the terminal clamper.



Attention

- Take care not to pinch the wiring when closing the upper case.

How to attach the ring pressure terminal

For power supply wiring

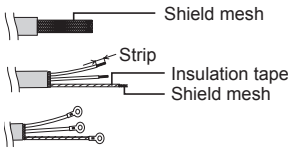
- Process the end of each wiring and attach the ring pressure terminal (field supplied item).



For shield wiring

- Process the end of the each wiring and attach the ring pressure terminal (field supplied item).

① Remove wiring coat.
② Cover with the tape.
③ Attach ring pressure terminal.



3. How to connect to a relay control device

These are the specifications for the output terminal boards and input terminal boards.

■ The output terminal boards

Using the setting switches (SW02), select the output signal that suits the controlled device and whether to have an operation answer back. See “7. Relay circuit examples” for details.

Setting switch			Output signals from SET terminal board/RESET terminal board	Operation answer back
SW02-1	SW02-2	SW02-4		
OFF	OFF	OFF	SET1 terminal board: Start signal (pulse, contact “a”)*1	Yes
	ON		RESET1 terminal board: Stop signal (pulse, contact “a”)*1	No
	OFF	ON	SET1 terminal board: Start/Stop signal (pulse, contact “a”)*1 The start and stop signals are output alternately from the SET1 terminal board. RESET1 terminal board: Local prohibition signal*2	Yes
ON	OFF	OFF	SET1 terminal board: Start/Stop signal (static) Stop signal: contact OFF (continuous contact) Start signal: contact ON (continuous contact) RESET1 terminal board: Local prohibition signal*2	Yes (The output of start/stop signals are not linked with operation answer back input.)
	ON			No
	OFF	ON		Yes (The output of start/stop signals are linked with operation answer back input.)

*1 Pulse width is about 0.5 seconds.

*2 Output as follows according to the signal from the central control device. Use as necessary.
Individual permitted: Contact OFF (continuous contact)
Local prohibited: Contact ON (continuous contact)

Interface adaptor side		External equipment side		
Condition	Terminal name	Terminal	Circuit example	Condition
Terminal board screw: M3.5 Tightening torque: 0.5 N·m (recommended) ● Contact capacity • Signal format: Non-voltage contact “a” • Contact allowable voltage and current: AC240 V, 0.5 A • Minimum connected load: 5 V, 0.1 A	TB02 SET1 RESET1 COM1		AC240 V COM	Wire length: 3 m or less Wire thickness: 0.5 mm² or more

■ The input terminal boards

Interface adaptor side		External equipment side		
Condition	Terminal name	Terminal	Circuit example	Condition
Status monitor signal from the controlled device is received by the relay contact. Terminal board screw: M3 Tightening torque: 0.5 N·m (recommended) OPR: Start signal (Contact ON: Operating, Contact OFF: Stopped) ALM: Alarm signal (Contact ON: Alarm occurring, Contact OFF: No alarm) ● Contact behaviour specifications • Signal format: Non-voltage contact “a”, static • Circuit contact voltage: DC12 V±10% • Circuit contact current: Max. 10 mA	TB03 OPR1 ALM1 COM1			Wire length: 3 m or less Wire thickness: 0.5 mm² or more

4. The setting switches (SW02)

Setting switch (SW02)



ON
OFF

✶ The factory defaults are all OFF.

[SW02-1] Relay output format

Switch the signal format of the SET/RESET relay output.

- ON: Static output
- OFF: Pulse output

[SW02-2] Operation answer back

- ON: Operation answer back input is not used.
- OFF: Operation answer back input is used.

✶ When operation answer back is not to be used, such as when controlling a humidifier, for example, set to ON.

[SW02-3] How to configure central addresses

- ON: Set with the adaptor address switch (SW01) on this unit.
- OFF: Setting from a central control device.

See “5. Setting the adaptor address” for details.

4. The setting switches (SW02) (continued)

[SW02-4] Operation answer back link output

See "3. How to connect to a relay control device" for pulse output.
For static output

- ON: Static output is linked with operation answer back input.
- OFF: Static output is not linked with operation answer back input.

✶ Set to ON when total heat exchange type ventilation with a remote controller is to be controlled.

[SW02-5] Feature for automatically restoring after a power outage

- ON: Use the feature for automatically restoring after a power outage.
- OFF: Do not use the feature for automatically restoring after a power outage.

✶ Take proper care when using the feature for automatically restoring after a power outage.

[SW02-6] Alarm signal input when stopped

- ON: Alarm signal input is not accepted when stopped.
- OFF: Alarm signal input is accepted when stopped.

[SW02-7] Use prohibited

[SW02-8] Malfunction diagnosis feature

- ON: Start signal is output.
- OFF: Stop signal is output.

✶ The relay output format is switched by combinations of the setting switches (SW02-1, 2, 4).
See "3. How to connect to a relay control device" for details.

5. Setting the adaptor address (SW01)

The adaptor address is equivalent to the unit number of the indoor unit.
Make sure the addresses are not duplicated when more than one of these units are to be used.

■ Setting the central address from a central control device (Set setting switch SW02-3 to OFF.)

This applies when the central address is to be set or changed from a central control device in a state where both indoor units and this unit are connected directly to the inter-unit control wiring.

- Set the adaptor address of this unit starting from number 1.
  ✶ The systems address of this unit will be registered as 31.
  Example: If the adaptor address is number 1, the unit number of this unit will be 31-1. The central address of this unit can be set freely from the central control device.

■ Setting the central address with the adaptor address switch (Set setting switch SW02-3 to ON.)

- The adaptor address of this unit will be the central address.
  The central address cannot be changed from the central control device.
  Set the adaptor address according to the requirements of the customer.
  ✶ This unit will be registered as system address 31 and the adaptor address and the central address will be the same.
  Example: If the adaptor address is number 5, the unit number of this unit will be 31-5 and the central address will be number 5.

Adaptor address switch (SW01)



✶ The factory defaults are all OFF.

- Set so that it does not duplicate the central address of the indoor unit.

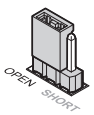
Adaptor address	Address switch No.						Adaptor address	Address switch No.						Adaptor address	Address switch No.						Adaptor address	Address switch No.					
I/O1 side only	1	2	3	4	5	6	I/O1 side only	1	2	3	4	5	6	I/O1 side only	1	2	3	4	5	6	I/O1 side only	1	2	3	4	5	6
1	–	–	–	–	–	–	17	–	–	–	–	●	–	33	–	–	–	–	–	●	49	–	–	–	–	●	●
2	●	–	–	–	–	–	18	●	–	–	–	●	–	34	●	–	–	–	–	●	50	●	–	–	–	●	●
3	–	●	–	–	–	–	19	–	●	–	–	●	–	35	–	●	–	–	–	●	51	–	●	–	–	●	●
4	●	●	–	–	–	–	20	●	●	–	–	●	–	36	●	●	–	–	–	●	52	●	●	–	–	●	●
5	–	–	●	–	–	–	21	–	–	●	–	●	–	37	–	–	●	–	–	●	53	–	–	●	–	●	●
6	●	–	●	–	–	–	22	●	–	●	–	●	–	38	●	–	●	–	–	●	54	●	–	●	–	●	●
7	–	●	●	–	–	–	23	–	●	●	–	●	–	39	–	●	●	–	–	●	55	–	●	●	–	●	●
8	●	●	●	–	–	–	24	●	●	●	–	●	–	40	●	●	●	–	–	●	56	●	●	●	–	●	●
9	–	–	–	●	–	–	25	–	–	–	●	●	–	41	–	–	–	●	–	●	57	–	–	–	●	●	●
10	●	–	–	●	–	–	26	●	–	–	●	●	–	42	●	–	–	●	–	●	58	●	–	–	●	●	●
11	–	●	–	●	–	–	27	–	●	–	●	●	–	43	–	●	–	●	–	●	59	–	●	–	●	●	●
12	●	●	–	●	–	–	28	●	●	–	●	●	–	44	●	●	–	●	–	●	60	●	●	–	●	●	●
13	–	–	●	●	–	–	29	–	–	●	●	●	–	45	–	–	●	●	–	●	61	–	–	●	●	●	●
14	●	–	●	●	–	–	30	●	–	●	●	●	–	46	●	–	●	●	–	●	62	●	–	●	●	●	●
15	–	●	●	●	–	–	31	–	●	●	●	●	–	47	–	●	●	●	–	●	63	–	●	●	●	●	●
16	●	●	●	●	–	–	32	●	●	●	●	●	–	48	●	●	●	●	–	●	64	●	●	●	●	●	●

– : Switch OFF ● : Switch ON

✶ See the terminal board diagram in "2. Wiring" for the location of I/O1.

6. Termination plug

- When only this unit is in a system or there is only one of these units, set one location to "termination plug". When there are multiple units set two locations to "termination plug". (Three or more locations is not allowed.)
  CN02 is on the "OPEN side": Termination plug is not connected. (Factory default)
  CN02 is on the "SHORT side": Termination plug is connected.

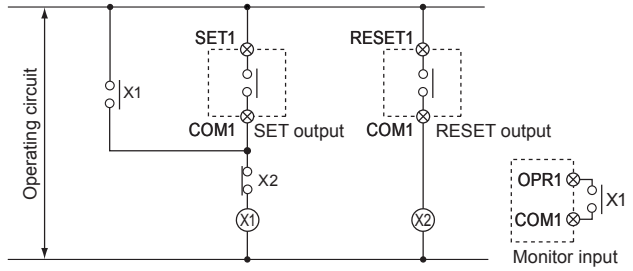
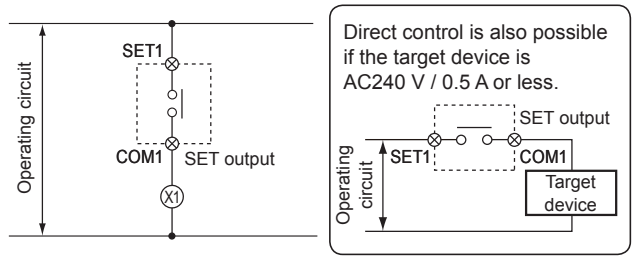
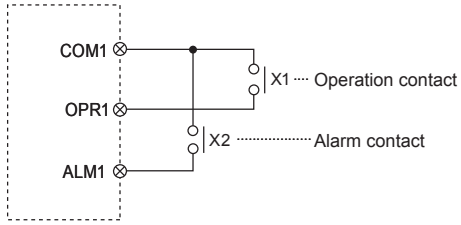
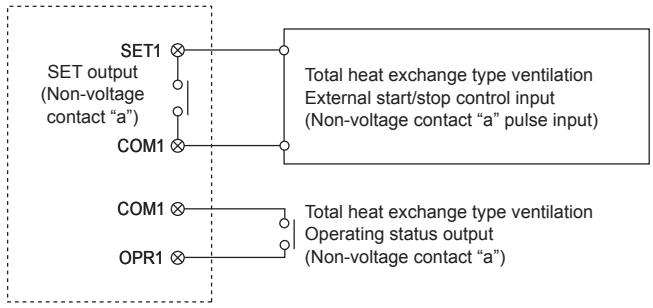


No termination plug (OPEN)



Termination plug (SHORT)

7. Relay circuit examples

Type	Device at the location (this unit is represented by the dotted lines)	Special notes
Pulse contact output (Non-voltage contact "a") (SET output + RESET output)		1) X1 and X2 are auxiliary relays. 2) Set switch SW02-1 to OFF. Set switch SW02-4 to OFF.
Continuous contact output (Non-voltage contact "a") (SET output)		1) X1 is an auxiliary relay. 2) Set switch SW02-1 to ON. 3) If the target device is AC240 V / 0.5 A or less, direct control (direct shutting off of the power supply) is possible with SET output. 4) Can be used to switch RESET output centrally or individually. (ON when "Central" is set on the central control device, OFF when "Individual permitted" is set)
Input (Non-voltage contact "a")		1) X1 and X2 are auxiliary relays. 2) Set switch SW02-2 to ON if operation answer back from the target device is not to be used. 3) Do not connect if operation answer back input is not to be used. (Connect only the inputs to be used.)
Connection with total heat exchange type ventilation		1) Set switch SW02-1 to OFF. Set switch SW02-2 to OFF. Set switch SW02-4 to ON. 2) The total heat exchange type ventilation; • External start/stop control input is a non-voltage contact "a" pulse. • Operating status output is a non-voltage contact "a" pulse. ✶ If the start and stop operations are sent repeatedly and continuously from the central control device or total heat exchange type ventilation remote controller, the total heat exchange type ventilation may not accept the settings.

8. Operation and alarm indications

- The operating status can be confirmed with the status indicator (LED1) on the top of the circuit board.

Indicator pattern		Description
Lighting (red)		Normal operation
Blinking (red)	Regular blinking*1	An alarm has occurred
	Irregular blinking*2	System stopped

*1 Blinking pattern where the indicator lights and goes out every 0.5 seconds

*2 After lighting twice, the indicator goes out for two seconds, and the blinking repeats.

The following alarms are displayed on the central control device when an alarm occurs.

C12: There is an alarm signal input from a device connected to this unit.
Check the alarm status on the device connected to this unit.

C19: Duplication of the adaptor address
Set the address switch not to duplicate the adaptor address.

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5. Control Adaptor

5-6. Seri-Para I/O Unit for each indoor unit / CZ-CAPBC2

For Your Safety

Read the following instructions carefully, and carry out secure installation and electrical work.

The precautions given in this manual consist of specific "⚠Warning" and " ⚠ Caution". They provide important safety-related information. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠**Warning** This symbol refers to a hazard or unsafe procedure or practice that can result in severe personal injury or death.

⚠**Caution** This symbol refers to a hazard or unsafe procedure or practice that can result in personal injury or product or property damage.

After installation is completed, perform a test run to check for operating trouble. Explain operating procedures to the customer and request the customer to store the Procedures for Installation (Electrical Work) and Test Operation of Seri-Para I/O Unit for each indoor unit.

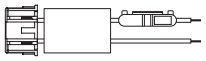
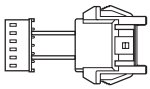
⚠Warning

- Be sure to arrange installation by the dealer where the system was purchased or by a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Be sure that this unit is securely installed in accordance with the Procedures for Installation (Electrical Work) and Test Operation of Seri-Para I/O Unit for each indoor unit. Electric shock or fire may result if any installation or wiring procedures are incorrectly performed.
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual. Insufficient electrical circuit capacity or incorrect installation may cause electric shock and fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.

⚠Caution

- Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.
- Ground yourself to discharge static electricity before performing any wiring.

Accessories

No.	Accessory	Quantity	No.	Accessory	Quantity
①	T10 cable (150mm) *1  with a current fuse ※1	1	④	Wire joints 	2
②	T10 cable (100mm) *2 	1	⑤	Installation Plan (this manual) 	1
③	Installation Screws (tapping screws ϕ4x8mm) 	4			

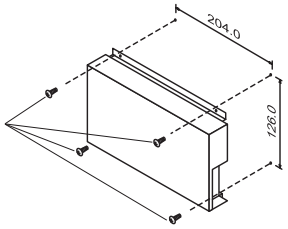
※1 In the case of melting-down of fuse cables due to a short-circuit, wrong wiring or excessive current, change current to 125V/0.5A.

*1 Panasonic model or SANYO 4-series or newer type.

*2 SANYO 3-series type.

Installing

Installation Screws
(tapping screws x 4
Accessory components ③)



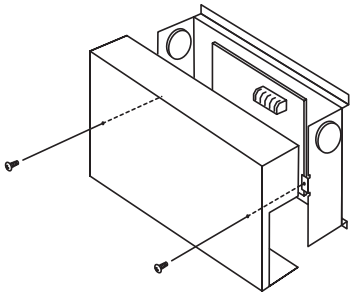
Note:

- Do not run the communication lines and power cables through the same conduit, or twist those cables together, or place the cables near one another. It can cause malfunction.
- Install it away from any sources of electrical noise.
- Avoid installing in any locations where the unit may come into contact with water, or in any extremely humid locations.
- Avoid installing in any location that is subject to excessive vibration or physical impacts.

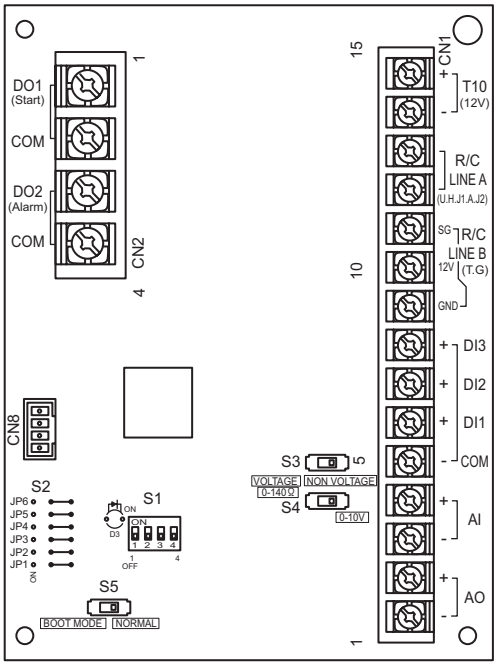
5. Control Adaptor

Wiring

Removing the top cover



Arrangement of the terminal block and switches



CN1	15	+	T10(12V)	12 V power supply
	14	-		
	13		R/C LINE A	Remote control line A
	12			
	11	SG	R/C LINE B	Remote control line B
	10	12V		
	9	GND		
	8	+	DI 3	Digital input
	7	+	DI 2	
	6	+	DI 1	
	5	-	COM	
	4	+	AI	Analog input (Change temperature setting)
	3	-		
	2	+	AO	Analog output (Room temperature monitor)
	1	-		

CN2	1	DO1	Digital output 1 (Start output)
	2	COM	
	3	DO2	Digital output 2 (Alarm output)
	4	COM	

S1	Control type setting switch
S2	Detail setting switch
S3	Voltage present / absent switch
S4	Set temperature input select switch
S5	Not used

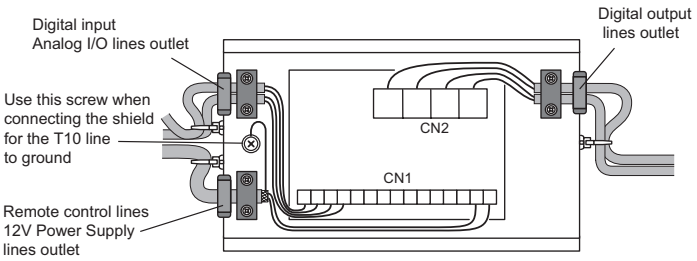
CN8	Not used

Caution:

- Always use round connectors with insulator holddown for wiring to the terminal block. (CN1 uses M3.0, CN2 uses M3.5)

Securing the wiring

Make sure to secure all wiring using the clip wires inside the unit, and the cable clamps outside the unit.



Caution:

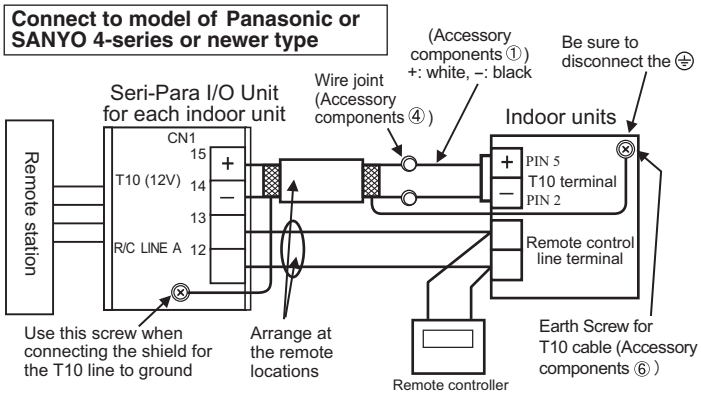
- If using high-voltage wiring such as AC power supply (Digital output), make sure that wiring does not contact any component on the circuit board, or any low-voltage (CN1) wiring.

5. Control Adaptor

(1) Connecting to indoor units

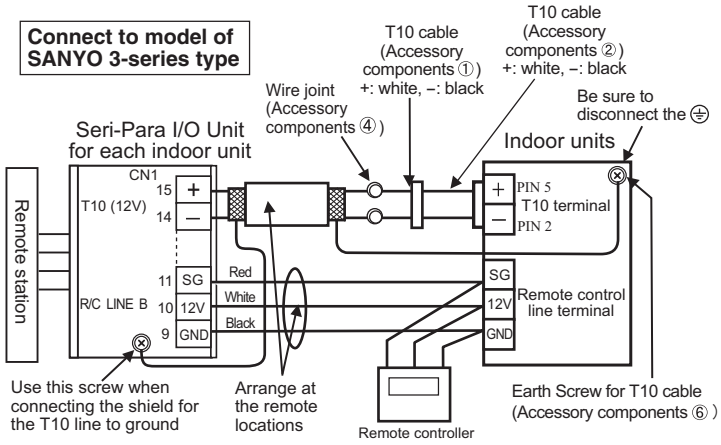
- Do not run the control lines and power cables in the same conduit, do not connect those lines and cables with the same wire, and do not place those lines and cables close together. (Maintain a minimum 30 cm separation.)
- Wiring specifications
  Type: vinyl insulated cord with sheath
  Thickness: 0.5 to 2.0 mm^2
  Length: 100 m maximum
  * Use the shielded wire for the 12 V power cable (T10).

Connect to model of Panasonic or SANYO 4-series or newer type



- Remote control line
  Connect terminals 12 and 13 (Remote Control Line A) on the Seri-Para I/O Unit terminal block CN1 to the Remote Control terminals of the indoor unit. There is no polarity for the signal wires.
- 12V power supply line
  Connect terminals 14 and 15 (12V Power Supply Line) on the Seri-Para I/O Unit terminal block CN1 to the T10 terminal of the indoor unit. The polarity of the connection is important; make sure to connect the + and - terminals correctly.
  Wiring the polarity incorrectly may result in damage to the units.

Connect to model of SANYO 3-series type



- Remote control line
  Connect terminals 9, 10, and 11 (Remote Control Line B) on the Seri-Para I/O Unit terminal block CN1 to the Remote Control terminals of the indoor unit. The polarity of the connection is important; make sure to connect the GND, 12V and SG correctly.
  Wiring the polarity incorrectly may result in damage to the units.
- 12V power supply line
  Connect terminals 14 and 15 (12V Power Supply Line) on the Seri-Para I/O Unit terminal block CN1 to the T10 terminal of the indoor unit. The polarity of the connection is important; make sure to connect the + and - terminals correctly.
  Wiring the polarity incorrectly may result in damage to the units.

3

5. Control Adaptor

Cautions

* In addition to the Seri-Para I/O Unit, be sure to install a remote control or centralized control device (system controller, etc.) in the indoor unit
* Two or more Seri-Para I/O Units cannot be linked within a remote control line.
* The Seri-Para I/O Unit cannot be used with a control device which uses the T10 terminal of the indoor unit (example: indoor unit relay board, schedule timer, etc.)

(2) Connecting to the Remote Stations

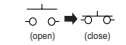
- Do not run the control lines and power cables in the same conduit, do not connect those lines and cables with the same wire, and do not place those lines and cables close together. (Maintain a minimum 30 cm separation.)

Name	Input/ output item	Seri-Para I/O Unit side		Remote Station side	
		Input/output conditions	Terminal number	Example Circuit	Input/output conditions
Digital input/output terminal	Digital input ※1	DI1 Input DI2 Input DI3 Input Voltage a-contact static or Voltage a-contact pulses Allowable contact voltage and current : DC 24 V, 10 mA Voltage present / absent switch : S3 Voltage absent : set to [NON VOLTAGE] Voltage present : set to [VOLTAGE]	• For voltage absent input (factory default) • For voltage present input	DC12-24V GND	Voltage present 12 to 24V or Voltage absent When pulse input: 200 ms minimum
	Digital output ※2	Start output Alarm output No-voltage a-contact static Allowable contact voltage and current : AC 240 V, 3A DC 24 V, 3A (Minimum load 10mA)			
Analog input/output terminal	Analog input ※3	Indoor temperature setting input Input voltage : 0 to 10V or 0 to 140 Ω Temperature setting range: Within the indoor units temperature setting range Temperature reading: In steps of 1°C Set temperature input select switch : S4 Voltage level input: set to [0 to 10V] Resistance connection : set to [0 to 140 Ω]		FG	For analog inputs, use within 0.1% of reference accuracy
	Analog output ※4	Indoor temperature monitor output Output current : 4 to 20 mA Temperature indication range : 5 to 36 °C, 0.5 °C step		FG	Allowable load: 240 Ω maximum

5. Control Adaptor

※1 Digital input

- Select the control type using control type setting switch S1, according to the table below.

Control type	Input1 (DI 1)		Input2 (DI 2		Input3 (DI 3)		Voltage a-contact static/pulses ※1
	 (open) (close)	 (close) (open)	 (open) (close)	 (close) (open)	 (open) (close)	 (close) (open)	
0	Start Fan low	Indoor units stop when all of Input 1, 2, 3 are open	Start Fan medium	Indoor units stop when all of Input 1, 2, 3 are open	Start Fan high	Indoor units stop when all of Input 1, 2, 3 are open	All input: static
1	Start Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	Start Accept R/C Start/Stop	Stop Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	-	Input 1, 2: static Input 3: pulse
2	Start Prohibit R/C Start	Stop Prohibit R/C Start/Stop	Accept R/C Start/Stop	Stop Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	-	Input 1, 2: static Input 3: pulse
3	Start <-> Stop Prohibit R/C Start/Stop	-	Start <-> Stop Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	All input: pulse
4	Start Prohibit R/C Start/Stop	-	Start Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	
5	Start Prohibit R/C Start	-	Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	
6	Start Accept R/C Start/Stop	-	Stop Accept R/C Start/Stop	-	-	-	
7	Start <-> Stop Prohibit R/C Start/Stop	-	Start <-> Stop Accept R/C Start/Stop	-	Set thermostat OFF	Release thermostat OFF	Input 1, 2: pulse Input 3: static
8	-	-	-	-	-	-	-
9	Heat	-	Cool	-	Fan	-	All input: pulse
10	Heat Start	Indoor units stop when all of Input 1, 2, 3 are open	Cool Start	Indoor units stop when all of Input 1, 2, 3 are open	Fan Start	Indoor units stop when all of Input 1, 2, 3 are open	All input: static
11	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-
15	Start	Stop	-	-	Set thermostat OFF	Release thermostat OFF	All input: static

※ R/C: Remote Controller

※1: When inputting pulses, set the pulse width to 200 ms.

- Wiring specifications

  Type: vinyl insulated cord with sheath
  Thickness: 0.5 to 2.0 mm^2
  Length: 100 m maximum

※2 Digital output

- D01 for start output signal.
  D02 for alarm output signal.
- Maximum allowable contact voltage and current are AC 240 V and 3 A maximum or DC24 V and 3 A maximum.
- Wiring specifications are for digital input.

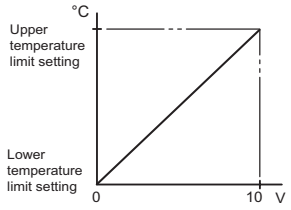
5. Control Adaptor

※3 Analog input

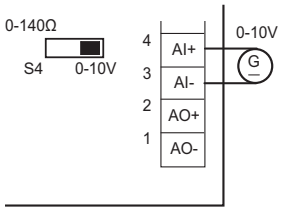
●Select the temperature setting control method from the following 3 types.
- Input voltage ① (equally divided upper and lower setting temperature limits)
- Input voltage ② (fixed voltage)
- Input resistance

●In case of Input voltage ①, ②
- Set the Set temperature input switch S4 to "0 to 10 V" (factory default)
- Wiring specifications
  Type: vinyl insulated cord with sheath (shield line recommended)
  Thickness: 1.25 to 2.00 mm^2
  Length: 70 m maximum

●Input voltage ① (equally divided upper and lower setting temperature limits) (factory default)
- Performed in the input range of 0 to 10 V DC (lower setting temperature limit to upper setting temperature limit).
- Relationship between setting temperature and voltage is as the diagram below.
- Upper and lower temperature setting limits may vary according to the indoor units and operation mode.
  Refer to the relationship between setting temperature and voltage, described in (example) 3-1 "Operation mode of a typical model [lower limit to upper limit]".

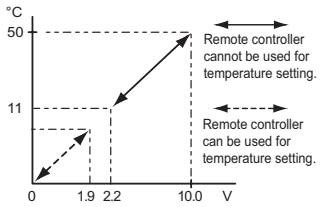


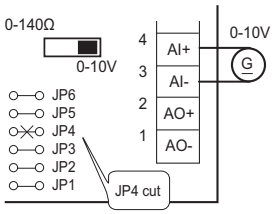
Relationship between input voltage and temperature



Line connection

●Input voltage ② (fixed voltage)
- Performed in the input range of 0 to 10 V DC.
- The effective range of the setting temperature is 2.2 V to 10 V (11 °C to 50 °C). Remote controller cannot be used for temperature in this range.
- When the input exceeds the upper or lower setting temperature limits, it is set to the upper or lower limits.
  For example, in case of air-conditioning (cool) [18 °C to 30 °C], if the voltage is below 3.5 V, the temperature is set to 18 °C, and if over 6.2 V, to 30 °C.
- To set the temperature using remote controller, set the input voltage below 1.9 V.



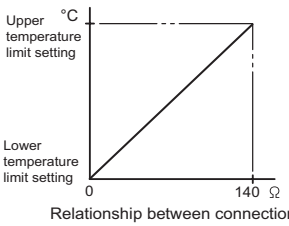


Mapping table of setting temperature and input voltage (input voltage ②)

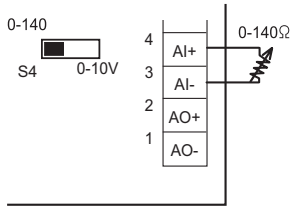
Temperature setting [°C]	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Input voltage [V]	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0

Note:
Input voltage after an indoor unit has been connected. The maximum input voltage is 10 V. Over 10 V input voltage may cause malfunction.

● Input resistance
- Temperature setting (1 °C step) is performed in the range of 0 to 140 Ω.
- Relationship between setting temperature and resistance is as the diagram below.
- Upper and lower temperature setting may vary according to the indoor units and operation mode.
  Refer to the relationship between setting temperature and resistance, described in (example) 3-1 "Operation mode of a typical model [lower limit to upper limit]".
- Set the Set temperature input switch S4 to "0 to 140 Ω".
- Wiring specifications
  Type: vinyl insulated cord with sheath (shield line recommended)
  Thickness: 1.25 to 2.00 mm^2
  Length: 70 m maximum



Relationship between connection resistance and temperature

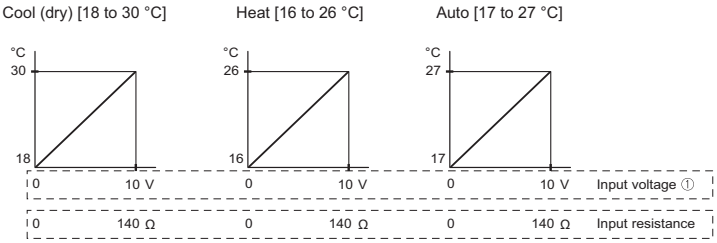


Line connection

3

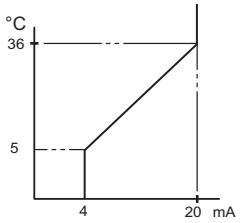
5. Control Adaptor

(example) 3-1: Operation mode of a typical model [lower limit to upper limit °C]



※4 Analog output

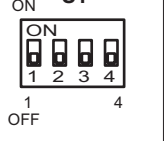
- The indoor temperature monitor output is from 4 to 20 mA DC (5 to 36°C), and the temperature can be set in steps of 0.5°C.
  Take care of the measurement units used by the central monitor. The wiring specifications are for analog input. Keep the load resistance below 240 Ω.



Relationship between current value and temperature

Settings switch

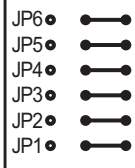
Control type setting switch S1



Control type	S1 1	2	3	4	Control type	S1 1	2	3	4
0	–	–	–	–	8	–	–	–	●
1	●	–	–	–	9	●	–	–	●
2	–	●	–	–	10	–	●	–	●
3	●	●	–	–	11	●	●	–	●
4	–	–	●	–	12	–	–	●	●
5	●	–	●	–	13	●	–	●	●
6	–	●	●	–	14	–	●	●	●
7	●	●	●	–	15	●	●	●	●

Refer to digital input.

Detail setting switch S2



JP6	Connection	N/C	(factory default)
	Cut	N/C	
JP5	Connection	With Remote controller or centralized control system	(factory default) ※4
	Cut	Without Remote controller or centralized control system	※4
JP4	Connection	Input voltage ①	(factory default) ※3
	Cut	Input voltage ②	※3
JP3	Connection	Output control temperature as room temperature	(factory default) ※2
	Cut	Output intake temperature as room temperature	※2
JP2	Connection	Set temperature push priority	(factory default) ※1
	Cut	Prohibit Remote controller temperature setting	※1
JP1	Connection	N/C	(factory default)
	Cut	N/C	

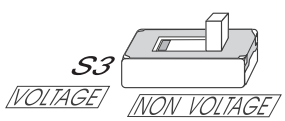
※1: Switches the local remote control temperature setting operation between push priority and operation prohibited.

※2: Switches the room temperature monitor output between the temperature used by the controller (when heating, the intake temperature with shift, or the remote control sensor) and the intake temperature.

※3: **Cut (fixed voltage) JP4, although no change the setting temperature with Seri-Para I/O Unit. Do not input voltage to No.3 and 4 (AI±) of CN1 at the time.**

※4: When using the Seri-Para I/O Unit, it is standardized to connect a remote controller or a centralized control system (i.e. System controller). To use the Seri-Para I/O Unit by itself (without a remote controller or a centralized control system), cut JP5. In this regard, however, the operational functions (such as operation mode, fan speed and wind direction) will be limited with only the Seri-Para I/O Unit.

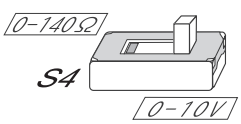
Voltage present / absent switch S3



(factory default)

For digital input, switches between voltage present and voltage absent.

Set temperature input switch S4

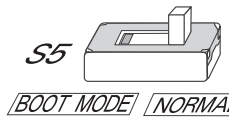


(factory default)

For analog input, switches between input voltage and input resistance.

5. Control Adaptor

Boot Switch S5



(factory default)

Always set the S5 switch to NORMAL.

LED (Green) display

LED (Green) display

LED display	Meaning	Action to take
Off	Power Off	Check the remote control line connection
Blinking at 3 s intervals	12V (T10 terminal) power supply error	Check the power supply line connection Make sure that the fuse of the T10 cable (accessory components 1) does not meltdown.
On/off out at 1 s intervals	Indoor unit alarm	Clear the indoor unit alarm
On/off out at 100 ms intervals	Initializing communications, communications error	Check the remote control line connection
On ※1	Normal operation	-

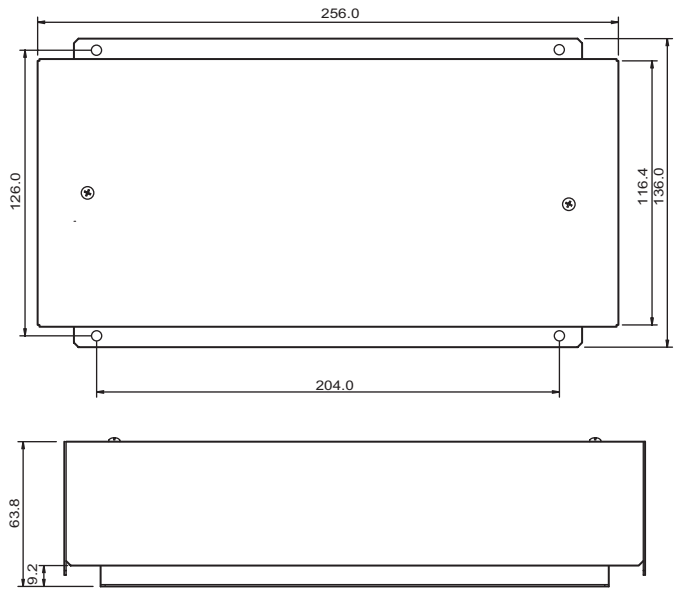
※1: When transmitting setting data to an indoor unit, the LED will be turned off for 200 ms.

Product specifications

Power	DC12V
Power consumption	1.2W, 0.1A
Operating environment conditions	Temperature: -10 to 50°C; Humidity: 20 to 80%; for indoor use only
External dimensions	256.0 mm (w) x 136.0 mm (d) x 63.8 mm (h)
Weight	0.9 kg

External dimensions

unit: mm



3

Seri-Para I/O Unit for outdoor unit (CZ-CAPDC2) INSTALLATION INSTRUCTIONS

Procedures and Technical Points for Test Run

Warnings and Cautions

The precautions given in this manual consist of specific "Warnings" and "Cautions." They provide important safety-related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠ **Warning** This symbol refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.

⚠ **Caution** This symbol refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

∗ After installation is completed, perform a test run to check for operating trouble. As you do, use the central control device Operation Manual and explain operating procedures to the customer. Then request that the customer store the Procedures and Technical Points for Installation of LonWorks Interface (Electrical Work) together with the central control device Operation Manual.

⚠ Warning

* Be sure to arrange installation from the dealer where the system was purchased or using a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.

*Only a qualified electrician should attempt to connect this system, in accordance with the instructions in "technical standards related to electrical design," "local wiring regulations," and this manual. Electric shock or fire may result if electrical work is not correctly done.

ELECTRICAL WIRING REQUIREMENTS

Precautions regarding electrical wiring

*Use a dedicated electrical circuit. If the electrical circuit capacity is insufficient a danger of electric shock and fire may be present.

*Use the specified cables (type and wiring diameter) for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.

*The installation location requires the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.

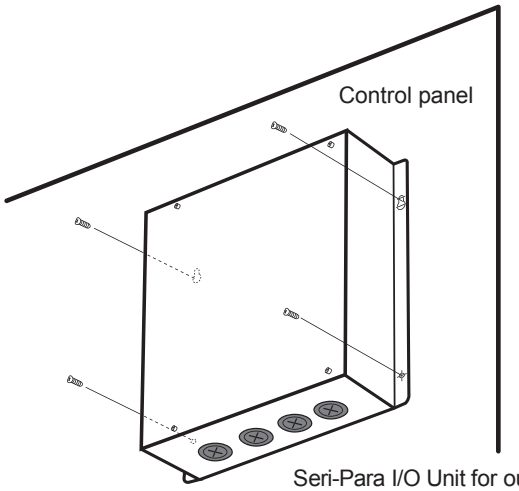
*Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations. The circuit breaker must be an approved 10-16 A, having a contact separation in all poles.

5. Control Adaptor

■ Installing the Seri-Para I/O Unit for outdoor unit

<Note 1> Do not run the inter-unit control wiring, input/output lines, and power cables through the same conduit, or place the cables near one another. Doing so can cause malfunction.
<Note 2> Install the Seri-Para I/O Unit for outdoor unit away from any sources of electrical noise.
<Note 3> Avoid installing in any locations where the interface may come into contact with water, in locations where water accumulates, or in any extremely humid locations.
<Note 4> Avoid installing in any location that is subject to excessive vibration or physical impacts.

Note that when the Seri-Para I/O Unit for outdoor unit is used incorporated in the control panel, it is necessary to make local procurement of the control panel that can accommodate required number of the Seri-Para I/O Unit for outdoor unit.

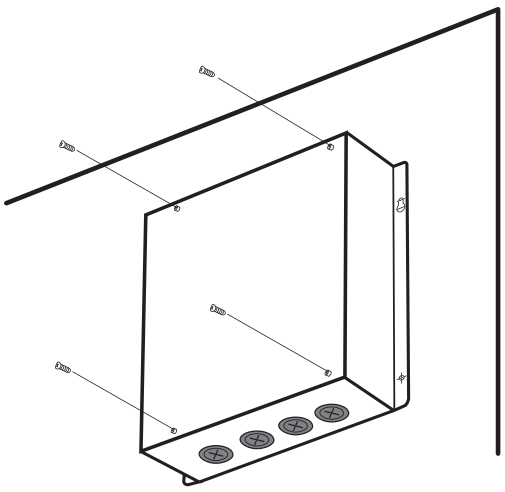


Seri-Para I/O Unit for outdoor unit

■ Wiring for the Seri-Para I/O Unit for outdoor unit

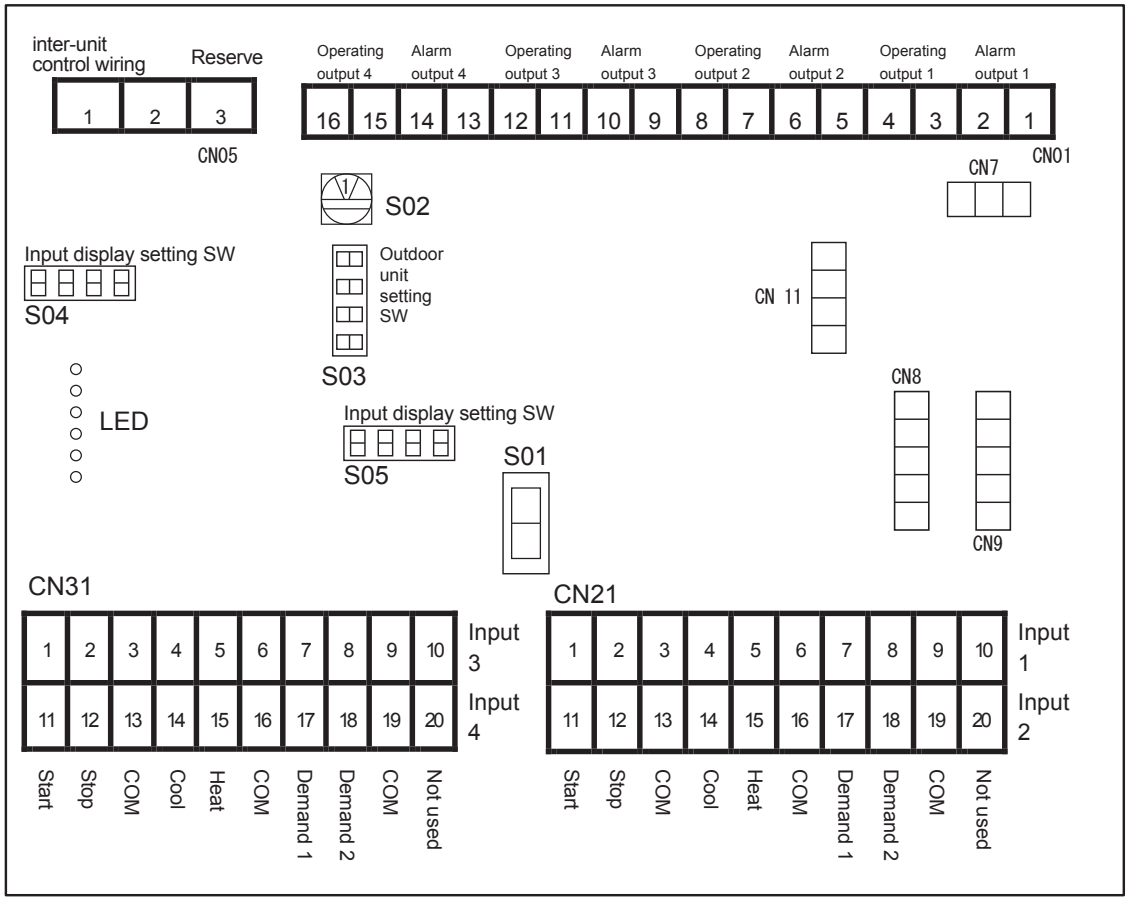
For safety, turn off the main power supply (breaker) before installing or removing the Seri-Para I/O Unit for outdoor unit.

Remove the 4 screws from the body and remove the top cover.



5. Control Adaptor

<Arrangement of components on the Seri-Para I/O Unit for outdoor unit board>



(1) Connecting the power

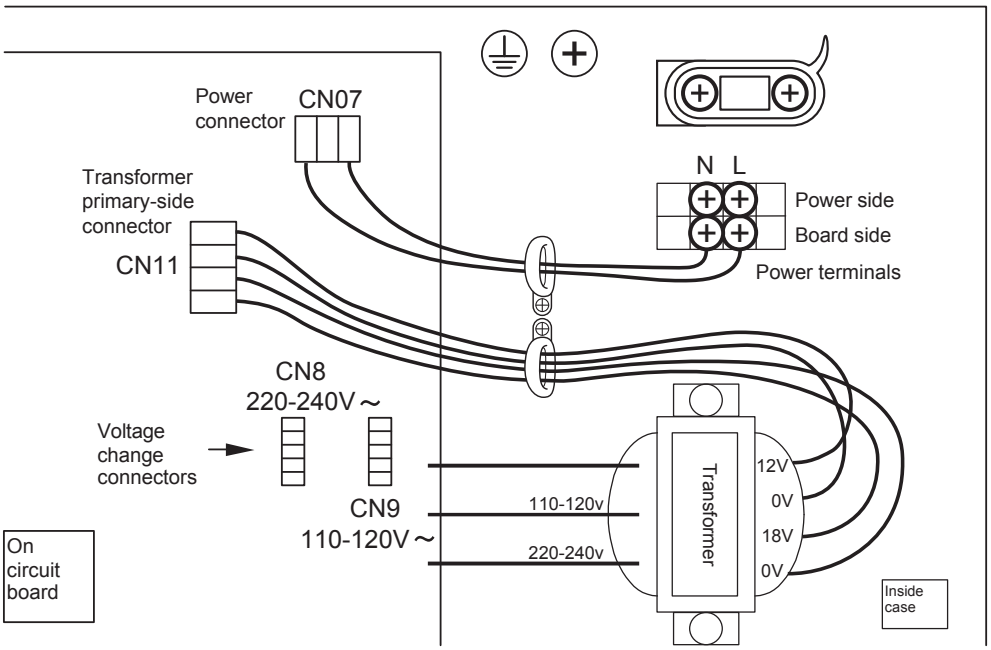
This interface can use either 110-120V AC power or 220-240V AC power. Insert the transformer primary-side (red 5P connector) into either the 110-120V AC CN (red connector labeled “CN 9”) or the 220-240V AC CN (red connector labeled “CN8”) on the circuit board. Check the power voltage that will be used before changing it. It is initially set for 220-240V AC power.

Caution

- Be careful: If the combination of the power voltage and the transformer primary-side selection is incorrect, the interface may be damaged.
- Turn the power off before changing the connector.
- This is a high-voltage circuit, and there is danger of electric shock. Do not touch the circuit when the power is on.
- Do not touch the power connector or any other protruding metal parts when the power is on.
- Tune the power on again when a defective communication or a mulfunction is generated.

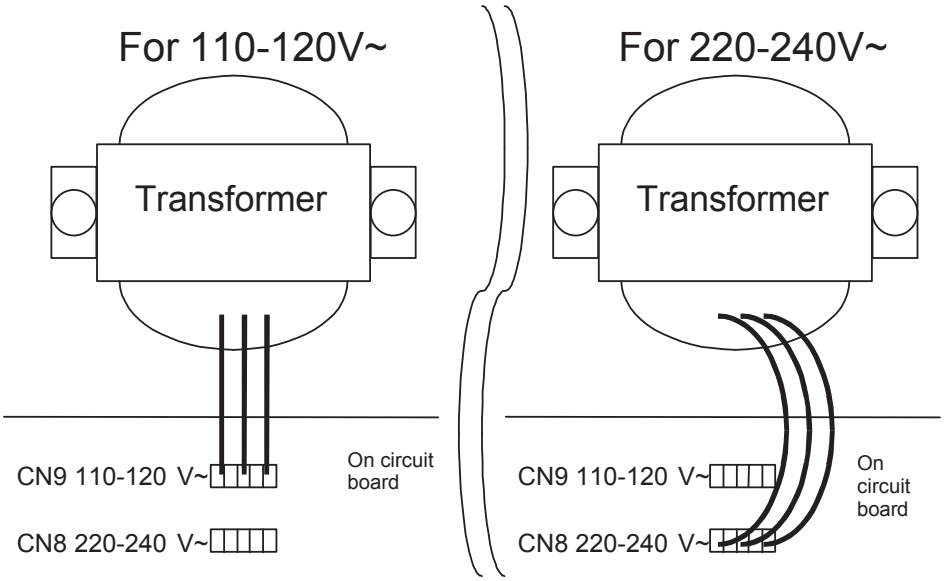
5. Control Adaptor

<Arrangement of transformer, power connector, and terminal block>



Changing the voltage:

- For 110-120V AC specifications, connect the 5P connector from the transformer to the 110-120V AC side, as shown in the figure below. (Because of the danger of electric shock, turn the power off before changing the connector.)

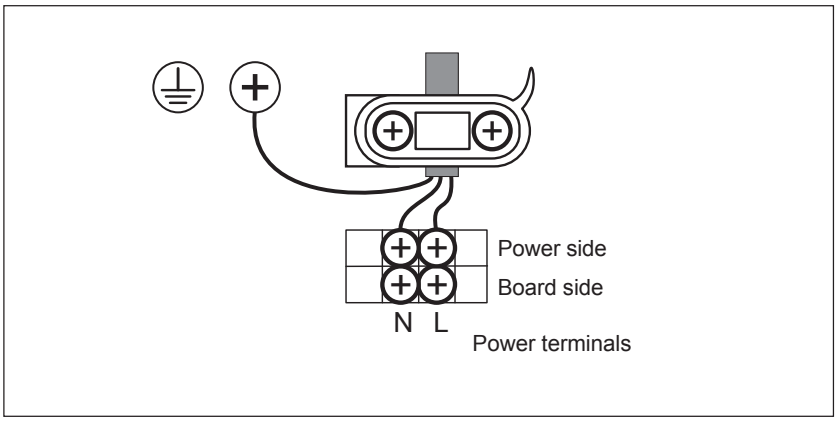


3

5. Control Adaptor

<Wiring Procedure>

- Connect the power supply lines to the L and N power suplly terminals (the power supply neutral to the N terminal.)
- Connect an earth ground line to the screw.



(2) Connecting the Seri-Para I/O Unit for outdoor unit and the inter-unit control wiring

- Use the inter-unit control wiring to connect the Seri-Para I/O Unit for outdoor unit to the A/C units.
- For the inter-unit control wiring, use twin-core 0.5– 2 mm^2 wires and shielded wiring. (Maximum length 1km.) There is no polarity to the signal wires.

  Do not use the same cable for the inter-unit control wiring and power cables. Do not run them through the same conduit or place the cables near one another. For the inter-unit control wiring, use signal wires that are clearly differentiated from the power cables.

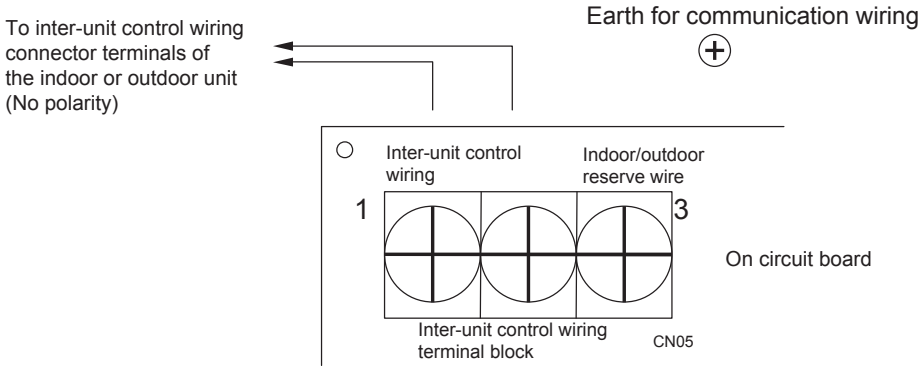
<Signal wire type> Thickness: 0.5 – 2.0 mm^2

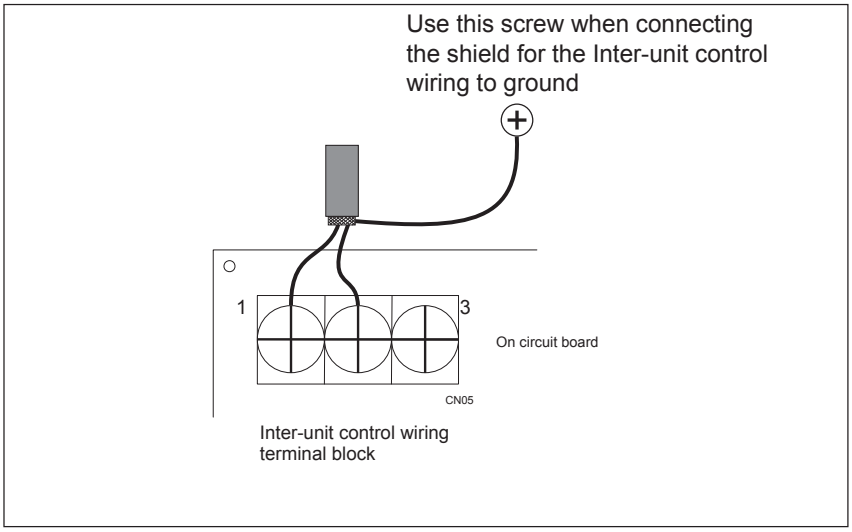
- CCV Vinyl-insulated vinyl-sheath control cable
- VCTF Vinyl cabtyre round cable
- VCT 600V vinyl cabtyre cable
- VVR Vinyl-insulated vinyl-sheath round cable
- MVVS Braided shielded instrumentation cable
- CPEVS Shielded polyethylene-insulated vinyl-sheath cable

5. Control Adaptor

<Wiring procedure>

- Inter-unit control wiring (Use the shielded wiring)
- Connect the inter-unit control wiring connector terminals for the indoor or outdoor unit to CN05 1 and 2 on the board's inter-unit control wiring terminal block (for communications).





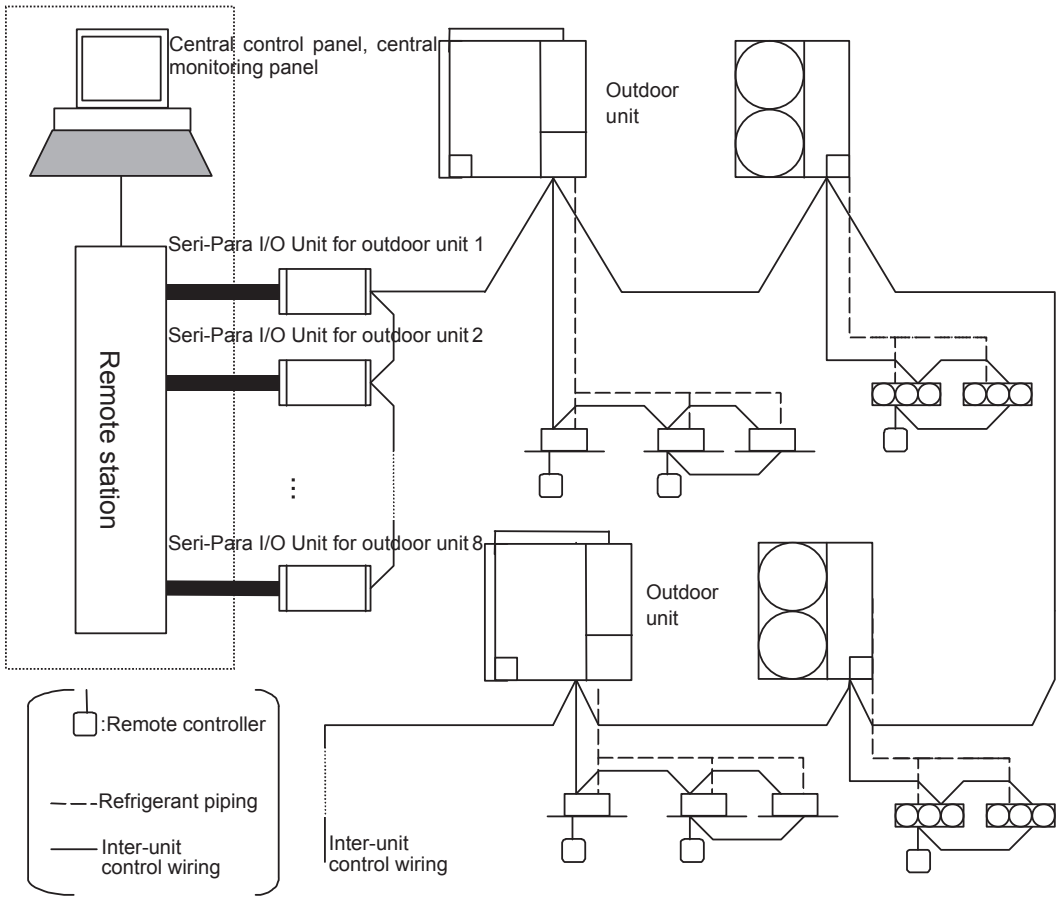
Check that the power cable (110-120/220-240V AC) has not been wired to the inter-unit control wiring terminal block. If power is accidentally applied here, the board fuse (F01) will blow in order to protect the circuit board. After correcting the power cable connection, wire by connecting the inter-unit control wiring to CN05 1 to 3 (using the indoor/outdoor reserve wire).

(Be sure to turn the power off before beginning work.)

5. Control Adaptor

<Basic wiring diagram>

- The diagram below shows a sample wiring arrangement of inter-unit control wiring for the Seri-Para I/O Unit for outdoor unit.
- One system can include a maximum of 30 connected outdoor units and 64 connected indoor units.
- One Seri-Para I/O Unit for outdoor unit can be connected to a maximum of 4 outdoor units in 1 system. A maximum of 8 Seri-Para I/O Unit for outdoor units can be connected to control up to 30 outdoor units.



(3) Connections between the Seri-Para I/O Unit for outdoor unit and external connectors(central control panel, central monitoring panel)

Name	Input/output item	Seri-Para I/O Unit for outdoor unit side		Equipment (central control panel, central monitoring panel) side		
		Input/output condition	Treminal No.	Separation terminal	Sample circuit	Input/output condition
Contact input/output terminal	Status output	Operating output 1 - 4 No-voltage a-contact output Allowable contact voltage and current: 30 V, 1 A Minimum applied load: 1V, 1 mA	CN01-3,01-7, CN01-11,01-15 CN01-4,01-8, CN01-12,01-16		Digital input	Response time for start/stop input: Max. 20 s
		Alarm output 1 - 4 No-voltage a-contact output Allowable contact voltage and current: 30 V, 1 A Minimum applied load: 1V, 1 mA	CN01-1,01-5, CN01-9,01-13 CN01-2,01-6, CN01-10,01-14		Digital input	Response time for start/stop input: Max. 20 s
	Control input	All-start input (pulse/static) Photocoupler input Allowable contact voltage and current: DC 24V, 10 mA Switch 01 is set as a no-voltage contact (setting when unit is shipped).	CN21-1,21-11, CN31-1,31-11 CN21-2,21-12, CN31-2,31-12 CN21-3,21-13, CN31-3,31-13			Pulse width: 1 s or more No-voltage a-contact output
		All-start input All-stop input (pulse/static) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as DC 24 V contact.	CN21-1,21-11, CN31-1,31-11 CN21-2,21-12, CN31-2,31-12 CN21-3,21-13, CN31-3,31-13		24V COM	Pulse width: 1 s or more No-voltage a-contact output

5. Control Adaptor

Name	Input/output item	Seri-Para I/O Unit for outdoor unit side		Equipment (central control panel, central monitoring panel) side		
		Input/output	Terminal No.	Separation terminal	Sample circuit	Input/output condition
Contact input/output terminal	Control input (static)	Cool input Heat input (Demand 1, demand 2) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as a no-voltage contact (setting when unit is shipped).	CN21-4,21-14, (21-7,21-17) CN31-4,31-14, (31-7,31-17) CN21-5,21-15, (21-8,21-18) CN31-5,31-15, (31-8,31-18) CN21-6,21-16, (21-9,21-19) CN31-6,31-16, (31-9,31-19)			Pulse width: 1 s or more No-voltage a-contact output
		Cool input Heat input (Demand 1, demand 2) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as DC 24 V contact.	CN21-4,21-14, (21-7,21-17) CN31-4,31-14, (31-7,31-17) CN21-5,21-15, (21-8,21-18) CN31-5,31-15, (31-8,31-18) CN21-6,21-16, (21-9,21-19) CN31-6,31-16, (31-9,31-19)		24V COM	Pulse width: 1 s or more No- voltage a-contact output

Note: Demand 1 and 2 (shown in parentheses) are listed together because their structure is the same as cool/heat input.

- The length of digital signal wiring between the Seri-Para I/O Unit for outdoor unit and the equipment side must be 100 m or less.

5. Control Adaptor

* Input terminal block table

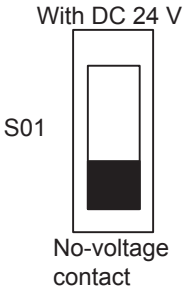
	Input 1	Input 2	Input 3	Input 4
All-start	CN21-1 CN21-3	CN21-11 CN21-13	CN31-1 CN31-3	CN31-11 CN31-13
All-stop	CN21-2 CN21-3	CN21-12 CN21-13	CN31-2 CN31-3	CN31-12 CN31-13
Cool	CN21-4 CN21-6	CN21-14 CN21-16	CN31-4 CN31-6	CN31-14 CN31-16
Heat	CN21-5 CN21-6	CN21-15 CN21-16	CN31-5 CN31-6	CN31-15 CN31-16
Demand 1/ thermostat OFF	CN21-7 CN21-9	CN21-17 CN21-19	CN31-7 CN31-9	CN31-17 CN31-19
Demand 2/ remote-con-troller inhibit	CN21-8 CN21-9	CN21-18 CN21-19	CN31-8 CN31-9	CN31-18 CN31-19

* Polarity for input wiring

	Input (start, stop, cool, heat, demand 1/thermostat OFF demand 2/remote-controller inhibit)	COM
S01-direction no-voltage contact	Because it is a no-voltage contact, there is no polarity.	Because it is a no-voltage contact, there is no polarity.
S01-direction DC 24 V contact	Positive	COM

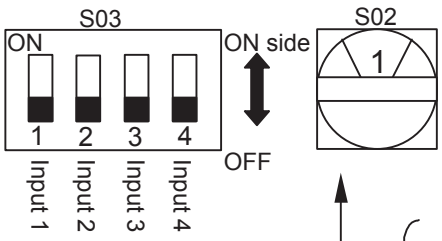
■ Setting Switches

• Setting switch S01 (Change the voltage before turning on the power.)



• S01 (contact input voltage change SW) (Set as a no-voltage contact when unit is shipped.)
1. When using the input terminal as a no-voltage a-contact, set switch S01 to the no-voltage contact side.
2. When using the input terminal as a DC 24 V contact, set switch S01 to the DC 24 V voltage side.

• Setting switches S02 and S03



• S02 (outdoor SP address setting SW)
This switch sets the Seri-Para I/O Unit for outdoor unit address. (Refer to *1.)
• S03 (outdoor unit setting SW)
This switch sets the connected outdoor units. Be sure to turn the SW to the ON side for each input that will be used. (Note: If input is turned OFF, no input or output occurs.)

1: Outdoor unit addresses 1 - 4
2: Outdoor unit addresses 5 - 8
3: Outdoor unit addresses 9 - 12
4: Outdoor unit addresses 13 - 16
5: Outdoor unit addresses 17 - 20
6: Outdoor unit addresses 21 - 24
7: Outdoor unit addresses 25 - 28
8: Outdoor unit addresses 29 - 30
(0 is set the same as 1. 9 is set the same as 8.)

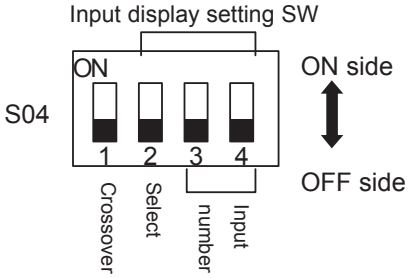
(*1) Relationship between the input/output terminal block (input/output 1 - 4) and the Outdoor unit address when S02 (outdoor SP address setting SW) is changed

S02 (outdoor SP address setting SW)	Input/output terminal block number				
	1	2	3	4	
1	1	2	3	4	System address (outdoor unit address)
2	5	6	7	8	
3	9	10	11	12	
4	13	14	15	16	
5	17	18	19	20	
6	21	22	23	24	
7	25	26	27	28	
8	29	30	30	30	

* Set the S02 not to overlap.

5. Control Adaptor

• Setting switch S04



• S04-1 (OFF when unit is shipped.)

Crossover	OFF	No crossover process (normal)
	ON	Crossover process performed (Connect only to terminal block input 1.)

* Crossover process: Performs the same process as if terminal block inputs 1 - 4 were wired across one another. (Processing proceeds as if inputs 2 - 4 were the same as input 1.) Even if there is crossover input, input and output operations are not performed if the S03 input is turned OFF.

• S04-2 (OFF when unit is shipped.)

Select	OFF	Displays the status of communications with the outdoor unit corresponding to LED 1 - 4.
	ON	Using the LED (6), displays the input status (start, stop, etc.) for the terminal block with the input number selected.

• S04-3 and 4 input number selection: Select the input number to check.

	S04-3	S04-4
Input 1	OFF	OFF
Input 2	OFF	ON
Input 3	ON	OFF
Input 4	ON	ON

* The following information is displayed by the LED, according to the settings of S04-2 (select) and S04-3 and 4 (input number).

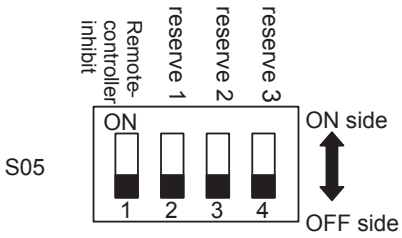
(If the select switch is ON, the LED illuminate according to the signal that is being input at the input terminal block with the selected number.)

Select	OFF (normal)	ON (for checking input)
LED explanation	1 ○ Status of communications with the outdoor unit corresponding to each number Normal: Lit Trouble: Flashing 2 ○ 3 ○ 4 ○ ○ ○	Start ○ Input present: Lit Stop ○ No input: Not lit Cool ○ Heat ○ Demand 1 ○ Demand 2 ○

Note: If S04-2 (select) is ON, there are cases when communications errors may go unnoticed. Therefore, leave this switch OFF when checking normal communications.

5. Control Adaptor

• Setting switch S05



• S05-1 (OFF when unit is shipped.)
Changes the remote-controller inhibit switch input as shown below.

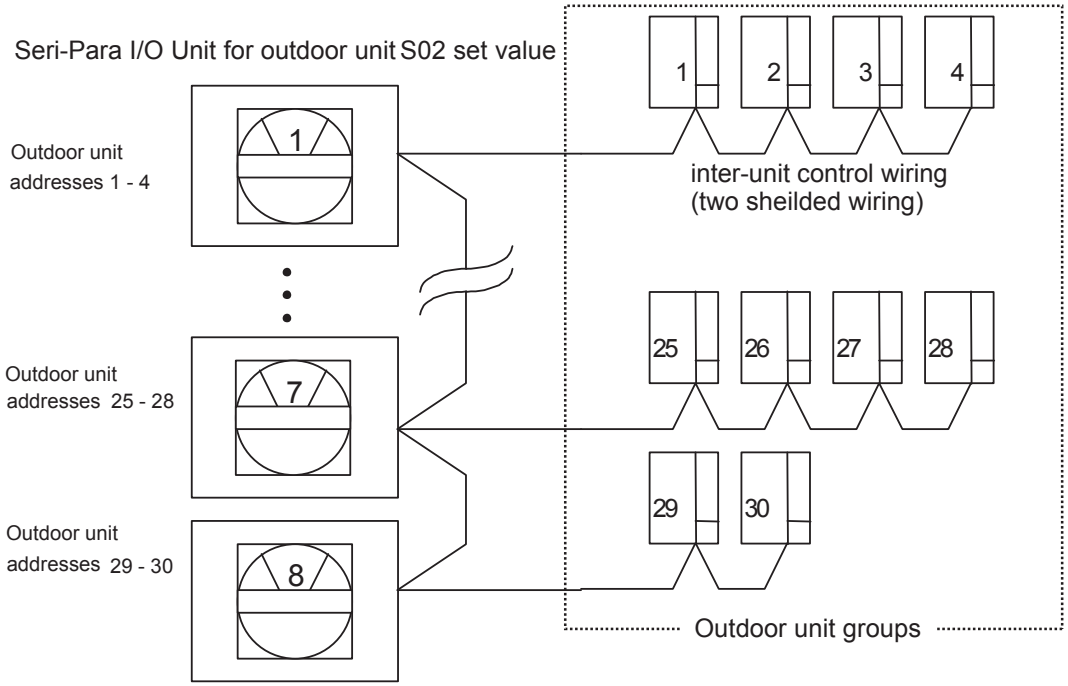
Remote-controller prohibit	OFF	Demand 1/demand 2
	ON	Thermostat OFF (*1)/remote-controller inhibit

*1 This input forces the thermostat to turn OFF (100% demand).

■ Detailed Explanation of Address Setting SW (S02)

The Seri-Para I/O Unit for outdoor unit addresses must be set (S02) when connecting and using multiple Seri-Para I/O Unit for outdoor units.

* The example here shows 8 Seri-Para I/O Unit for outdoor units and 30 outdoor units connected.



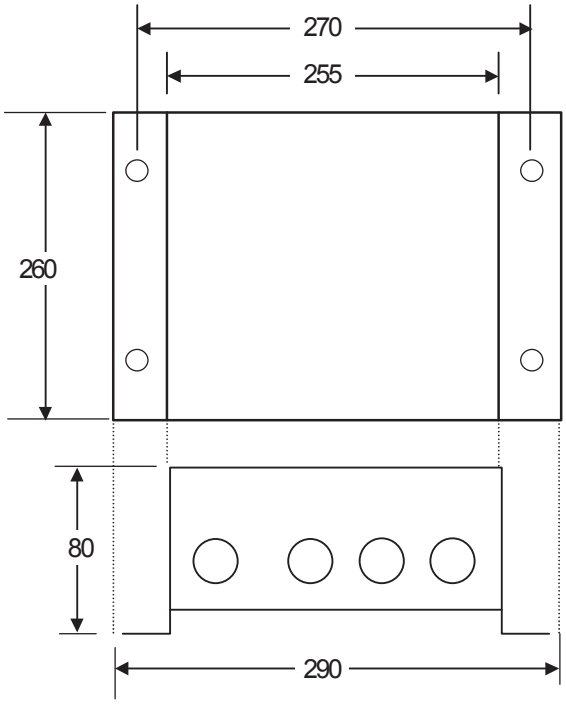
■ Test Run

1. Turn on the power to all A/C. Check that all test-runs are completed.
2. After the A/C test-runs are completed, follow the procedure below.
3. Turn on the power to the Seri-Para I/O Unit for outdoor unit. (Complete settings before turning on the power.)
4. If there is no trouble with communications between the Seri-Para I/O Unit for outdoor unit and the outdoor units, then generate all-start input from the Seri-Para I/O Unit for outdoor unit. (Connect “Start” and “COM” on the input terminal block.) Check the operating lamps. Check all inputs in the same way. To check inputs, set the input number that you wish to check with settings switches S04-3 and 4 (input number switches). Then switch S04-2 (select switch) to ON and check the input. (Refer to ■**Setting Switches**.)

- Approximately 3 minutes after trouble occurs in the communications between the Seri-Para I/O Unit for outdoor unit and the outdoor units, the communications-check LEDs will begin flashing.
  When these LEDs are flashing, check and correct the communications line connections and power for the outdoor units which correspond to the flashing LEDs.

5. Control Adaptor

■ External Dimensions



H80 x W290 x D260 mm

■ Product Specifications

Specifications

Rated voltage:	Single-phase 110-120 / 220-240 V ~
Rated frequency:	50 / 60 Hz
Power consumption:	Approx. 18 W
Weight:	3.2 kg

5. Control Adaptor

5-8. Demand Terminal For Outdoor Unit / CZ-CAPDC3
■ Installation Manual

Panasonic

F615017

ENGLISH

Demand Terminal For Outdoor Unit CZ-CAPDC3 Installation Manual

- This module is used to conduct a forced stop operation for the air conditioner.
- This module is used for demand control on an outdoor unit.

■ Before installing the demand terminal, be sure to thoroughly read the "Precautions in terms of safety" section in the installation manual.

Precautions in terms of safety	Always Observe Safety Precautions	All important descriptions regarding safety are listed here, and always observe them without fail. The following shows the safety marks and their meanings.

■ An explanation for the following safety marks/symbols is provided and indicates the level of harm or damage incurred from improper installation or disregarding the safety precautions.

Warning: This warning mark indicates that "There exists a possibility the serious injury or death may result".	This symbol indicates something that is PROHIBITED.
Caution: This cautionary mark indicates that "There only exists a possibility that injury or damage to property may result".	This symbol indicates something that is REQUIRED.

■ An explanation for the following safety symbols is provided and describes the type of precautions that are required.

Warning

- Ask the vendor or a qualified technician to perform the installation. A faulty installation carried out by the customer may lead to electric shock or fire.
- Be sure to carry out proper installation according to the installation manual. A faulty installation may lead to electric shock or fire.
- The unit must be installed in accordance with applicable national and local regulations. Any electrical work should only be carried out by qualified technician and use exclusive circuits without fail. Presence of insufficient capacity in power circuit or imperfection in execution leads to electric shock, fire, etc.
- Be sure to always use the parts accessories or the specified parts for the connection and installation. Failure to do so may lead to electric shock or fire.
- Connect all wiring and cables securely with the specified cables or wires so that external force from the cables does not transfer to the terminal connection section. An insecure or faulty connection may lead to unit failure, excessive heat, or fire.
- Be sure to always turn the power off before proceeding with wire and cable set up. Failure to do so may lead to electric shock or fire.

Caution

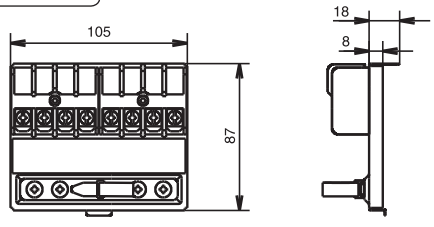
- Do not install near a place where there is risk of leaking flammable gas. Failure to do so can lead to electric shock or fire.

Accessories Check that you have the following accessories.

Name	Qty.	Diagram	Remark
Demand Terminal	1		For installing the demand controller For the forced stop output
Tie	4		For securing the cord connection
Screw	1		For installing the Demand Terminal

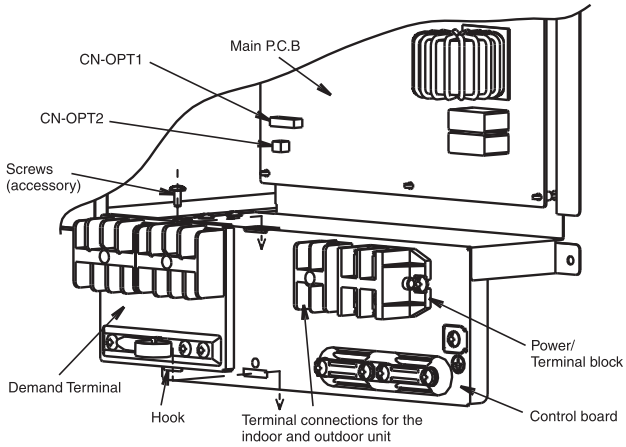
1. OUTSIDE DIMENSIONS

(Unit: mm)

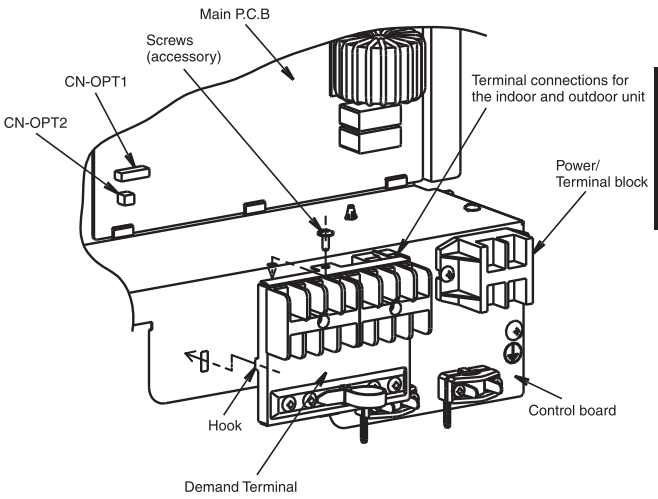


2. DEMAND TERMINAL INSTALLATION PROCEDURE

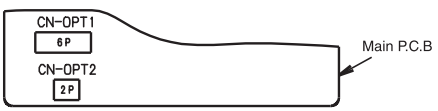
1. Control Board A (U-∗∗∗PE1∗∗)
   Set a Hook at the bottom of the Demand Terminal Board into the slit on the control board properly, and fixing the Demand Terminal Board with the screw securely.



1. Control Board B (U-∗LE1∗∗)
   Set a Hook at the left side of the Demand Terminal Board into the slit on the control board properly, and fixing the Demand Terminal Board with the screw securely.



2. For the both of the Control Board A and B
   Connect the connecting the wires from the Demand Terminal to the Main P.C.B by the connectors. (Connectors are located of lower left of the Main P.C.B)



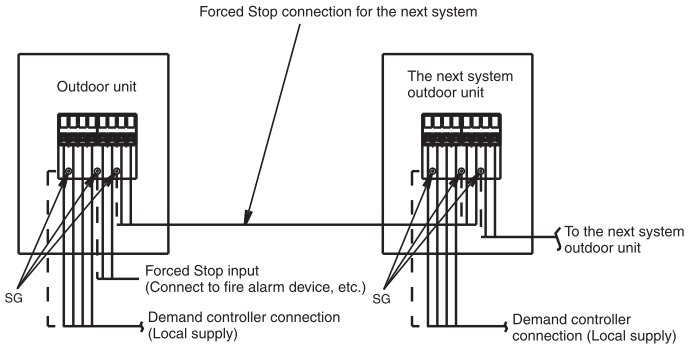
Connect 6P to CN-OPT1, 2P to CN-OPT2.

3

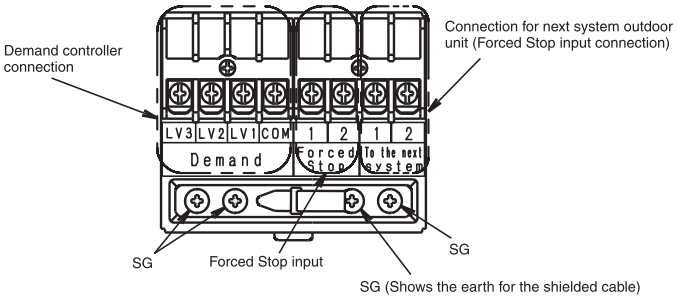
5. Control Adaptor

3. CONNECTION PROCEDURE

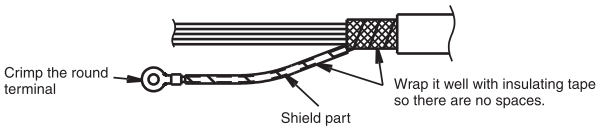
Be sure to always turn the power off first when setting up the wire and cable connections.
Failure to do so may lead to electric shock or unit failure.



The demand terminal set up is shown in the following illustration.



● Use a shielded cable for the cable connection.
For the shield part of the shielded cable twist the end out, crimp it with a round terminal, and connect it to the SG screw.
After crimping it with a round terminal, wrap it with insulating tape so there are no spaces and adjust it so the shield part does not touch any live parts.



⚠ Caution	Be sure that the shield part of the shielded cable does not touch the terminal block or any live parts. Failure to do so may lead to electric shock or fire.

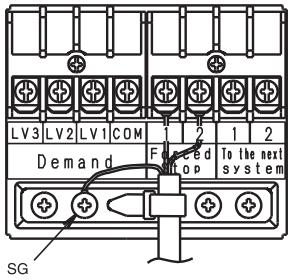
Continued on the back side

F615017

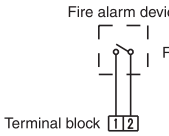
5. Control Adaptor

WHEN CONNECTION TO THE FORCED STOP INPUT

With the Forced Stop input, it is possible to override the air conditioning operation to force a stop if a signal is received from a fire alarm device, etc.

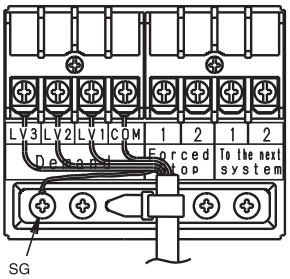


Connect the wiring (2-wire) to points 1 and 2 on the left side of the terminal block.
The shield part of the shielded cable is connected with SG under the terminal block.
Secure the wiring with the cord clamp located on the lower part of the terminal block.



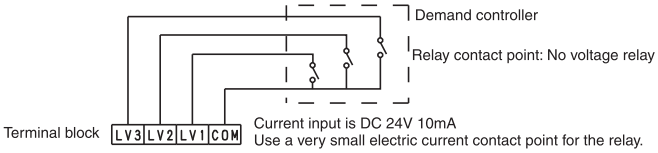
WHEN CONNECTING THE DEMAND CONTROLLER INPUT

It is possible to choose various demand levels.
Refer to the table shown on the right.



Terminal no. for demand section	Control Board A (U-✳✳✳PE1✳✳)	Control Board B (U-✳LE1✳✳)
LV1	Approx. 75% of rated current	Approx. 100% of rated current
LV2	Approx. 50% of rated current	Approx. 70% of rated current
LV3	Stop	Stop

Connect the wiring (4-wire) to the Demand section (LV1, LV2, LV3, COM) on the terminal block.
The shield part of the shielded cable is connected with SG under the terminal block.
Secure the wiring with the cord clamp located on the lower part of the terminal block.

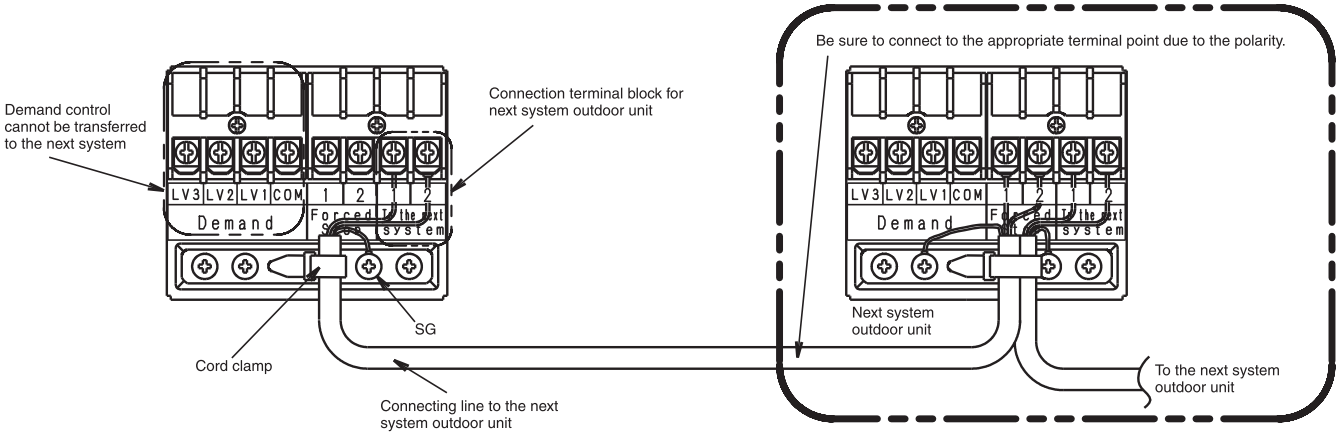


WHEN CONNECTING TO THE NEXT SYSTEM UNIT

- Forced Stop input can be transferred to the next system unit.
- When using the Forced Stop input, connect the wiring to the terminal points 1 and 2 on the right side of the lower part of the terminal block.
- The maximum wire/cable length is 100 m.
- The demand control cannot be transferred to the next system unit.
- When transferring to the next system, the maximum number of connecting units is 30.

1. Connecting the wiring to the lower part of the terminal block.
   When transferring the Forced Stop input to the next system connect the wiring (2-wire) to the terminal points 1 and 2 at the lower right side of the terminal block.
   The shield part of the shielded cable is connected with SG under the terminal block.
   Secure the wiring with the cord clamp located on the lower part of the terminal block.

2. Connecting the shielded cable to the terminal block for the next system.
   For the Forced Stop input, connect the wiring to the terminal points 1 and 2 at the lower right side of the terminal block.
   When connecting to the next system be sure to connect to the appropriate terminal point due to the polarity.

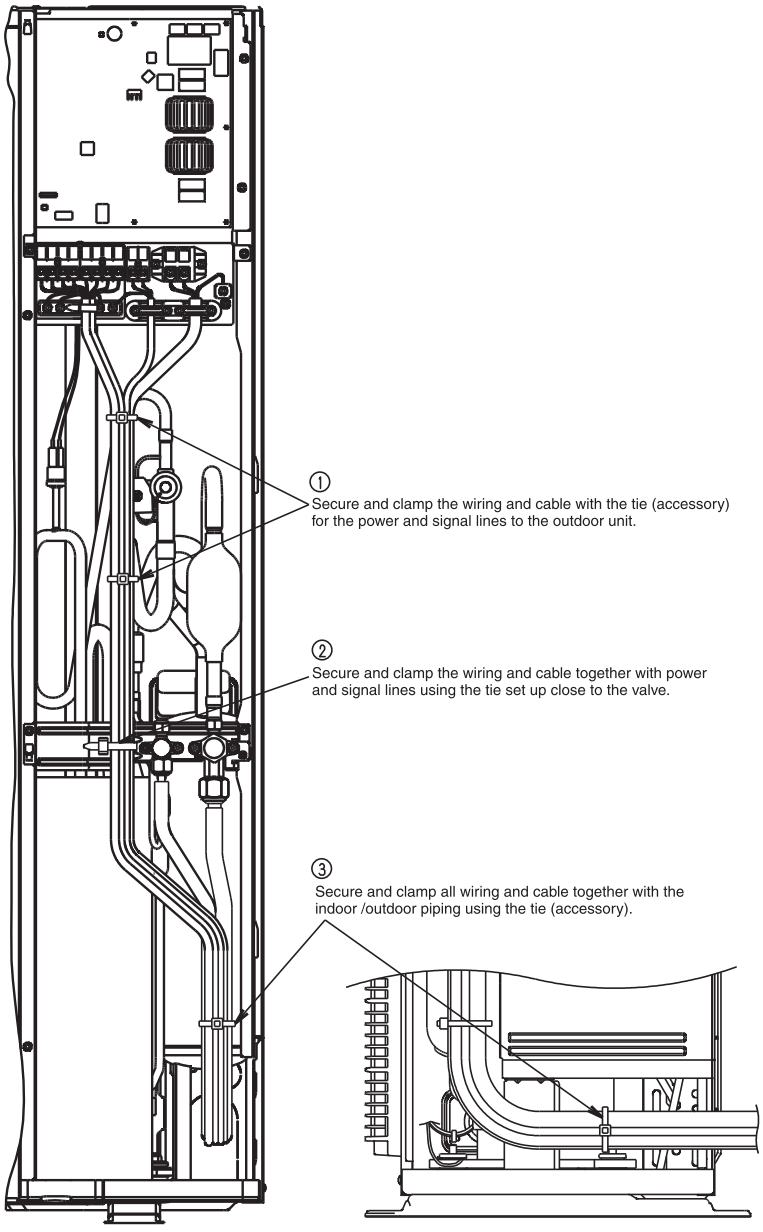


5. Control Adaptor

4. WIRING PROCEDURE

Follow the wiring procedure below for terminal connection.

① Set the wiring and cables for the power and signal lines to the outdoor unit together, and secure each wire and cable with the tie.
② Secure and clamp the power and signal lines with the tie, set up close to the valve.
③ Set up the wiring and cable for the outdoor unit piping and secure with a tie.



5. CHECK AFTER COMPLETING INSTALLATION

Check the signals to make sure the unit operates properly using an external input device.

PRINTED IN CHINA F615017 ①

5-9. LonWorks Interface / CZ-CLNC2

LonWorks Interface (CZ-CLNC2) INSTALLATION INSTRUCTIONS

--- Contents ---

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LonWorks is a registered trademark of the Echelon Corporation.

5. Control Adaptor

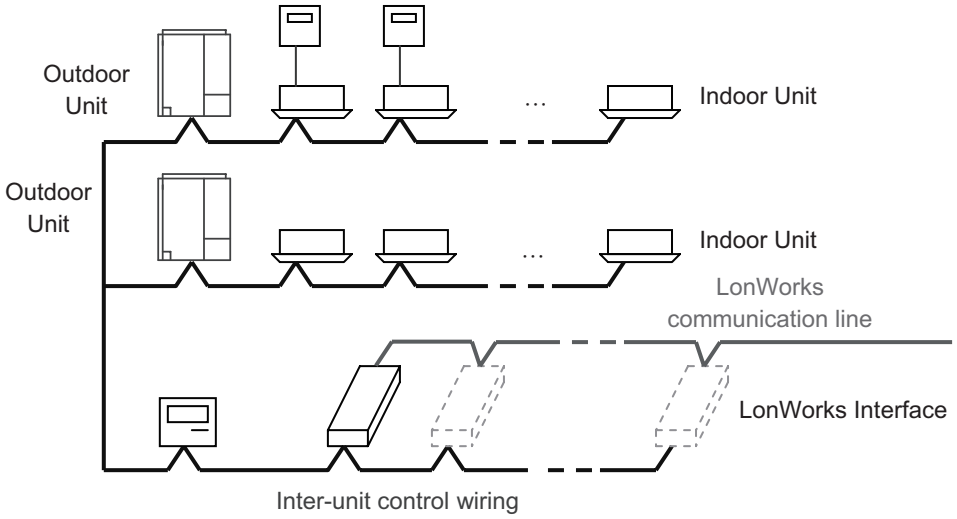
■ LonWorks Interface Overview

Product Overview

This interface is a communications interface for connecting LonWorks to an air conditioner unit control network.

From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units.

System Diagram



- Up to 16 groups of indoor units (maximum 64 units) can be controlled with 1 LonWorks Interface unit. For 17 or more groups of indoor units, connect additional interface units.
- Install a remote controller (or system controller, etc.), which can control the A/C units, to an inter-unit control wiring other than the LonWorks Interface unit.
- Before making the connection to the LonWorks Interface unit, set the central control addresses in the indoor units.

5. Control Adaptor

Functions

A/C unit settings from the LonWorks	Settings for each group of indoor units	Start/stop
		Temp. setting(*1)
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
	Settings for all units	Emergency stop
A/C unit status notifications made to the LonWorks		Start/stop
		Temp. setting
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
		Alarm status(*3)
		Indoor units with active alarms(*4)
		Room temp(*5)
		A/C unit status(*6)
Configuration properties		Transmission interval settings(*7)
		Minimum time secured for transmission(*8)

(*1) When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.
(*2) Two options can be selected using the setting switch from among remote-controller prohibit, fan speed setting, air direction setting and filter sign.
(*3) When indoor units are under group control, an alarm is determined to have occurred when the alarm occurs at one or more of the units.
(*4) The number of the indoor unit at which the alarm has occurred is notified. This makes it possible to identify at which indoor unit of the indoor unit group the alarm has occurred.
(*5) When indoor units are under group control, the room temperature of the main unit in the group is notified.
(*6) When an alarm occurs at one or more indoor units, the alarm code is notified as the indoor unit status.
(*7) All the data which can be output is output at the set interval.
(*8) The same data is not output continuously at the set interval.

■ Procedures for Installation (Electrical Work) of LonWorks Interface

Safety Precautions

* The following is intended for the installer responsible for installation and test operations of the LonWorks Interface, and should be carefully read before beginning.
* The precautions given in this manual consist of specific "Warnings" and "Cautions." They provide important safety-related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠Warning	This symbol refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠Caution	This symbol refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

※After installation is completed, perform a test run to check for operating trouble. As you do, use the central control device *Operation Manual* and explain operating procedures to the customer. Then request that the customer store this manual together with the central control device *Operation Manual.*

⚠Warning

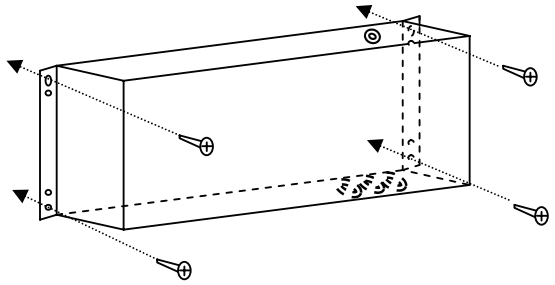
- Be sure to arrange installation from the dealer where the system was purchased or using a professional installer.
  Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Please install and ensure construction according to *Procedures for Installation (Electrical Work) of LonWorks Interface.*
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual.
  If the electrical circuit capacity is insufficient a danger of electric shock and fire may be present.
- Use the specified cables (type and wiring diameter) for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.
- Do the ground connection.
- The installation location requires the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.
- Circuit breaker must be incorporated in the fixed wiring in accordance with the wiring regulations. The circuit breaker must be an approved 10-16 A, having a contact separation in all poles.

Included Parts

No.	Part	Qty
(1)	Product manual	1

Installation Method

- The screws used to install the main unit must be provided by the installer.



- Install the LonWorks Interface away from any sources of electrical noise.

Wiring Specifications

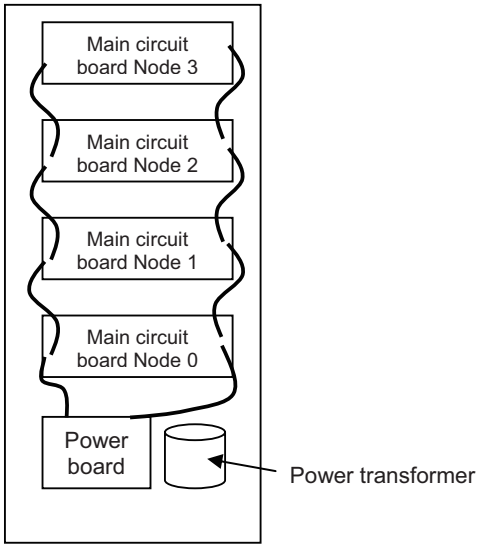
- For the inter-unit control wiring use twin-core 0.5 – 2 mm^2 shielded cables and ground the shield on both side.
- For the LonWorks communication line cables, use twisted-pair cables with a wire diameter of 0.51 mm or larger as recommended by Echelon Corp.

Examples of cables recommended by Echelon Corp			
Cable type	Wire diameter /AWG	Total cable length	
		Bus type	Free
24 AMG twisted-pair (TIA568A category 5)	0.51mm /24	900m	450m

- Do not use the same cable for the inter-unit control wiring, the LonWorks communication lines, and the power cable. Do not run them through the same conduit or place the cables near one another.
- Connect the cables so that there is no miswiring.
  (Miswiring can cause malfunction.)

LonWorks Interface Structure

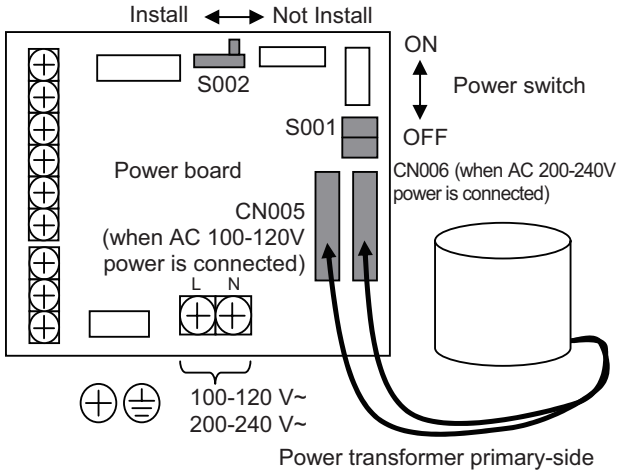
- This interface contains 4 LonWorks communication boards (nodes).
- Up to 4 indoor unit groups (maximum 32 units) can be assigned to 1 node.



5. Control Adaptor

Power Board Initial Settings

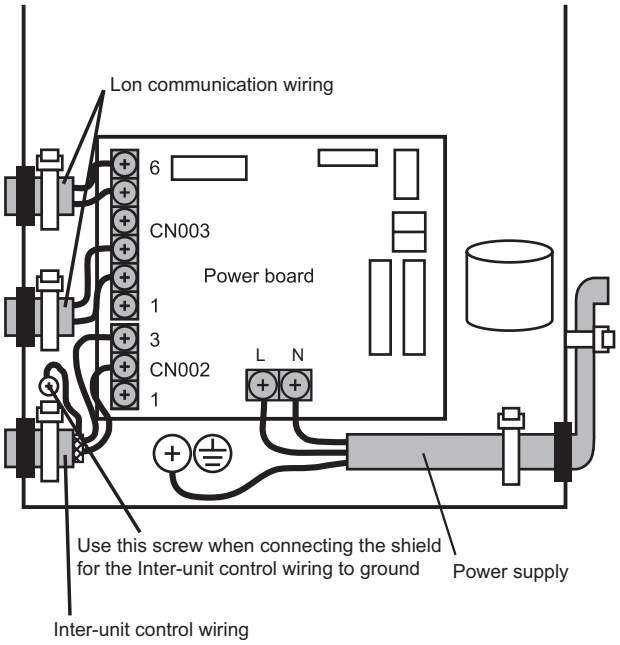
Not Install: Ordinarily, keep this set to "Not Install" (initial setting).
Install: Free topology terminal resistor (51Ω) for the LonWorks communication lines.



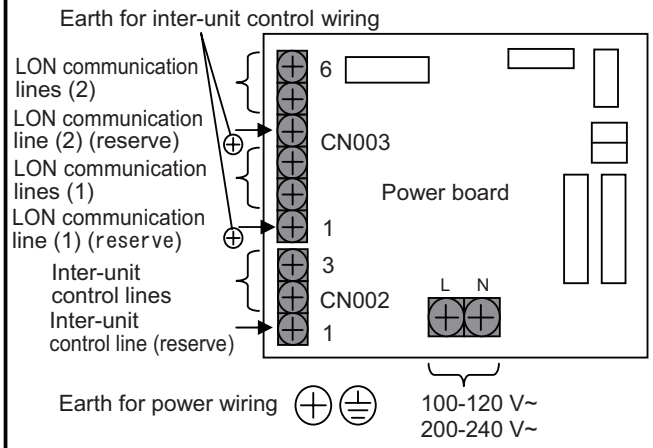
When AC 200-240V power is connected, connect the power transformer primary-side to CN006. When AC 100-120V power is connected, connect the power transformer primary-side to CN005. (It is connected to CN006 when the unit is shipped from the plant.)

Wiring Procedure

- Connect the power supply lines to the L and N power supply terminals.
  (the power suplly neutral to the N terminal.)
- Connect an earth ground line to the screw.

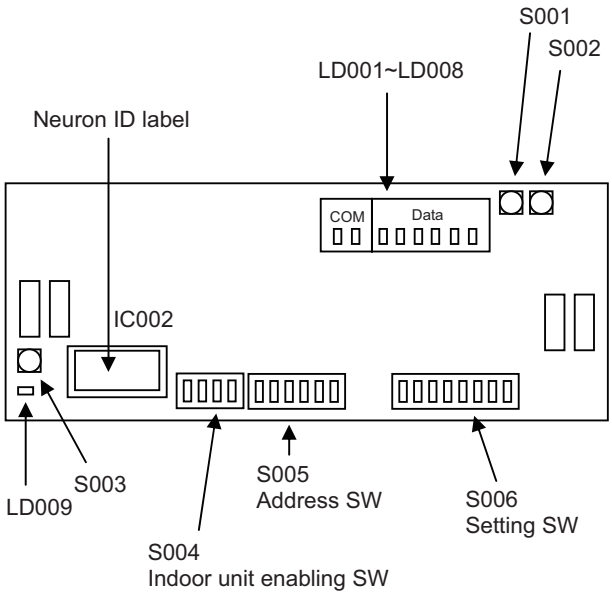


Power Board Wiring



- The LonWorks communication lines can be connected to either (1) or (2) in the above figure. The results are the same.
- Do not run the inter-unit control lines, the LonWorks communication lines, and the power cables through the same conduit, or place the cables near one another. Doing so can cause the system to malfunction.
- Before turning the power on, follow the instruction in *Power Board Initial Settings.*
- When using the spare inter-unit cotrol line, connect [1] and [3] at CN002.
- When using the spare LON communication line, connect [1] and [3] or [4] and [6] at CN003.

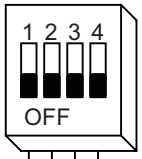
Main Circuit Board



3

5. Control Adaptor

Indoor Unit Enabling Switches



OFF Indoor unit group 3 is disabled.
ON Indoor unit group 3 is enabled.

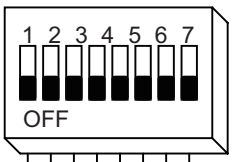
OFF Indoor unit group 2 is disabled.
ON Indoor unit group 2 is enabled.

OFF Indoor unit group 1 is disabled.
ON Indoor unit group 1 is enabled.

OFF Indoor unit group 0 is disabled.
ON Indoor unit group 0 is enabled.

- One main circuit board can control 4 groups (indoor unit groups 0 – 3).
- Set to "disable" if the indoor unit group does not exist. Set to "enable" if the indoor unit group exists.

Setting Switches



O: ON –: OFF R/C: Remote Controller

6	7	8	Option 1	Option 2
-	-	-	R/C prohibit	Fan speed
-	-	O	R/C prohibit	Air direction
-	O	-	R/C prohibit	Filter sign
-	O		Fan speed	Air direction
O	-	-	Fan speed	Filter sign
O	-	O	Air direction	Filter sign
O	O	-	———	———
O	O	O	———	———

Not used (Be sure to set to OFF.)

OFF Central/individual setting is according to the central control device (normal setting).
ON Central/individual setting is always set to "individual."

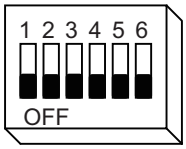
OFF Control temperature is used for the room temperature (normal setting).
ON Inlet temperature is used for the room temperature.

Not used (Be sure to set to OFF.)

OFF Communicate as a "sub" central control device.
ON Communicate as a "main" central control device.

- If there are no central control devices other than this interface, set to "main" (ON).
- To set this interface as the main, set only node 0 to "main" (ON).
- If using in combination with an communication adapter, AMY adapter, intelligent controller, or system controller, set to "sub" (OFF).
- If using in combination with an ON/OFF central controller, set the ON/OFF central controller as the main if the ON/OFF central controller's remote-controller prohibit function is to be used. If this interface's remote-controller prohibit function is to be used, set this interface as the main.

Address Switches

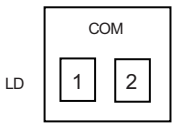


O : ON - : OFF

Address switch 1	2	3	4	5	6	Central control address
-	-	-	-	-	-	1
O	-	-	-	-	-	2
-	O	-	-	-	-	3
O	O	-	-	-	-	4
-	-	O	-	-	-	5
O	-	O	-	-	-	6
-	O	O	-	-	-	7
O	O	O	-	-	-	8
-	-	-	O	-	-	9
O	-	-	O	-	-	10
-	O	-	O	-	-	11
O	O	-	O	-	-	12
-	-	O	O	-	-	13
O	-	O	O	-	-	14
-	O	O	O	-	-	15
O	O	O	O	-	-	16
-	-	-	-	O	-	17
O	-	-	-	O	-	18
-	O	-	-	O	-	19
O	O	-	-	O	-	20
-	-	O	-	O	-	21
O	-	O	-	O	-	22
-	O	O	-	O	-	23
O	O	O	-	O	-	24
-	-	-	O	O	-	25
O	-	-	O	O	-	26
-	O	-	O	O	-	27
O	O	-	O	O	-	28
-	-	O	O	O	-	29
O	-	O	O	O	-	30
-	O	O	O	O	-	31
O	O	O	O	O	-	32
-	-	-	-	-	O	33
O	-	-	-	-	O	34
-	O	-	-	-	O	35
O	O	-	-	-	O	36
-	-	O	-	-	O	37
O	-	O	-	-	O	38
-	O	O	-	-	O	39
O	O	O	-	-	O	40
-	-	-	O	-	O	41
O	-	-	O	-	O	42
-	O	-	O	-	O	43
O	O	-	O	-	O	44
-	-	O	O	-	O	45
O	-	O	O	-	O	46
-	O	O	O	-	O	47
O	O	O	O	-	O	48
-	-	-	-	O	O	49
O	-	-	-	O	O	50
-	O	-	-	O	O	51
O	O	-	-	O	O	52
-	-	O	-	O	O	53
O	-	O	-	O	O	54
-	O	O	-	O	O	55
O	O	O	-	O	O	56
-	-	-	O	O	O	57
O	-	-	O	O	O	58
-	O	-	O	O	O	59
O	O	-	O	O	O	60
-	-	O	O	O	O	61
O	-	O	O	O	O	62
-	O	O	O	O	O	63
O	O	O	O	O	O	64

5. Control Adaptor

Communications LED (Green)

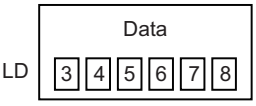


COM: Communications

LD001	LD002	Display meaning
X	X	①Power OFF
X	Low	② –––––
X	High	③Flash writer writing in progress
X	O	④Waiting for A/C unit initial communication
Low	X	⑤A/C unit initial communication in progress
Low	Low	⑥ –––––
Low	High	⑦LonWorks communication microcomputer error
Low	O	⑧EEPROM error
High	X	⑨ –––––
High	Low	⑩ –––––
High	High	⑪ –––––
High	O	⑫ –––––
O	X	⑬Test run mode
O	Low	⑭ –––––
O	High	⑮Version display in progress
O	O	⑯Normal communications in progress

X: Not lit、Low: Low-speed flashing (once/second)
High: High-speed flashing, O: Constantly lit

Data LED (Red)



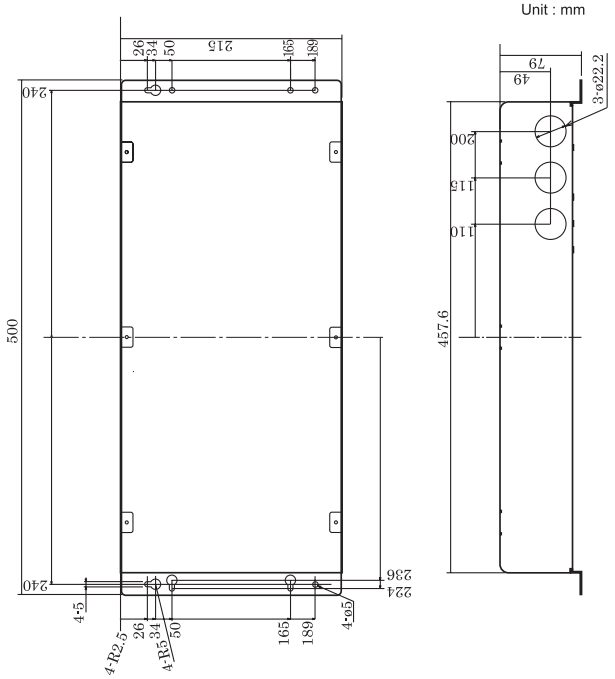
Communications LED	Data LED display meaning
①	No LED lit
②	All LEDs lit
③	–––––
④	Displays the wait time (seconds) for A/C unit initial communication.
⑤	Displays the A/C unit communications status
⑥	–––––
⑦	No LED lit
⑧	No LED lit
⑨	–––––
⑩	–––––
⑪	–––––
⑫	–––––
⑬	According to the test run mode specifications
⑭	–––––
⑮	According to the version display specifications
⑯	Displays the A/C unit communications status

• Display of A/C unit communications status

LD	Display meaning	
	Indoor unit group	**OFF:** Waiting for initial communication **Low-speed flashing:** Waiting for minimum transmission interval **High-speed flashing:** Initial communication in progress **ON:** Normal communications in progress
003	0	
004	1	
005	2	
006	3	
007	Illuminates for 200 ms when data is output to the LonWorks communicator.	
008	Illuminates for 200 ms when data is output to the indoor/outdoor communicator.	

Diagram of External Dimensions

Unit : mm



Product Specifications

Connects to	LonWorks network FTT-10 A transceiver device
Power	Single-phase, 100-120/ 200-240V~
Power consumption	11 W max.
Service environment conditions	Temp. 0 to 40°C, humidity 20 to 80% Indoor use only
External dimensions	Height 79 mm × Width 500 mm × Depth 215 mm
Weight	Approx. 3.3 kg

3

5. Control Adaptor

■ Assigning Central Control Addresses

- Before assigning central control addresses for the LonWorks Interface, use the remote controller to make central control address settings for A/C units.
- Follow only the steps for "Assigning Central Control Addresses" when a system controller or other central controller is already provided.

[Setting Central Control Addresses]

(1) Press and hold both the  and  buttons for 4 seconds or longer.
Check that the "SETTING" display on the remote controller is flashing.

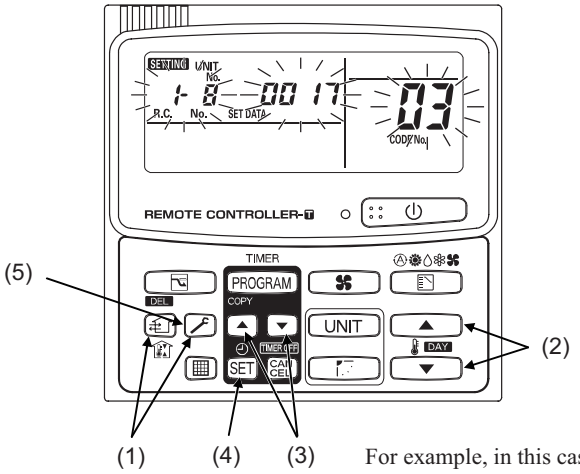
(2) Set the "03" item code by pressing the  and  temperature setting buttons.

(3) Set the desired central control address by pressing the  and  timer buttons.

(4) Press the  button, and check that the "SETTING" display stops flashing and illuminates instead.
(The setting data cannot be changed unless the  button is pressed.)

(5) Press the  button, and check that the display on the remote controller has been cleared.

remote controller



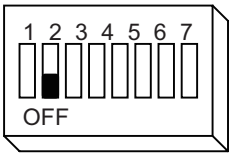
For example, in this case
Indoor unit address: 1-8
Central address: 17

[Assigning Central Control Addresses]

(1) Turn the power switch (S001) on the LonWorks Interface power board to OFF.

(2) Turn the setting switch (S006-2) to OFF (so that central control addresses are set with the DIP switches).

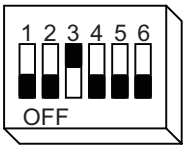
S006



(3) Set the first central control address with the address switch (S005). When assigning serial numbers, a consecutive series of numbers is assigned for the central control addresses.

<Example> If the first central control address is "5," then this circuit board assigns central control addresses "5," "6," "7," and "8."

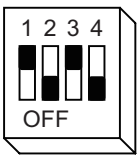
S005



(4) Make the enable/disable settings with the indoor unit enabling switches (S004).

<Example> If central control addresses "6" and "8" do not exist, enable only "5" and "7."

S004



"5" is set as the central control address for indoor unit group 0, and "7" is set as the central control address for indoor unit group 2.

(5) Turn the power switch (S001) on the LonWorks Interface power board to ON.

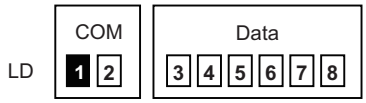
3

■ LonWorks Interface Test Run

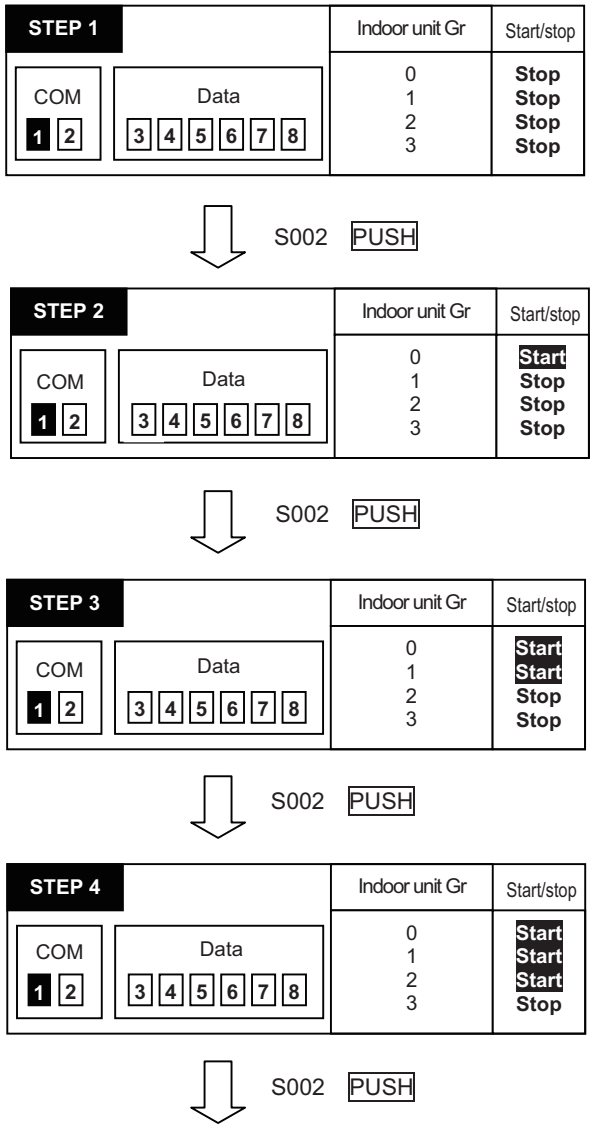
Before performing a test run of the LonWorks Interface, perform test runs of the A/C units and assign central control addresses for A/C units.

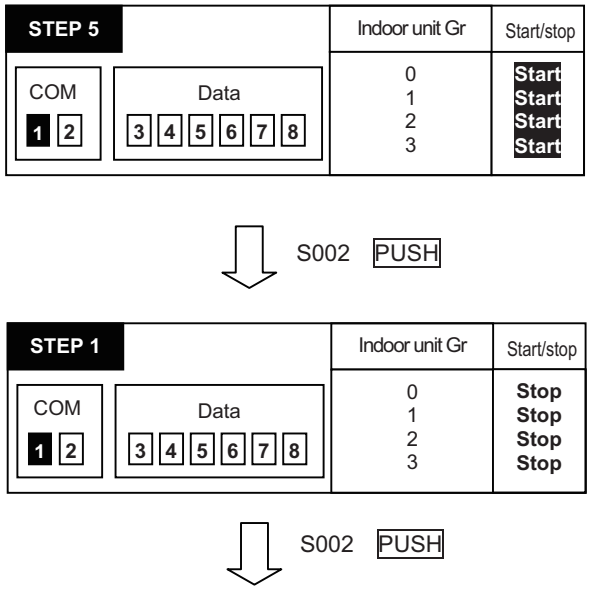
[LonWorks Interface Test Run Procedure]

(1) Press and hold touch-switch S001 on the main circuit board for 5 seconds or longer.
Test run mode is enabled for the main circuit board that is currently being controlled. LD001 illuminates, and LD002 – LD008 turn off.



(2) Press touch-switch S002. The data LEDs appear as shown in the tables below.
In addition, the assigned indoor unit groups start and stop as shown in the tables below.



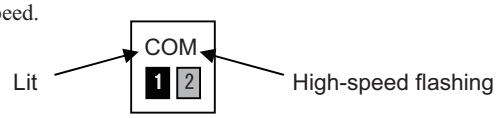


(3) Be sure to reset the power after the LonWorks Interface test run is completed.

3

■ Checking the LonWorks Interface Version

(1) Press touch-switch S002.
Version display mode is enabled on that circuit board for a period of 18 seconds. LD001 illuminates, and LD002 flashes at high speed.



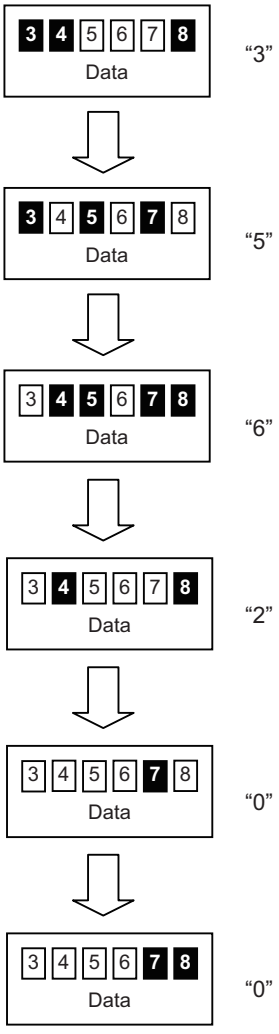
(2) While the version is displayed (18 seconds), the display contents are the following.

First 3 seconds	Displays the first digit of the main microcomputer version Off Lit 3 4 5 6 7 **8** Data
Next 3 seconds	Displays the second digit of the main microcomputer version Lit Off 3 4 5 6 **7** 8 Data
Next 3 seconds	Displays the third digit of the main microcomputer version Lit Lit 3 4 5 6 **7** **8** Data
Next 3 seconds	Displays the first digit of the LonWorks I/F microcomputer version Off Lit 3 4 5 6 7 **8** Data
Next 3 seconds	Displays the second digit of the LonWorks I/F microcomputer version Lit Off 3 4 5 6 **7** 8 Data
Last 3 seconds	Displays the third digit of the LonWorks I/F microcomputer version Lit Lit 3 4 5 6 **7** **8** Data

• Version display

0	3 4 5 6	5	**3** 4 **5** 6
1	**3** 4 5 6	6	3 **4** **5** 6
2	3 **4** 5 6	7	**3** **4** **5** 6
3	**3** **4** 5 6	8	3 4 5 **6**
4	3 4 **5** 6	9	**3** 4 5 **6**

<Example> Main microcomputer Version 3.56
LonWorks I/F microcomputer Version 2.00



■ List of LonWorks Network Variables

A/C unit	Input/output	Item	Variable name	Variable type
Indoor group 0	Input	Start/stop	nviOnOff_00	SNVT_switch
		Temp. setting	nviSetPoint_00	SNVT_temp_p
		Operating mode	nviHeatCool_00	SNVT_hvac_mode
		Option 1 setting	nviOption1_00	SNVT_switch
		Option 2 setting	nviOption2_00	SNVT_switch
	Output	Start/stop status	nvoOnOff_00	SNVT_switch
		Temp. setting	nvoSetPoint_00	SNVT_temp_p
		Operating mode	nvoHeatCool_00	SNVT_hvac_mode
		Option 1 status	nvoOption1_00	SNVT_switch
		Option 2 status	nvoOption2_00	SNVT_switch
		Alarm status	nvoAlarm_00	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_00	SNVT_switch
		Room temp.	nvoSpaceTemp_00	SNVT_temp_p
		Indoor unit status	nvoInState_00	SNVT_count
Indoor group 1	Input	Start/stop	nviOnOff_01	SNVT_switch
		Temp. setting	nviHeatCool_01	SNVT_temp_p
		Operating mode	nviSetPoint_01	SNVT_hvac_mode
		Option 1 setting	nviOption1_01	SNVT_switch
		Option 2 setting	nviOption2_01	SNVT_switch
	Output	Start/stop status	nvoOnOff_01	SNVT_switch
		Temp. setting	nvoSetPoint_01	SNVT_temp_p
		Operating mode	nvoHeatCool_01	SNVT_hvac_mode
		Option 1 status	nvoOption1_01	SNVT_switch
		Option 2 status	nvoOption2_01	SNVT_switch
		Alarm status	nvoAlarm_01	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_01	SNVT_switch
		Room temp.	nvoSpaceTemp_01	SNVT_temp_p
		Indoor unit status	nvoInState_01	SNVT_count
Indoor group 2	Input	Start/stop	nviOnOff_02	SNVT_switch
		Temp. setting	nviHeatCool_02	SNVT_temp_p
		Operating mode	nviSetPoint_02	SNVT_hvac_mode
		Option 1 setting	nviOption1_02	SNVT_switch
		Option 2 setting	nviOption2_02	SNVT_switch
	Output	Start/stop status	nvoOnOff_02	SNVT_switch
		Temp. setting	nvoSetPoint_02	SNVT_temp_p
		Operating mode	nvoHeatCool_02	SNVT_hvac_mode
		Option 1 status	nvoOption1_02	SNVT_switch
		Option 2 status	nvoOption2_02	SNVT_switch
		Alarm status	nvoAlarm_02	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_02	SNVT_switch
		Room temp.	nvoSpaceTemp_02	SNVT_temp_p
		Indoor unit status	nvoInState_02	SNVT_count
Indoor group 3	Input	Start/stop	nviOnOff_03	SNVT_switch
		Temp. setting	nviHeatCool_03	SNVT_temp_p
		Operating mode	nviSetPoint_03	SNVT_hvac_mode
		Option 1 setting	nviOption1_03	SNVT_switch
		Option 2 setting	nviOption2_03	SNVT_switch
	Output	Start/stop status	nvoOnOff_03	SNVT_switch
		Temp. setting	nvoSetPoint_03	SNVT_temp_p
		Operating mode	nvoHeatCool_03	SNVT_hvac_mode
		Option 1 status	nvoOption1_03	SNVT_switch
		Option 2 status	nvoOption2_03	SNVT_switch
		Alarm status	nvoAlarm_03	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_03	SNVT_switch
		Room temp.	nvoSpaceTemp_03	SNVT_temp_p
		Indoor unit status	nvoInState_03	SNVT_count
Indoor groups 0 – 3	Input	Emergency stop	nviAllInOff	SNVT_switch

Transmission intervals settings	nciSndHrtBt	SNVT_time_sec
Minimum time secured for transmission	nciMinOutTm	SNVT_time_sec

■ Details of LonWorks Network Variables

[nv1] Unit start/stop command

network input SNVT_switch nviOnOff_00;
network input SNVT_switch nviOnOff_01;
network input SNVT_switch nviOnOff_02;
network input SNVT_switch nviOnOff_03;

These input network variables are used to change the start/stop status of the indoor unit.
If start/stop is only done from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents state 0: Stop 1: start value (Not used)

[nv2] Unit start/stop status notification

network output SNVT_switch nvoOnOff_00;
network output SNVT_switch nvoOnOff_01;
network output SNVT_switch nvoOnOff_02;
network output SNVT_switch nvoOnOff_03;

These output network variables are used to provide notification of the unit's current start/stop status and the thermostat ON/OFF status.
They are also output when the status has been changed from an A/C unit side (as with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.
When the indoor units are subject to group control, "thermostat ON" is output when 1 or more indoor unit is thermostats ON, and "thermostat OFF" is output when all indoor unit are thermostats OFF.

Contents state 0: Stop 1: Start value 0: Thermostat OFF 200: Thermostat ON

[nv3] Temperature setting command

network input SNVT_temp_p nviSetpoint_00;
network input SNVT_temp_p nviSetpoint_01;
network input SNVT_temp_p nviSetpoint_02;
network input SNVT_temp_p nviSetpoint_03;

These input network variables are used to change the indoor unit temperature setting.
If the temperature setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.
When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.

Contents
Valid range

Auto heat/cool mode:	17 - 27°C
Heat mode:	16 - 26°C
Cool mode:	18 - 30°C
Dry mode:	18 - 30°C
Fan mode:	Temp. setting not used.

Temperature settings are made in units of 1.0°C. (Values after the decimal point are discarded.)

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv4] Temperature setting status notification

network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_02;
network output SNVT_temp_p nvoSetpoint_03;

These output network variables are output when the temperature setting status is changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents

Valid range	Output range:	16 - 30°C
	Temp. unit:	1.0 °C

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv5] Operating mode setting command

network input SNVT_hvac_mode nviHeatCool_00;
network input SNVT_hvac_mode nviHeatCool_01;
network input SNVT_hvac_mode nviHeatCool_02;
network input SNVT_hvac_mode nviHeatCool_03;

These input network variables are used to change the indoor unit operating mode.
If the operating mode setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

* The operating modes that can be set may vary according to the models of the outdoor and indoor units.
* Settings other than the above are ignored.

[nv6] Operating mode status notification

network output SNVT_hvac_mode nvoHeatCool_00;
network output SNVT_hvac_mode nvoHeatCool_01;
network output SNVT_hvac_mode nvoHeatCool_02;
network output SNVT_hvac_mode nvoHeatCool_03;

These output network variables are output when the operating mode has been changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

[nv7] Option 1 setting command
[nv9] Option 2 setting command

network input SNVT_switch nviOption1_00;
network input SNVT_switch nviOption1_01;
network input SNVT_switch nviOption1_02;
network input SNVT_switch nviOption1_03;
network input SNVT_switch nviOption2_00;
network input SNVT_switch nviOption2_01;
network input SNVT_switch nviOption2_02;
network input SNVT_switch nviOption2_03;

These input network variables are used to make the indoor unit option settings.

Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.

Make changes using the DIP switches on the main circuit board.

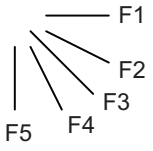
When option settings are not made from the LonWorks, it is not necessary to use these network variables.

	state	value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	(Not used)	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		
		Other			

O :Permitted
×:Prohibited

Fan speed setting	(Not used)	120	Auto
		200	High
		150	Medium
		100	Low
		Other	

Air direction setting	(Not used)	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		Other	Swing



* Positions F4 and F5 can not be set for cool- and dry-mode operation.

Filter sign	Filter sign is reset when data is updated.

[nv8] Option 1 setting status notification
[nv10] Option 2 setting status notification

network output SNVT_switch nvoOption1_00;
network output SNVT_switch nvoOption1_01;
network output SNVT_switch nvoOption1_02;
network output SNVT_switch nvoOption1_03;
network output SNVT_switch nvoOption2_00;
network output SNVT_switch nvoOption2_01;
network output SNVT_switch nvoOption2_02;
network output SNVT_switch nvoOption2_03;

These output network variables provide notification of changes in the status of the indoor unit option settings.

Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.

Make changes using the DIP switches on the main circuit board.

They are output when the LonWorks Interface or A/C unit power is reset.

	state	value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	0	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		

O :Permitted
×:Prohibited

Fan speed setting	1	120	Auto
		200	High
		150	Medium
		100	Low
		50	Very
		0	Stop

Air direction setting	1	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		0	Stop

Filter sign	0	0	OFF
	1		ON

[nv11] Alarm notification

network output SNVT_switch nvoAlarm_00;
network output SNVT_switch nvoAlarm_01;
network output SNVT_switch nvoAlarm_02;
network output SNVT_switch nvoAlarm_03;

These output network variables are output when an alarm occurs at an indoor unit, and when the alarm is reset at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0: Normal 1: Alarm value 0 at all times

[nv12] Indoor unit number with active alarm notification

network output SNVT_switch nvoAlarmIn_00;
network output SNVT_switch nvoAlarmIn_01;
network output SNVT_switch nvoAlarmIn_02;
network output SNVT_switch nvoAlarmIn_03;

These output network variables are output when an alarm occurs at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0 at all times value Indoor unit number with active alarm × 2

* Value = 0 when no alarms are active.

[nv13] Room temperature notification

network output SNVT_temp_p nvoSpaceTemp_00;
network output SNVT_temp_p nvoSpaceTemp_01;
network output SNVT_temp_p nvoSpaceTemp_02;
network output SNVT_temp_p nvoSpaceTemp_03;

These output network variables are output when the indoor unit room temperature changes.
They are output when the LonWorks Interface or A/C unit power is reset.
When indoor units are under group control, the room temperature of the main unit in the group is output.

Contents
Valid range

Output range:	-35.0 - 92.5°C
Temp. units:	0.5°C

* Be aware that the output temperature range may vary according to the models of the outdoor and indoor units.
*When indoor units are under group control, the status is output from the main unit.

[nv14] A/C unit status notification

network output SNVT_count nvoInState_00;
network output SNVT_count nvoInState_01;
network output SNVT_count nvoInState_02;
network output SNVT_count nvoInState_03;

These output network variables are output when the A/C unit status changes.
They are output when the LonWorks Interface or A/C unit power is reset.

0	Normal communications in progress (no alarms)
1~255	According to alarm code table
300	Indoor unit not connected (initial communication in progress)

[nv15] Emergency stop

network output SNVT_switch nviAllInOff;

This input network variable is used to stop the indoor units in an emergency.
Remote-controller prohibit (start/stop prohibit) is enabled for the stopped indoor units.
The remote-controller prohibit (temperature setting, operating mode) status remains the same as before the units were stopped.
When emergency stop is canceled, remote-controller prohibit (start/stop prohibit) status returns to the status prior to emergency stop; however, the unit itself remains stopped.
If this function is not used, then it is not necessary to use this network variable.

Contents state 0: Cancel 1: Emergency stop value (Not used)

[nc49] Transmission interval setting

network input config SNVT_time_sec nciSndHrtBt;

This network configuration sets the interval for automatic data output. When the set time has elapsed, data is output automatically.
The network variables that are affected by this configuration are the following:

nvoOnOff_0? nvoSetpoint_0? nvoHeatCool_0?
nvoOption1_0? nvoOption2_0? nvoAlarm_0?
nvoAlarmIn_0? nvoSpaceTemp_0? nvoInState_0?

Contents

The valid range is 0.0 seconds to 6553.5 seconds. If 0.0 seconds is set, automatic data update is disabled.
The transmission interval setting is the same for all network variables.
When the set time has elapsed, above all network variables are output.

[nc52] Setting of minimum time secured for transmission

network input config SNVT_time_sec nciMinOutTm;

This network configuration determines the minimum interval that is secured for output network variables.
The network variables that are affected by this configuration are the following:

nvoOnOff_0? nvoSetpoint_0? nvoHeatCool_0?
nvoOption1_0? nvoOption2_0? nvoAlarm_0?
nvoAlarmIn_0? nvoSpaceTemp_0? nvoInState_0?

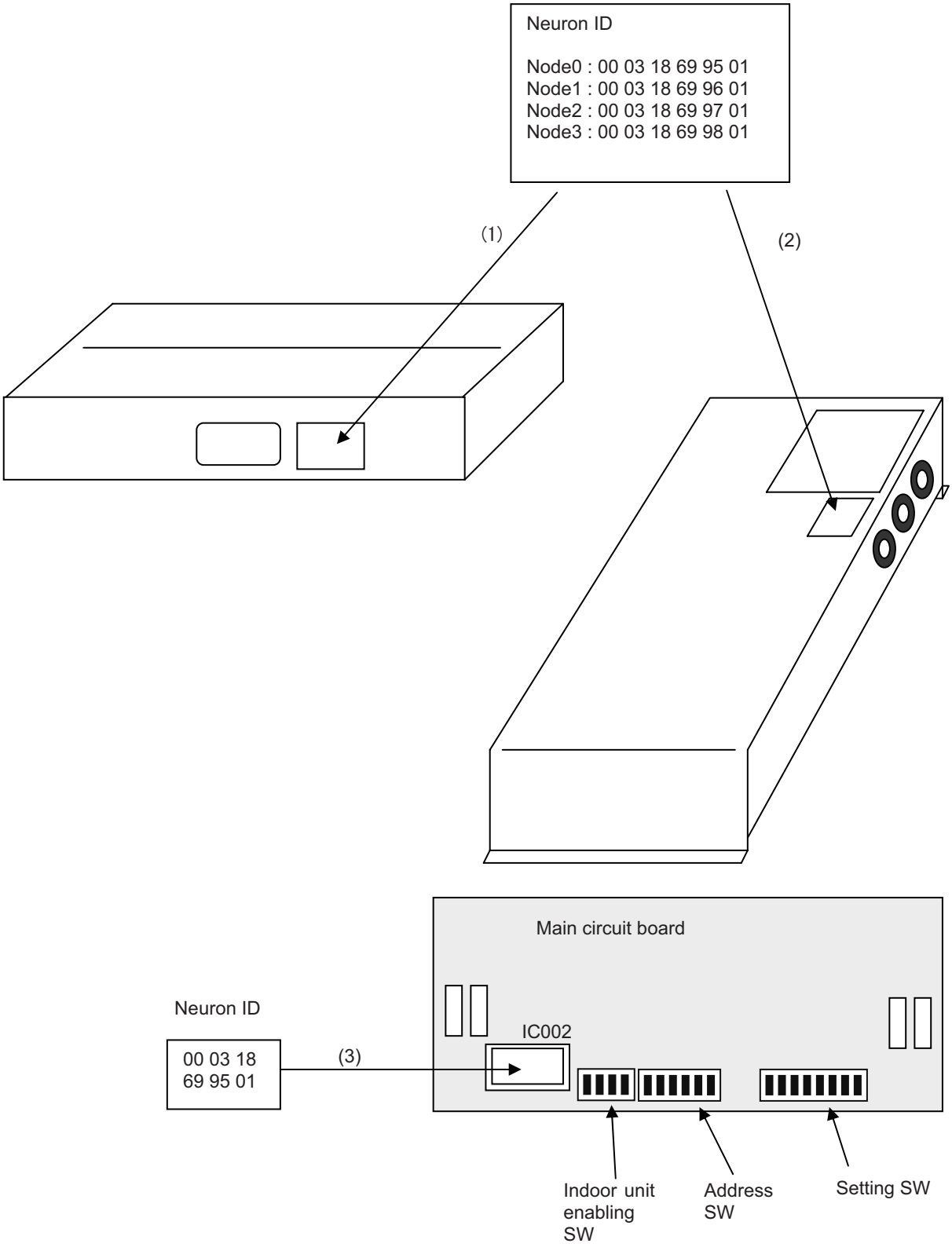
Contents

The valid range is 0.0 seconds to 6553.5 seconds.
The minimum time secured for transmission is independent for each network variable. It is not valid between different network variables.

■ Locations Where Neuron ID is Applied

The Neuron ID is applied in the following 3 locations.

(1) Packaging box
(2) Top panel lid
(3) On the main circuit board Neuron chip



Contents

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1. Outdoor Unit

1-1. Specifications

Unit specifications

Outdoor		series	-			-			
		MODEL	U-4LE2E5			U-5LE2E5			
Performance test condition			EN14511			EN14511			
Power supply		ø,Hz	1Ø, 220-230-240V,50Hz			1Ø, 220-230-240V,50Hz			
		V	220	230	240	220	230	240	
COOLING	Capacity	kW	12.1	12.1	12.1	14.0	14.0	14.0	
		BTU/h	41300	41300	41300	47800	47800	47800	
	Current	A	13.3	12.7	12.2	17.0	16.3	15.6	
	Input power	kW	2.69	2.69	2.69	3.45	3.45	3.45	
	EER	-	4.50	4.50	4.50	4.06	4.06	4.06	
	Power factor	%	92	92	92	92	92	92	
	Noise outdoor	dB-A (Normal)	52.0			53.0			
		Power Level dB (Normal)	69.0			71.0			
		dB-A (Silent 1)	49.0			50.0			
		dB-A (Silent 2)	47.0			48.0			
		dB-A (Silent 3)	45.0			46.0			
HEATING	Capacity	kW	12.5	12.5	12.5	16.0	16.0	16.0	
		BTU/h	42700	42700	42700	54600	54600	54600	
	Current	A	12.2	11.6	11.2	17.6	16.8	16.1	
	Input power	kW	2.41	2.41	2.41	3.48	3.48	3.48	
	COP	-	5.19	5.19	5.19	4.60	4.60	4.60	
	Power factor	%	90	90	90	90	90	90	
	Noise outdoor	dB-A (Normal)	54.0			56.0			
		Power Level dB (Normal)	72.0			75.0			
Max Current (A) / Max Input power (kW)			17.3 / 3.50	17.3 / 3.66	17.3 / 3.82	24.3 / 4.92	24.3 / 5.14	24.3 / 5.37	
Starting current(A) / Comp output(W)			1 / -	1 / -	1 / -	1 / -	1 / -	1 / -	
Time Delay fuse max size (A)			25			30			
Fan motor output		W / Pole number	120 / 8			120 / 8			
External static pressure		Pa	0 ~ 35			0 ~ 35			
Air flow		m^3/ min	69			72			
Refrigerant type / amount g			R410A / 6.7kg			R410A / 6.7kg			
Product dimension		Height mm	996			996			
		Width mm	980			980			
		Depth mm	370			370			
Packing dimension		Height mm	1134			1134			
		Width mm	1095			1095			
		Depth mm	529			529			
Weight		(NET) kg	106			106			
		(GROSS) kg	114			114			
Layers limit			3			3			
Operation condition (Outdoor)		Cool (DBT)	-10°C~46°C			-10°C~46°C			
		Heat (WBT)	-20°C~18°C			-20°C~18°C			
MAX. WORKING PRESSURE		High side bar (MPa)	38.0 (3.80)			38.0 (3.80)			
		Low side bar (MPa)	27.0 (2.70)			27.0 (2.70)			
PIPING	Pipe diameter mm (inch)		(Liquid) 9.52(3/8) (Gas) 15.88(5/8)			(Liquid) 9.52(3/8) (Gas) 15.88(5/8)			
	Connecting method		flared(Liquid) , flared(Gas)			flared(Liquid) , flared(Gas)			
	Max tubing length m		7.5	~	150	7.5	~	150	
	Total Max tubing length m		7.5	~	180	7.5	~	180	
	Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m		50 / 40			50 / 40			
Max connectable indoor units pcs.			7 (10)*			8 (12)*			
Max allowable indoor/outdoor capacity ratio %			50 ~ 130			50 ~ 130			

Max total refrigerant amount of outdoor unit is 14.4kg.

*In case of 1.5kW indoor unit's connection, able to connect maximum indoor units.

1. Outdoor Unit

1-1. Specifications

Unit specifications

Outdoor		series	-					
		MODEL	U-6LE2E5					
Performance test condition			EN14511					
Power supply		ø,Hz	1Ø, 220-230-240V,50Hz					
		V	220	230	240			
COOLING	Capacity	kW	15.5	15.5	15.5			
		BTU/h	52900	52900	52900			
	Current	A	20.3	19.4	18.6			
	Input power	kW	4.15	4.15	4.15			
	EER	-	3.73	3.73	3.73			
	Power factor	%	93	93	93			
	Noise outdoor	dB-A (Normal)	54.0					
		Power Level dB (Normal)	73.0					
		dB-A (Silent 1)	51.0					
		dB-A (Silent 2)	49.0					
		dB-A (Silent 3)	47.0					
HEATING	Capacity	kW	16.5	16.5	16.5			
		BTU/h	56300	56300	56300			
	Current	A	19.1	18.2	17.5			
	Input power	kW	3.86	3.86	3.86			
	COP	-	4.27	4.27	4.27			
	Power factor	%	92	92	92			
	Noise outdoor	dB-A (Normal)	56.0					
		Power Level dB (Normal)	75.0					
Max Current (A) / Max Input power (kW)			27.4 / 5.61	27.4 / 5.86	27.4 / 6.12			
Starting current(A) / Comp output(W)			1 / -	1 / -	1 / -			
Time Delay fuse max size (A)			35					
Fan motor output		W / Pole number	120 / 8					
External static pressure		Pa	0 ~ 35					
Air flow		m^3/ min	74					
Refrigerant type / amount g			R410A / 6.7kg					
Product dimension		Height mm	996					
		Width mm	980					
		Depth mm	370					
Packing dimension		Height mm	1134					
		Width mm	1095					
		Depth mm	529					
Weight		(NET) kg	106					
		(GROSS) kg	114					
Layers limit			3					
Operation condition (Outdoor)		Cool (DBT)	-10°C~46°C					
		Heat (WBT)	-20°C~18°C					
MAX. WORKING PRESSURE		High side bar (MPa)	38.0 (3.80)					
		Low side bar (MPa)	27.0 (2.70)					
PIPING	Pipe diameter mm (inch)		(Liquid) 9.52(3/8) (Gas) 15.88(5/8)					
	Connecting method		flared(Liquid) , flared(Gas)					
	Max tubing length m		7.5	~	150			
	Total Max tubing length m		7.5	~	180			
	Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m		50 / 40					
Max connectable indoor units pcs.			9 (12)*					
Max allowable indoor/outdoor capacity ratio %			50 ~ 130					

Max total refrigerant amount of outdoor unit is 14.4kg.

*In case of 1.5kW indoor unit's connection, able to connect maximum 12 indoor units.

1. Outdoor Unit

1-1. Specifications

Unit specifications

Outdoor		series	-			-			
		MODEL	U-4LE2E8			U-5LE2E8			
Performance test condition			EN14511, EN14825			EN14511, EN14825			
Power supply		ø,Hz	3Ø, 380-400-415V,50Hz			3Ø, 380-400-415V,50Hz			
		V	380	400	415	380	400	415	
COOLING	Capacity	kW	12.1	12.1	12.1	14.0	14.0	14.0	
		BTU/h	41300	41300	41300	47800	47800	47800	
	Current	A	4.39	4.17	4.02	5.58	5.30	5.11	
	Input power	kW	2.69	2.69	2.69	3.45	3.45	3.45	
	EER	-	4.50	4.50	4.50	4.06	4.06	4.06	
	Power factor	%	93	93	93	94	94	94	
	Noise outdoor	dB-A (Normal)	52.0			53.0			
		Power Level dB (Normal)	69.0			71.0			
		dB-A (Silent 1)	49.0			50.0			
		dB-A (Silent 2)	47.0			48.0			
		dB-A (Silent 3)	45.0			46.0			
HEATING	Capacity	kW	12.5	12.5	12.5	16.0	16.0	16.0	
		BTU/h	42700	42700	42700	54600	54600	54600	
	Current	A	3.98	3.78	3.64	5.62	5.34	5.15	
	Input power	kW	2.41	2.41	2.41	3.48	3.48	3.48	
	COP	-	5.19	5.19	5.19	4.60	4.60	4.60	
	Power factor	%	92	92	92	94	94	94	
	Noise outdoor	dB-A (Normal)	54.0			56.0			
		Power Level dB (Normal)	72.0			75.0			
Max Current (A) / Max Input power (kW)			7.90 / 4.84	7.90 / 5.09	7.90 / 5.28	10.1 / 6.25	10.1 / 6.58	10.1 / 6.82	
Starting current(A) / Comp output(W)			1 / -	1 / -	1 / -	1 / -	1 / -	1 / -	
Time Delay fuse max size (A)			15			15			
Fan motor output		W / Pole number	120 / 8			120 / 8			
External static pressure		Pa	0 ~ 35			0 ~ 35			
Air flow		m^3/ min	69			72			
Refrigerant type / amount g			R410A / 6.7kg			R410A / 6.7kg			
Product dimension		Height mm	996			996			
		Width mm	980			980			
		Depth mm	370			370			
Packing dimension		Height mm	1134			1134			
		Width mm	1095			1095			
		Depth mm	529			529			
Weight		(NET) kg	106			106			
		(GROSS) kg	114			114			
Layers limit			3			3			
Operation condition (Outdoor)		Cool (DBT)	-10°C~46°C			-10°C~46°C			
		Heat (WBT)	-20°C~18°C			-20°C~18°C			
MAX. WORKING PRESSURE		High side bar (MPa)	38.0 (3.80)			38.0 (3.80)			
		Low side bar (MPa)	27.0 (2.70)			27.0 (2.70)			
PIPING	Pipe diameter mm (inch)		(Liquid) 9.52(3/8) (Gas) 15.88(5/8)			(Liquid) 9.52(3/8) (Gas) 15.88(5/8)			
	Connecting method		flared(Liquid) , flared(Gas)			flared(Liquid) , flared(Gas)			
	Max tubing length m		7.5	~	150	7.5	~	150	
	Total Max tubing length m		7.5	~	180	7.5	~	180	
	Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m		50 / 40			50 / 40			
Max connectable indoor units pcs.			7 (10)*			8 (12)*			
Max allowable indoor/outdoor capacity ratio %			50 ~ 130			50 ~ 130			

Max total refrigerant amount of outdoor unit is 14.4kg.

*In case of 1.5kW indoor unit's connection, able to connect maximum 10 indoor units.

1. Outdoor Unit

1-1. Specifications

Unit specifications

Outdoor		series	-					
		MODEL	U-6LE2E8					
Performance test condition			EN14511, EN14825					
Power supply		ø,Hz	3Ø, 380-400-415V,50Hz					
		V	380	400	415			
COOLING	Capacity	kW	15.5	15.5	15.5			
		BTU/h	52900	52900	52900			
	Current	A	6.71	6.37	6.14			
	Input power	kW	4.15	4.15	4.15			
	EER	-	3.73	3.73	3.73			
	Power factor	%	94	94	94			
	Noise outdoor	dB-A (Normal)	54.0					
		Power Level dB (Normal)	73.0					
		dB-A (Silent 1)	51.0					
		dB-A (Silent 2)	49.0					
		dB-A (Silent 3)	47.0					
HEATING	Capacity	kW	16.5	16.5	16.5			
		BTU/h	56300	56300	56300			
	Current	A	6.24	5.93	5.71			
	Input power	kW	3.86	3.86	3.86			
	COP	-	4.27	4.27	4.27			
	Power factor	%	94	94	94			
	Noise outdoor	dB-A (Normal)	56.0					
		Power Level dB (Normal)	75.0					
Max Current (A) / Max Input power (kW)			10.7 / 6.62	10.7 / 6.97	10.7 / 7.23			
Starting current(A) / Comp output(W)			1 / -	1 / -	1 / -			
Time Delay fuse max size (A)			15					
Fan motor output		W / Pole number	120 / 8					
External static pressure		Pa	0 ~ 35					
Air flow		m^3/ min	74					
Refrigerant type / amount g			R410A / 6.7kg					
Product dimension		Height	mm	996				
		Width	mm	980				
		Depth	mm	370				
Packing dimension		Height	mm	1134				
		Width	mm	1095				
		Depth	mm	529				
Weight		(NET) kg		106				
		(GROSS) kg		114				
Layers limit				3				
Operation condition (Outdoor)		Cool (DBT)		-10°C~46°C				
		Heat (WBT)		-20°C~18°C				
MAX. WORKING PRESSURE		High side bar (MPa)		38.0 (3.80)				
		Low side bar (MPa)		27.0 (2.70)				
PIPING	Pipe diameter mm (inch)			(Liquid) 9.52(3/8) (Gas) 15.88(5/8)				
	Connecting method			flared(Liquid) , flared(Gas)				
	Max tubing length m			7.5 ~ 150				
	Total Max tubing length m			7.5 ~ 180				
	Indoor unit & Outdoor unit height difference (Outdoor unit upper / Outdoor unit Lower) m			50 / 40				
Max connectable indoor units pcs.				9 (12)*				
Max allowable indoor/outdoor capacity ratio %				50 ~ 130				

Max total refrigerant amount of outdoor unit is 14.4kg.

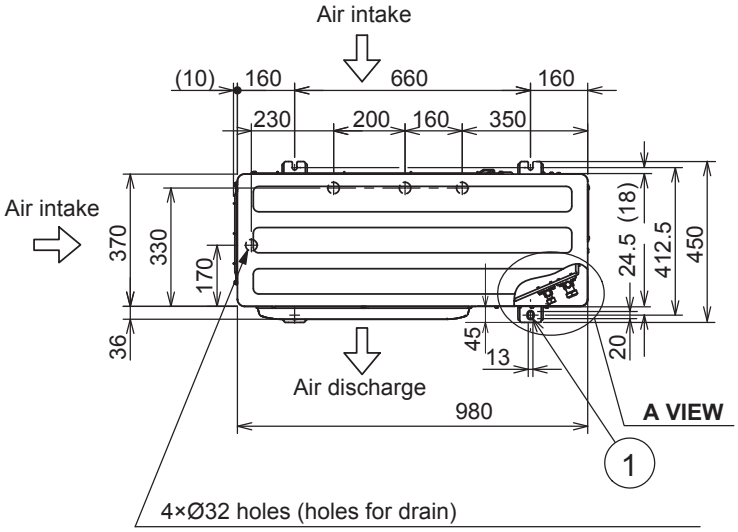
*In case of 1.5kW indoor unit's connection, able to connect maximum 12 indoor units.

1. Outdoor Unit

1-2. Dimensional Data

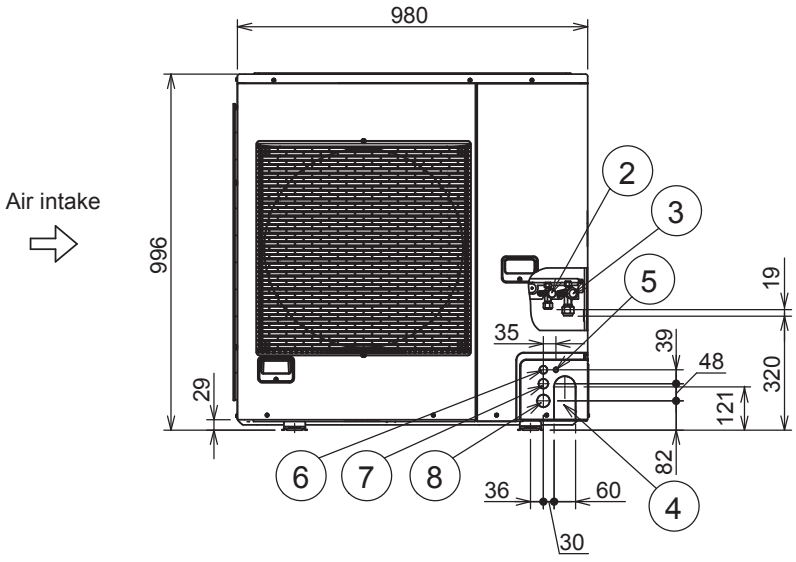
U-4LE2E5, U-5LE2E5, U-6LE2E5
U-4LE2E8, U-5LE2E8, U-6LE2E8

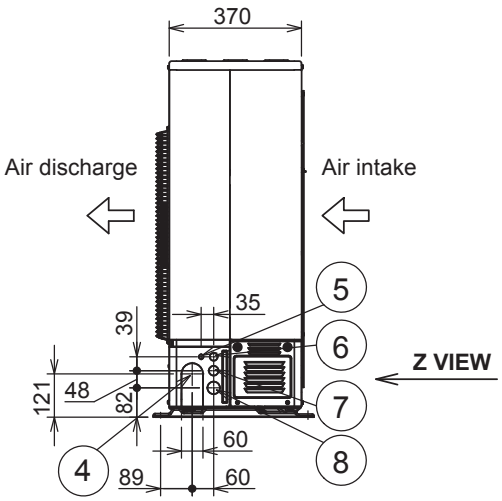
Unit: mm

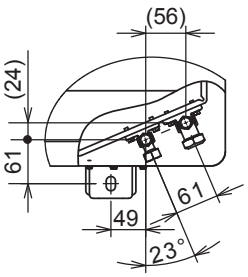


①	Mounting hole (4-R6.5), anchor bolt : M10
②	Refrigerant tubing (liquid tube), flared connection (Ø9.52)
③	Refrigerant tubing (gas tube), flared connection (Ø15.88)
④	Refrigerant tubing port
⑤	Electrical wiring port (Ø13)
⑥	Electrical wiring port (Ø22)
⑦	Electrical wiring port (Ø27)
⑧	Electrical wiring port (Ø35)

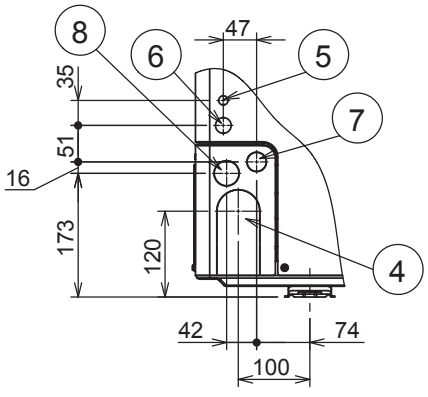
When using a drain pipe, install the drain socket (field supply) on to the drain port.Seal the other drain port with the rubber cap.







A VIEW



Z VIEW

1. Outdoor Unit

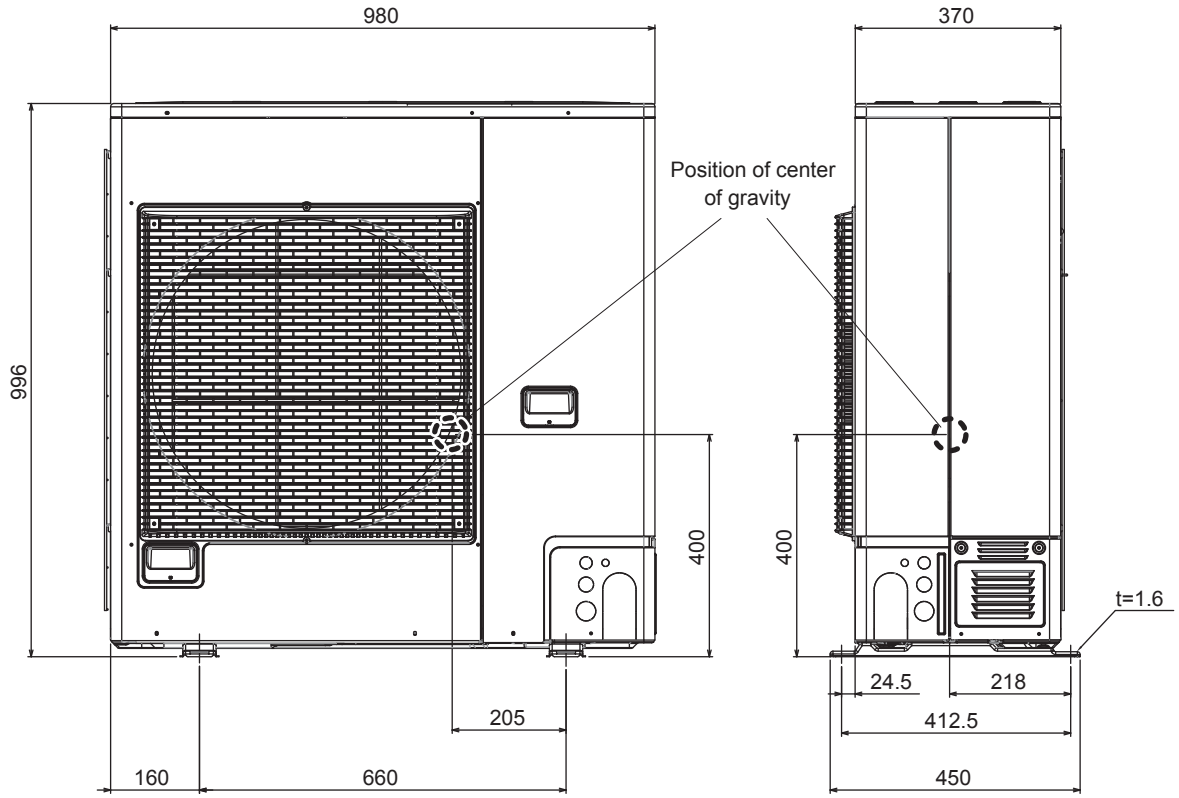
1-3. Position of Center of Gravity

U-4LE2E5, U-5LE2E5, U-6LE2E5
U-4LE2E8, U-5LE2E8, U-6LE2E8

Unit: mm

Weight

Model	Weight (kg)
U-4LE2E5, U-4LE2E8	106
U-5LE2E5, U-5LE2E8	106
U-6LE2E5, U-6LE2E8	106



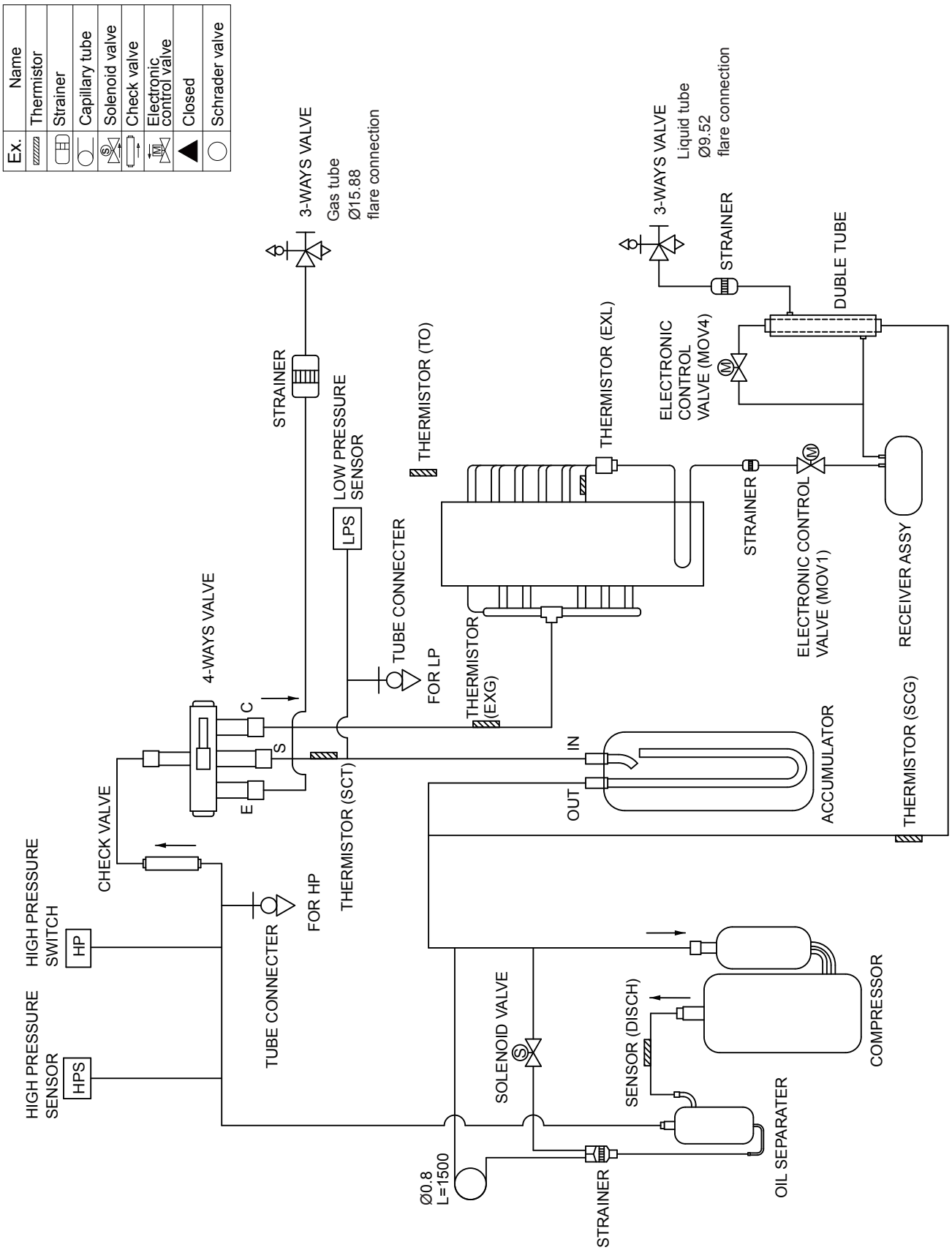
Front view **Side view**

4

1. Outdoor Unit

1-4. Refrigerant Flow Diagram

U-4LE2E5, U-5LE2E5, U-6LE2E5
U-4LE2E8, U-5LE2E8, U-6LE2E8

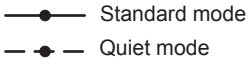


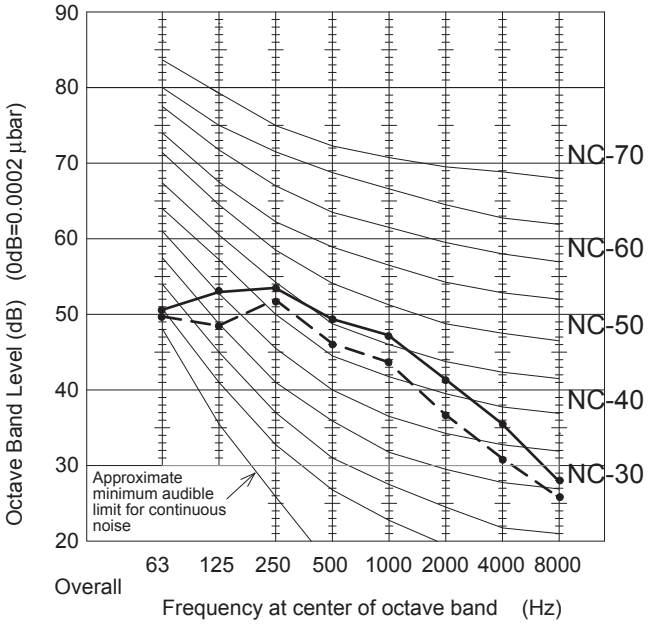
1. Outdoor Unit

1-5. Noise Criterion Curves

Cooling

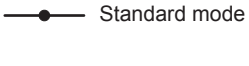
MODEL	U-4LE2E5, U-4LE2E8
SOUND LEVEL dB(A)	52.0 (Quiet mode 49.0)
CONDITION	1 m in front at height of 1.5 m

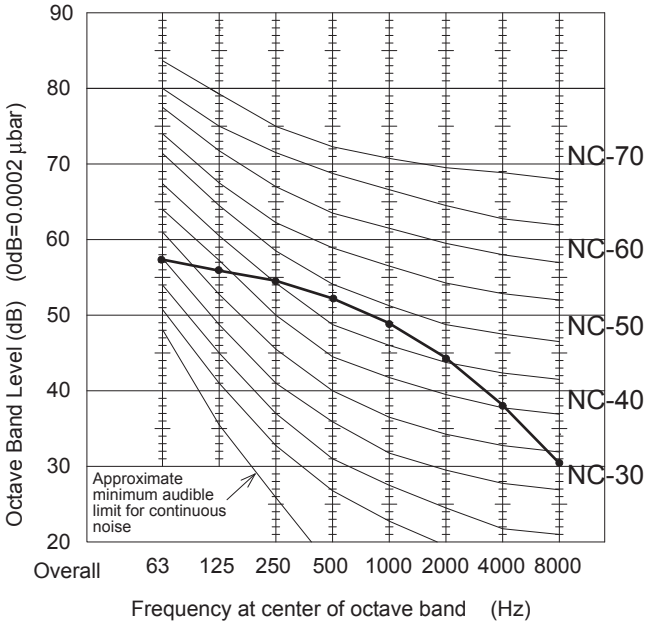




Heating

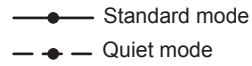
MODEL	U-4LE2E5, U-4LE2E8
SOUND LEVEL dB(A)	54.0
CONDITION	1 m in front at height of 1.5 m

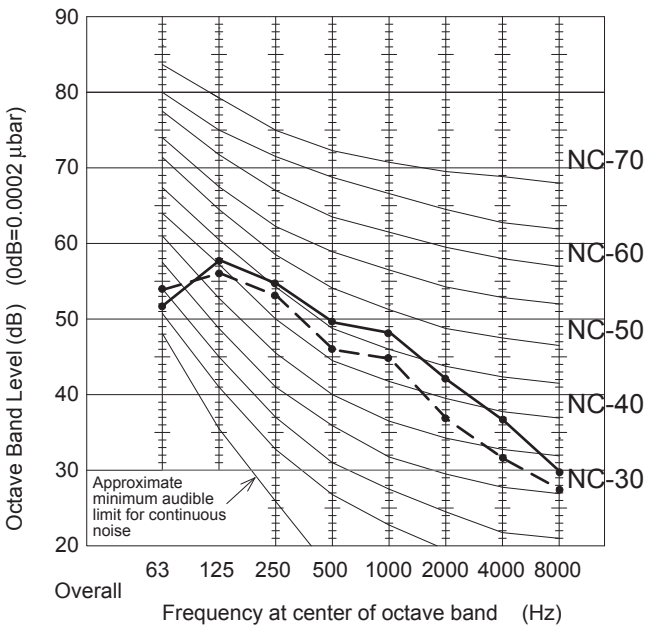




Cooling

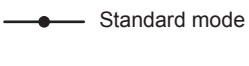
MODEL	U-5LE2E5, U-5LE2E8
SOUND LEVEL dB(A)	53.0 (Quiet mode 50.0)
CONDITION	1 m in front at height of 1.5 m

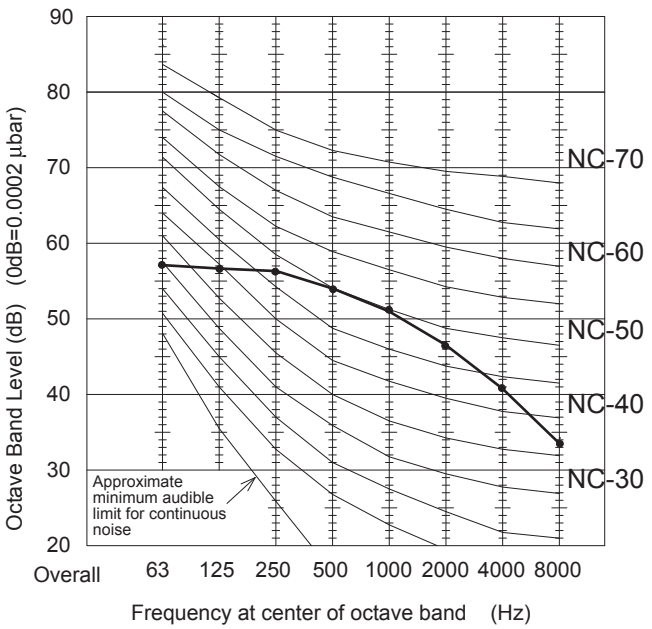




Heating

MODEL	U-5LE2E5, U-5LE2E8
SOUND LEVEL dB(A)	56.0
CONDITION	1 m in front at height of 1.5 m

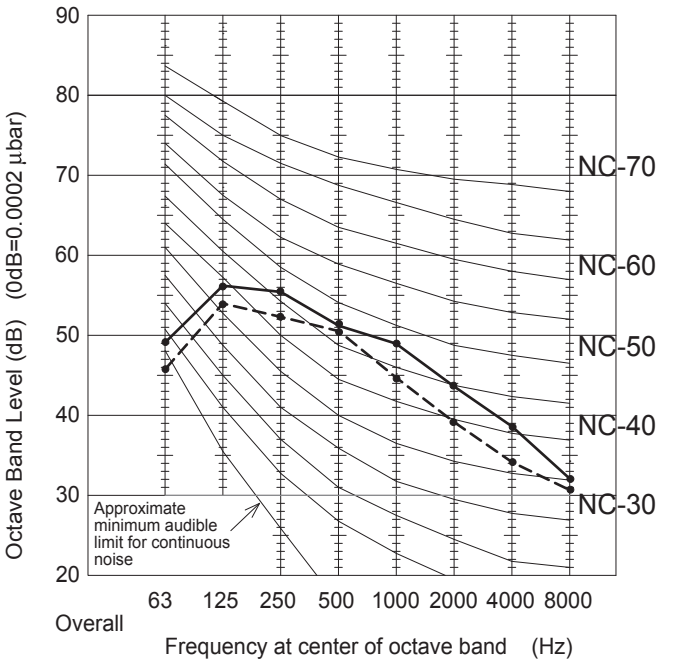




1-5. Noise Criterion Curves

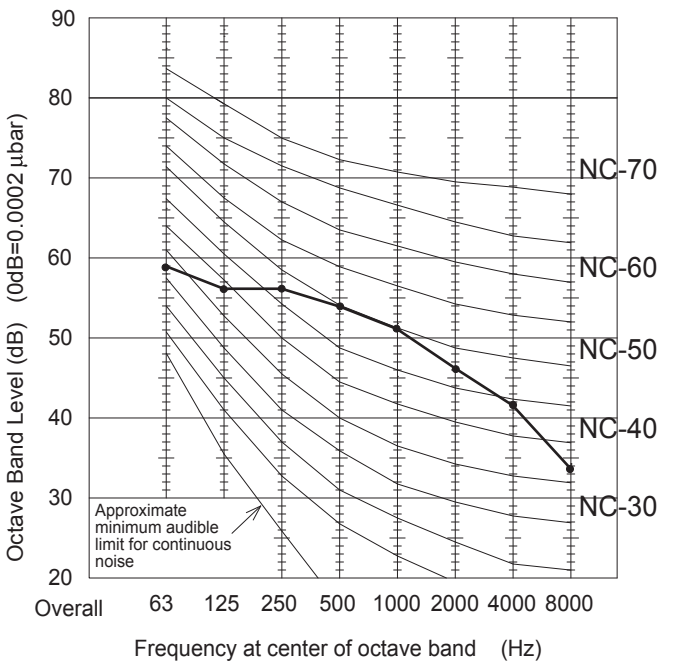
Cooling

MODEL	U-6LE2E5, U-6LE2E8
SOUND LEVEL dB(A)	54.0 (Quiet mode 51.0)
CONDITION	1 m in front at height of 1.5 m



Heating

MODEL	U-6LE2E5, U-6LE2E8
SOUND LEVEL dB(A)	56.0
CONDITION	1 m in front at height of 1.5 m



4

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-4LE2E8
	Indoor Unit	S-28MF2E5A x3, S-36MF2E5A x1
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	12.1	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	311.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	12.1	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	4.2	%
Tj = + 30 °C		8.9	kW	Tj = + 30 °C		6.7	%
Tj = + 25 °C		5.7	kW	Tj = + 25 °C		12.1	%
Tj = + 20 °C		2.7	kW	Tj = + 20 °C		9.6	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4380	m³/h
Sound power level, outdoor	L_{WA}	69.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-4LE2E8
	Indoor Unit	S-28MF2E5A x3, S-36MF2E5A x1
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	12.5	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	191.8	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	8.8	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	3.5	%
Tj = + 2 °C		5.3	kW	Tj = + 2 °C		4.1	%
Tj = + 7 °C		3.4	kW	Tj = + 7 °C		7.7	%
Tj = + 12 °C		4.4	kW	Tj = + 12 °C		9.8	%
T_{biv} = bivalent temperature		10.0	kW	T_{biv} = bivalent temperature		2.9	%
T_{OL} = operation limit		9.0	kW	T_{OL} = operation limit		2.3	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-10	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	℃
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	0.0	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4200	m³/h
Sound power level, outdoor	L_{WA}	72.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m³/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-5LE2E8
	Indoor Unit	S-36MF2E5A x4
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	296.2	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	14.0	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	3.8	%
Tj = + 30 °C		10.3	kW	Tj = + 30 °C		5.9	%
Tj = + 25 °C		6.6	kW	Tj = + 25 °C		11.0	%
Tj = + 20 °C		2.9	kW	Tj = + 20 °C		10.3	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4500	m^3/h
Sound power level, outdoor	L_{WA}	71.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-5LE2E8
	Indoor Unit	S-36MF2E5A x4
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	16.0	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	172.9	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	11.0	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	2.8	%
Tj = + 2 °C		6.7	kW	Tj = + 2 °C		3.7	%
Tj = + 7 °C		4.3	kW	Tj = + 7 °C		7.5	%
Tj = + 12 °C		4.4	kW	Tj = + 12 °C		9.8	%
T_{biv} = bivalent temperature		12.0	kW	T_{biv} = bivalent temperature		2.6	%
T_{OL} = operation limit		9.5	kW	T_{OL} = operation limit		2.2	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-9	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	°C
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	0.8	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4560	m^3/h
Sound power level, outdoor	L_{WA}	75.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m^3/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-6LE2E8
	Indoor Unit	S-36MF2E5A x2, S-45MF2E5A x2
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	15.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	286.8	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	15.5	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	3.4	%
Tj = + 30 °C		11.4	kW	Tj = + 30 °C		5.4	%
Tj = + 25 °C		7.3	kW	Tj = + 25 °C		10.2	%
Tj = + 20 °C		3.4	kW	Tj = + 20 °C		11.7	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4680	m³/h
Sound power level, outdoor	L_{WA}	73.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-6LE2E8
	Indoor Unit	S-36MF2E5A x2, S-45MF2E5A x2
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	16.5	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	166.7	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	11.5	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	2.6	%
Tj = + 2 °C		7.0	kW	Tj = + 2 °C		3.6	%
Tj = + 7 °C		4.5	kW	Tj = + 7 °C		7.4	%
Tj = + 12 °C		4.4	kW	Tj = + 12 °C		9.8	%
T_{biv} = bivalent temperature		11.5	kW	T_{biv} = bivalent temperature		2.6	%
T_{OL} = operation limit		9.5	kW	T_{OL} = operation limit		2.2	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-7	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	℃
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	2.0	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4560	m³/h
Sound power level, outdoor	L_{WA}	75.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m³/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-4LE2E8
	Indoor Unit	S-28MM1E5A x3, S-36MM1E5A x1
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	12.1	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	244.8	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	12.1	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	3.4	%
Tj = + 30 °C		8.9	kW	Tj = + 30 °C		5.0	%
Tj = + 25 °C		5.7	kW	Tj = + 25 °C		8.6	%
Tj = + 20 °C		3.7	kW	Tj = + 20 °C		9.3	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4380	m^3/h
Sound power level, outdoor	L_{WA}	70.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-4LE2E8
	Indoor Unit	S-28MM1E5A x3, S-36MM1E5A x1
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	12.5	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	147.8	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	8.8	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	2.7	%
Tj = + 2 °C		5.3	kW	Tj = + 2 °C		3.3	%
Tj = + 7 °C		3.4	kW	Tj = + 7 °C		5.6	%
Tj = + 12 °C		2.4	kW	Tj = + 12 °C		6.3	%
T_{biv} = bivalent temperature		10.0	kW	T_{biv} = bivalent temperature		2.3	%
T_{OL} = operation limit		7.6	kW	T_{OL} = operation limit		1.9	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-10	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	°C
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	0.0	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4200	m^3/h
Sound power level, outdoor	L_{WA}	73.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m^3/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-5LE2E8
	Indoor Unit	S-36MM1E5A x4
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	231.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	14.0	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	2.9	%
Tj = + 30 °C		10.3	kW	Tj = + 30 °C		4.5	%
Tj = + 25 °C		6.6	kW	Tj = + 25 °C		8.0	%
Tj = + 20 °C		3.7	kW	Tj = + 20 °C		9.3	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4500	m³/h
Sound power level, outdoor	L_{WA}	72.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-5LE2E8
	Indoor Unit	S-36MM1E5A x4
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	16.0	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	143.5	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	11.0	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	2.3	%
Tj = + 2 °C		6.7	kW	Tj = + 2 °C		3.2	%
Tj = + 7 °C		4.3	kW	Tj = + 7 °C		6.1	%
Tj = + 12 °C		2.4	kW	Tj = + 12 °C		6.3	%
T_{biv} = bivalent temperature		11.0	kW	T_{biv} = bivalent temperature		2.3	%
T_{OL} = operation limit		8.5	kW	T_{OL} = operation limit		1.9	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-7	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	℃
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	2.1	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4560	m³/h
Sound power level, outdoor	L_{WA}	76.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m³/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit	U-6LE2E8
	Indoor Unit	S-36MM1E5A x2, S-45MM1E5A x2
Outdoor side heat exchanger of air conditioner:		air
Indoor side heat exchanger of air conditioner:		air
Type: compressor driven vapour compression or sorption process		vapour compression
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	15.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	219.3	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°/19°C (dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj= + 35 °C	Pdc	15.5	kW	Tj = + 35 °C	EER_d or $GUE_{c,bin}$ / $AEF_{c,bin}$	2.4	%
Tj = + 30 °C		11.4	kW	Tj = + 30 °C		4.1	%
Tj = + 25 °C		7.3	kW	Tj = + 25 °C		7.7	%
Tj = + 20 °C		3.7	kW	Tj = + 20 °C		9.3	%
Degradation co- efficient for air conditioners**	C_{dc}	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.009	kW	Crankcase heater mode	P_{CK}	0.033	kW
Thermostat-off mode	P_{TO}	0.033	kW	Standby mode	P_{SB}	0.009	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow rate, outdoor		4680	m^3/h
Sound power level, outdoor	L_{WA}	74.0	dB				
Sound power level, indoor	L_{WA}	- ****	dB	if engine driven: Emissions of nitrogen oxides	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dc} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

Information requirements for heat pumps

Model(s):	Outdoor Unit	U-6LE2E8
	Indoor Unit	S-36MM1E5A x2, S-45MM1E5A x2
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
if applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	16.5	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	142.3	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj = - 7 °C	P_{dh}	11.5	kW	Tj = - 7 °C	COP_d or $GUE_{h,bin}$ / $AEF_{h,bin}$	2.2	%
Tj = + 2 °C		7.0	kW	Tj = + 2 °C		3.2	%
Tj = + 7 °C		4.5	kW	Tj = + 7 °C		6.1	%
Tj = + 12 °C		2.4	kW	Tj = + 12 °C		6.3	%
T_{biv} = bivalent temperature		11.5	kW	T_{biv} = bivalent temperature		2.2	%
T_{OL} = operation limit		8.5	kW	T_{OL} = operation limit		1.9	%
For air-to-water heat pumps: Tj = - 15 °C (if T_{OL} < - 20 °C)		-	kW	For water-to-air heat pumps: T_j = - 15 °C (if T_{OL} < -20 °C)		-	%
Bivalent temperature	T_{biv}	-7	°C	For water-to-air heat pumps: Operation limit temperature	T_{OL}	-20	°C
Degradation co- efficient heat pumps**	C_{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater			
Off mode	P_{OFF}	0.033	kW	back-up heating capacity *	elbu	2.2	kW
Thermostat-off mode	P_{TO}	0.033	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.033	kW	Standby mode	P_{SB}	0.033	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate,outdoor		4560	m^3/h
Sound power level, outdoor	L_{WA}	76.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m^3/h
Sound power level, indoor	L_{WA}	- ****	dB	Emissions of nitrogen oxides (if applicable)	NO_x***	-	mg/kWh fuel input GCV
				GWP of the refrigerant		2088	kg CO_2 eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany						

** If C_{dh} is not determined by measurement then the default degradation coefficient of heat pumps shall be 0,25.
*** from 26 September 2018.
Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.
**** Refer to Information requirements for UnitList

1. Outdoor Unit

Information requirements for fan coil units(VRF Indoor Unit)

Model(s):	Sound power level		Cooling capacity			Heating capacity	Total electric power input					
	L_{WA}		$P_{rated,c}$			$P_{rated,h}$	P_{elec}(Cooling)			P_{elec}(Heating)		
	Cooling	Heating	Total	Sensible	Latent		220V	230V	240V	220V	230V	240V
	dB	dB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
S-22MU2E5A	45.0/44.0/43.0	45.0/44.0/43.0	2.2	2.2	0.0	2.5	0.020	0.020	0.020	0.020	0.020	0.020
S-28MU2E5A	45.0/44.0/43.0	45.0/44.0/43.0	2.8	2.7	0.1	3.2	0.020	0.020	0.020	0.020	0.020	0.020
S-36MU2E5A	45.0/44.0/43.0	45.0/44.0/43.0	3.6	3.2	0.4	4.2	0.020	0.020	0.020	0.020	0.020	0.020
S-45MU2E5A	46.0/44.0/43.0	46.0/44.0/43.0	4.5	3.6	0.9	5.0	0.020	0.020	0.020	0.020	0.020	0.020
S-56MU2E5A	47.0/45.0/43.0	47.0/45.0/43.0	5.6	4.2	1.4	6.3	0.025	0.025	0.025	0.025	0.025	0.025
S-60MU2E5A	51.0/47.0/44.0	51.0/47.0/44.0	6.0	4.9	1.1	7.1	0.035	0.035	0.035	0.035	0.035	0.035
S-73MU2E5A	52.0/47.0/44.0	52.0/47.0/44.0	7.3	5.6	1.7	8.0	0.040	0.040	0.040	0.040	0.040	0.040
S-90MU2E5A	53.0/50.0/47.0	53.0/50.0/47.0	9.0	6.4	2.6	10.0	0.040	0.040	0.040	0.040	0.040	0.040
S-106MU2E5A	59.0/53.0/49.0	59.0/53.0/49.0	10.6	8.3	2.3	11.4	0.090	0.090	0.090	0.085	0.085	0.085
S-140MU2E5A	60.0/54.0/50.0	60.0/54.0/50.0	14.0	10.0	4.0	16.0	0.095	0.095	0.095	0.090	0.090	0.090
S-160MU2E5A	61.0/55.0/53.0	61.0/55.0/53.0	16.0	11.0	5.0	18.0	0.105	0.105	0.105	0.100	0.100	0.100
S-15MY2E5A	49.0/46.0/40.0	49.0/46.0/40.0	1.5	1.5	0.0	1.7	0.035	0.035	0.035	0.030	0.030	0.030
S-22MY2E5A	50.0/46.0/40.0	50.0/46.0/40.0	2.2	1.8	0.4	2.5	0.035	0.035	0.035	0.030	0.030	0.030
S-28MY2E5A	50.0/46.0/40.0	50.0/46.0/40.0	2.8	2.2	0.6	3.2	0.035	0.035	0.035	0.030	0.030	0.030
S-36MY2E5A	51.0/47.0/41.0	51.0/47.0/41.0	3.6	2.6	1.0	4.2	0.040	0.040	0.040	0.035	0.035	0.035
S-45MY2E5A	53.0/49.0/43.0	53.0/49.0/43.0	4.5	3.0	1.5	5.0	0.040	0.040	0.040	0.035	0.035	0.035
S-56MY2E5A	55.0/52.0/49.0	55.0/52.0/49.0	5.6	3.6	2.0	6.3	0.045	0.045	0.045	0.040	0.040	0.040
S-22ML1E5	40.0/38.0/35.0	40.0/38.0/35.0	2.2	1.9	0.3	2.5	0.086	0.090	0.095	0.055	0.058	0.062
S-28ML1E5	44.0/40.0/37.0	44.0/40.0/37.0	2.8	2.1	0.7	3.2	0.086	0.092	0.097	0.055	0.060	0.064
S-36ML1E5	45.0/42.0/39.0	45.0/42.0/39.0	3.6	2.5	1.1	4.2	0.088	0.093	0.099	0.057	0.061	0.066
S-45ML1E5	46.0/44.0/40.0	46.0/44.0/40.0	4.5	2.8	1.7	5.0	0.091	0.097	0.103	0.060	0.065	0.070
S-56ML1E5	46.0/44.0/40.0	46.0/44.0/40.0	5.6	3.9	1.7	6.3	0.091	0.097	0.103	0.060	0.065	0.070
S-73ML1E5	49.0/46.0/44.0	49.0/46.0/44.0	7.3	4.8	2.5	8.0	0.135	0.145	0.154	0.100	0.109	0.117
S-28MD1E5	47.0/45.0/44.0	47.0/45.0/44.0	2.8	2.4	0.4	3.2	0.050	0.051	0.052	0.039	0.040	0.042
S-36MD1E5	47.0/45.0/44.0	47.0/45.0/44.0	3.6	2.7	0.9	4.2	0.050	0.051	0.052	0.039	0.040	0.042
S-45MD1E5	47.0/46.0/45.0	47.0/46.0/45.0	4.5	3.6	0.9	5.0	0.050	0.051	0.052	0.039	0.040	0.042
S-56MD1E5	49.0/47.0/45.0	49.0/47.0/45.0	5.6	3.8	1.8	6.3	0.058	0.060	0.061	0.046	0.048	0.049
S-73MD1E5	56.0/51.0/47.0	56.0/51.0/47.0	7.3	5.0	2.3	8.0	0.086	0.087	0.089	0.075	0.076	0.077
S-15MF2E5A	55.0/51.0/44.0	55.0/51.0/44.0	1.5	1.5	0.0	1.7	0.070	0.070	0.070	0.070	0.070	0.070
S-22MF2E5A	55.0/51.0/44.0	55.0/51.0/44.0	2.2	2.2	0.0	2.5	0.070	0.070	0.070	0.070	0.070	0.070
S-28MF2E5A	55.0/51.0/44.0	55.0/51.0/44.0	2.8	2.7	0.1	3.2	0.070	0.070	0.070	0.070	0.070	0.070
S-36MF2E5A	55.0/51.0/44.0	55.0/51.0/44.0	3.6	3.2	0.4	4.2	0.070	0.070	0.070	0.070	0.070	0.070
S-45MF2E5A	56.0/54.0/47.0	56.0/54.0/47.0	4.5	3.5	1.0	5.0	0.070	0.070	0.070	0.070	0.070	0.070
S-56MF2E5A	56.0/54.0/47.0	56.0/54.0/47.0	5.6	4.3	1.3	6.3	0.100	0.100	0.100	0.100	0.100	0.100
S-60MF2E5A	57.0/54.0/48.0	57.0/54.0/48.0	6.0	5.1	0.9	7.1	0.120	0.120	0.120	0.120	0.120	0.120
S-73MF2E5A	57.0/54.0/48.0	57.0/54.0/48.0	7.3	5.3	2.0	8.0	0.120	0.120	0.120	0.120	0.120	0.120
S-90MF2E5A	59.0/56.0/50.0	59.0/56.0/50.0	9.0	6.4	2.6	10.0	0.135	0.135	0.135	0.135	0.135	0.135
S-106MF2E5A	60.0/56.0/53.0	60.0/56.0/53.0	10.6	8.4	2.2	11.4	0.195	0.195	0.195	0.200	0.200	0.200
S-140MF2E5A	61.0/57.0/54.0	61.0/57.0/54.0	14.0	9.8	4.2	16.0	0.215	0.215	0.215	0.210	0.210	0.210
S-160MF2E5A	62.0/58.0/55.0	62.0/58.0/55.0	16.0	10.7	5.3	18.0	0.225	0.225	0.225	0.225	0.225	0.225
S-15MM1E5A	43.0/42.0/40.0	43.0/42.0/40.0	1.5	1.5	0.0	1.7	0.036	0.036	0.036	0.026	0.026	0.026
S-22MM1E5A	43.0/42.0/40.0	43.0/42.0/40.0	2.2	1.8	0.4	2.5	0.036	0.036	0.036	0.026	0.026	0.026
S-28MM1E5A	45.0/44.0/42.0	45.0/44.0/42.0	2.8	2.1	0.7	3.2	0.040	0.040	0.040	0.030	0.030	0.030
S-36MM1E5A	47.0/45.0/43.0	47.0/45.0/43.0	3.6	2.6	1.0	4.2	0.042	0.042	0.042	0.032	0.032	0.032
S-45MM1E5A	49.0/47.0/45.0	49.0/47.0/45.0	4.5	3.1	1.4	5.0	0.049	0.049	0.049	0.039	0.039	0.039
S-56MM1E5A	50.0/48.0/46.0	50.0/48.0/46.0	5.6	3.8	1.8	6.3	0.064	0.064	0.064	0.054	0.054	0.054
S-36MT2E5A	54.0/50.0/48.0	54.0/50.0/48.0	3.6	3.1	0.5	4.2	0.035	0.035	0.035	0.035	0.035	0.035
S-45MT2E5A	55.0/51.0/48.0	55.0/51.0/48.0	4.5	3.6	0.9	5.0	0.040	0.040	0.040	0.040	0.040	0.040
S-56MT2E5A	55.0/51.0/48.0	55.0/51.0/48.0	5.6	4.0	1.6	6.3	0.040	0.040	0.040	0.040	0.040	0.040
S-73MT2E5A	57.0/53.0/51.0	57.0/53.0/51.0	7.3	5.4	1.9	8.0	0.055	0.055	0.055	0.055	0.055	0.055
S-106MT2E5A	60.0/55.0/54.0	60.0/55.0/54.0	10.6	7.7	2.9	11.4	0.080	0.080	0.080	0.080	0.080	0.080
S-140MT2E5A	62.0/58.0/55.0	62.0/58.0/55.0	14.0	9.5	4.5	16.0	0.100	0.100	0.100	0.100	0.100	0.100
S-15MK2E5A	49.0/47.0/44.0	49.0/47.0/44.0	1.5	1.3	0.2	1.7	0.025	0.025	0.025	0.025	0.025	0.025
S-22MK2E5A	51.0/48.0/44.0	51.0/48.0/44.0	2.2	1.7	0.5	2.5	0.025	0.025	0.025	0.025	0.025	0.025
S-28MK2E5A	52.0/49.0/44.0	52.0/49.0/44.0	2.8	2.0	0.8	3.2	0.025	0.025	0.025	0.025	0.025	0.025
S-36MK2E5A	55.0/51.0/44.0	55.0/51.0/44.0	3.6	2.4	1.2	4.2	0.030	0.030	0.030	0.030	0.030	0.030
S-45MK2E5A	53.0/50.0/48.0	53.0/50.0/48.0	4.5	3.5	1.0	5.0	0.030	0.030	0.030	0.030	0.030	0.030
S-56MK2E5A	55.0/52.0/50.0	55.0/52.0/50.0	5.6	4.2	1.4	6.3	0.035	0.035	0.035	0.035	0.035	0.035
S-73MK2E5A	62.0/59.0/55.0	62.0/59.0/55.0	7.3	5.3	2.0	8.0	0.055	0.055	0.055	0.055	0.055	0.055
S-106MK2E5A	64.0/61.0/57.0	64.0/61.0/57.0	10.6	7.0	3.6	11.4	0.080	0.080	0.080	0.080	0.080	0.080
S-22MP1E5	44.0/41.0/39.0	44.0/41.0/39.0	2.2	1.5	0.7	2.5	0.051	0.056	0.061	0.036	0.040	0.045
S-28MP1E5	44.0/41.0/39.0	44.0/41.0/39.0	2.8	1.9	0.9	3.2	0.051	0.056	0.061	0.036	0.040	0.045
S-36MP1E5	50.0/46.0/40.0	50.0/46.0/40.0	3.6	2.4	1.2	4.2	0.079	0.085	0.091	0.064	0.070	0.076
S-45MP1E5	49.0/46.0/42.0	49.0/46.0/42.0	4.5	2.8	1.7	5.0	0.116	0.126	0.136	0.079	0.091	0.101
S-56MP1E5	50.0/47.0/42.0	50.0/47.0/42.0	5.6	3.8	1.8	6.3	0.116	0.126	0.136	0.079	0.091	0.101
S-71MP1E5	52.0/49.0/46.0	52.0/49.0/46.0	7.1	4.6	2.5	8.0	0.150	0.160	0.170	0.110	0.120	0.130
S-22MR1E5	44.0/41.0/39.0	44.0/41.0/39.0	2.2	1.5	0.7	2.5	0.051	0.056	0.061	0.036	0.040	0.045
S-28MR1E5	44.0/41.0/39.0	44.0/41.0/39.0	2.8	1.9	0.9	3.2	0.051	0.056	0.061	0.036	0.040	0.045
S-36MR1E5	50.0/46.0/40.0	50.0/46.0/40.0	3.6	2.4	1.2	4.2	0.079	0.085	0.091	0.064	0.070	0.076
S-45MR1E5	49.0/46.0/42.0	49.0/46.0/42.0	4.5	2.8	1.7	5.0	0.116	0.126	0.136	0.079	0.091	0.101
S-56MR1E5	49.0/46.0/42.0	49.0/46.0/42.0	5.6	3.8	1.8	6.3	0.116	0.126	0.136	0.079	0.091	0.101
S-71MR1E5	52.0/49.0/46.0	52.0/49.0/46.0	7.1	4.6	2.5	8.0	0.150	0.160	0.170	0.110	0.120	0.130

Information requirements for VRF Outdoor Unit

Model(s):	Sound power level	
	L_{WA}	
	Cooling	Heating
	dB	dB
U-4LE2E8	69	72
U-5LE2E8	71	75
U-6LE2E8	73	75

– MEMO –

Contents

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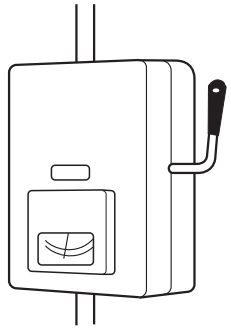
1. Preparing for Test Run

1. Preparing for Test Run

- **Before attempting to start the air conditioner, check the following.**

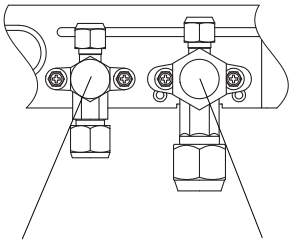
(1) All loose matter is removed from the cabinet especially steel filings, bits of wire, and clips.
(2) The control wiring is correctly connected and all electrical connections are tight.
(3) The protective spacers for the compressor used for transportation have been removed. If not, remove them now.
(4) The transportation pads for the indoor fan have been removed. If not, remove them now.
(5) The power has been connected to the unit for at least 5 hours before starting the compressor.
The bottom of the compressor should be warm to the touch and the crankcase heater around the feet of the compressor should be hot to the touch.



ON
(Power must be turned ON at least 5 hours before attempting test run)

Power mains switch

(6) Both the gas and liquid tube service valves are open. If not, open them now.



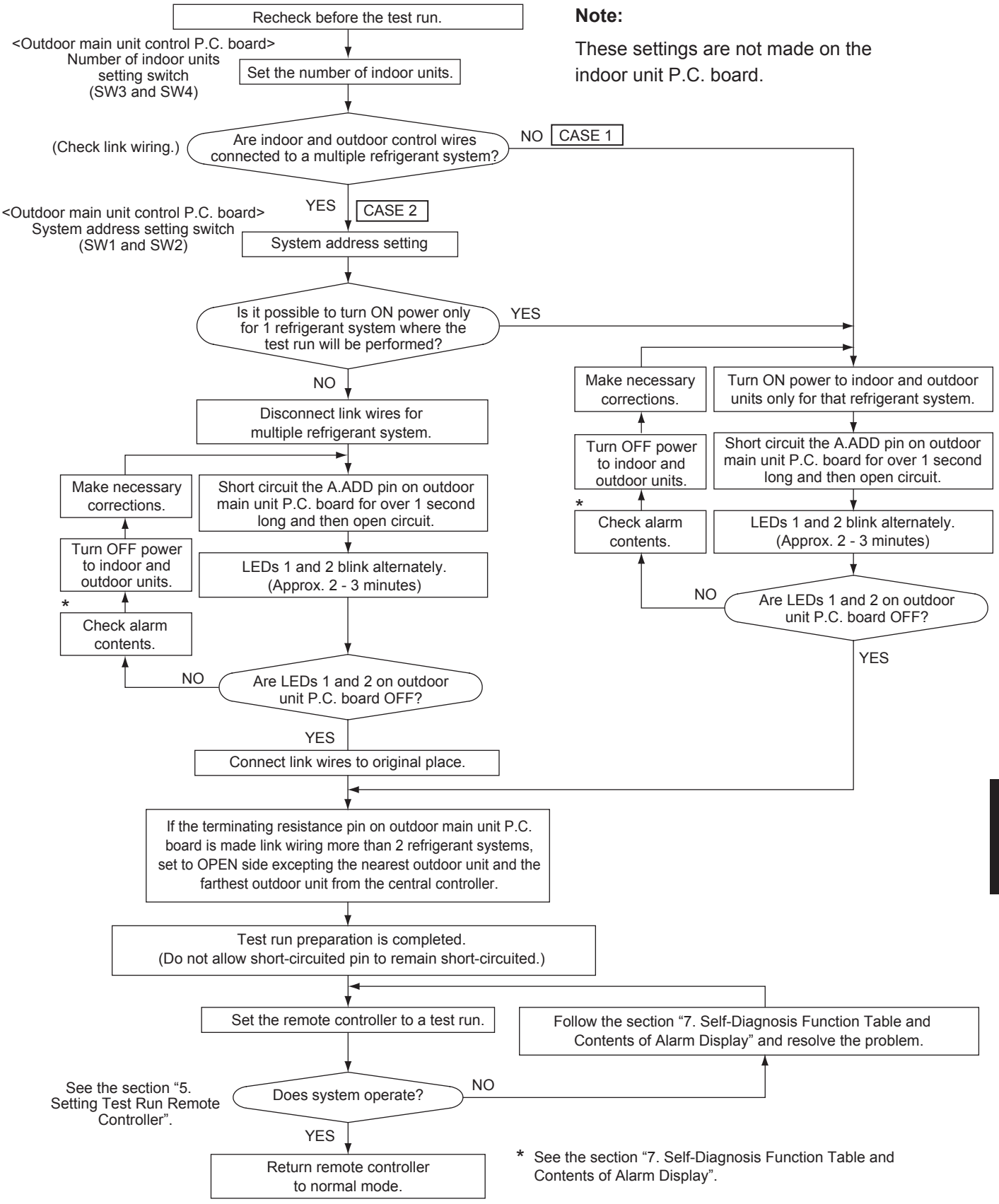
Liquid tube Gas tube

(7) Request that the customer be present for the trial run. Explain the contents of the operating instructions, then have the customer actually operate the system.
(8) Be sure to give the operating instructions and installation instructions to the customer.
(9) When replacing the control P.C. board, be sure to make all the same settings on the new P.C. board as were in use before replacement.
The existing EEPROM is not changed, and is connected to the new control P.C.board.

5

2. Test Run Procedure

2. Test Run Procedure



Note:

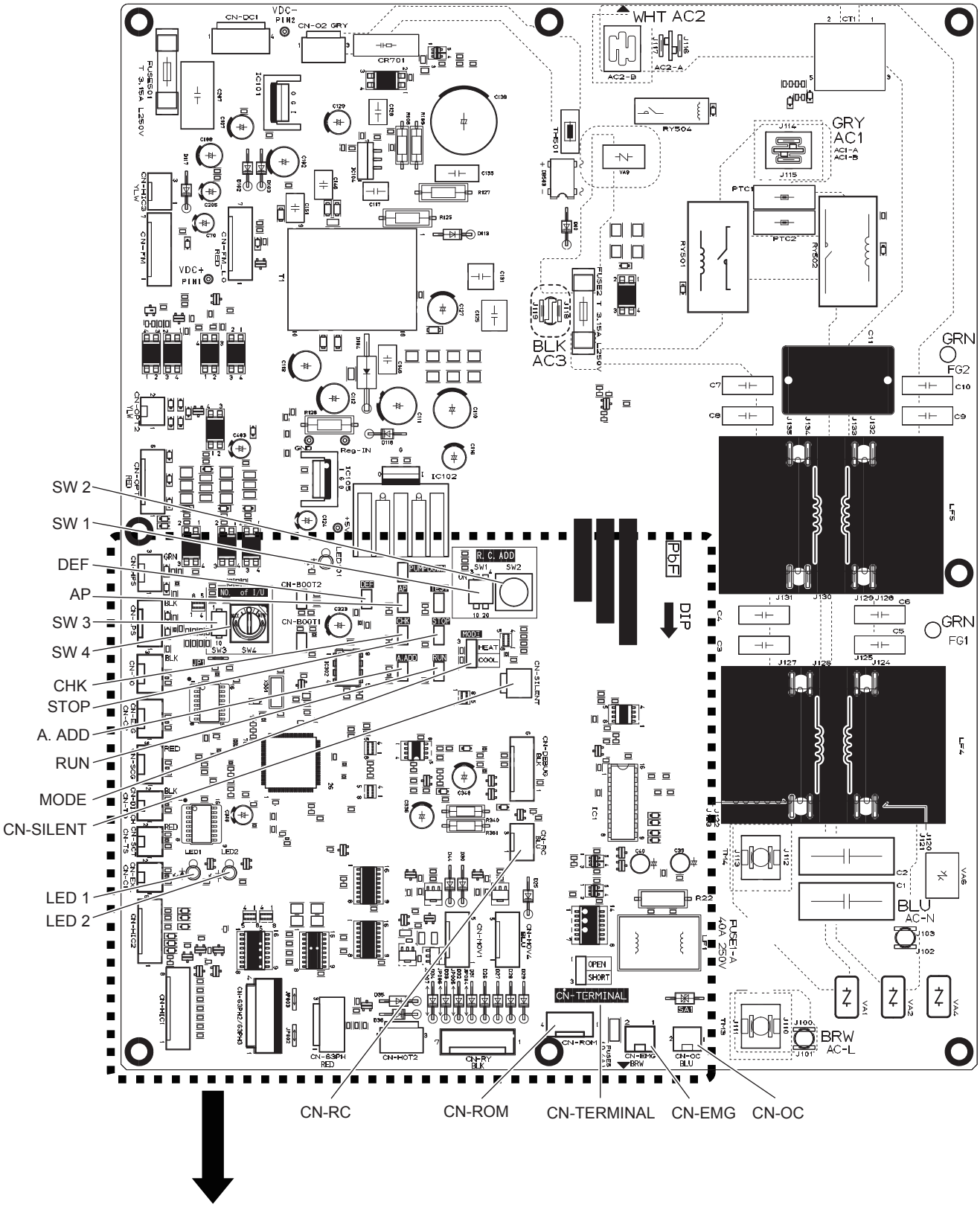
These settings are not made on the indoor unit P.C. board.

* See the section “7. Self-Diagnosis Function Table and Contents of Alarm Display”.

5

3. Main Outdoor Unit PCB Setting

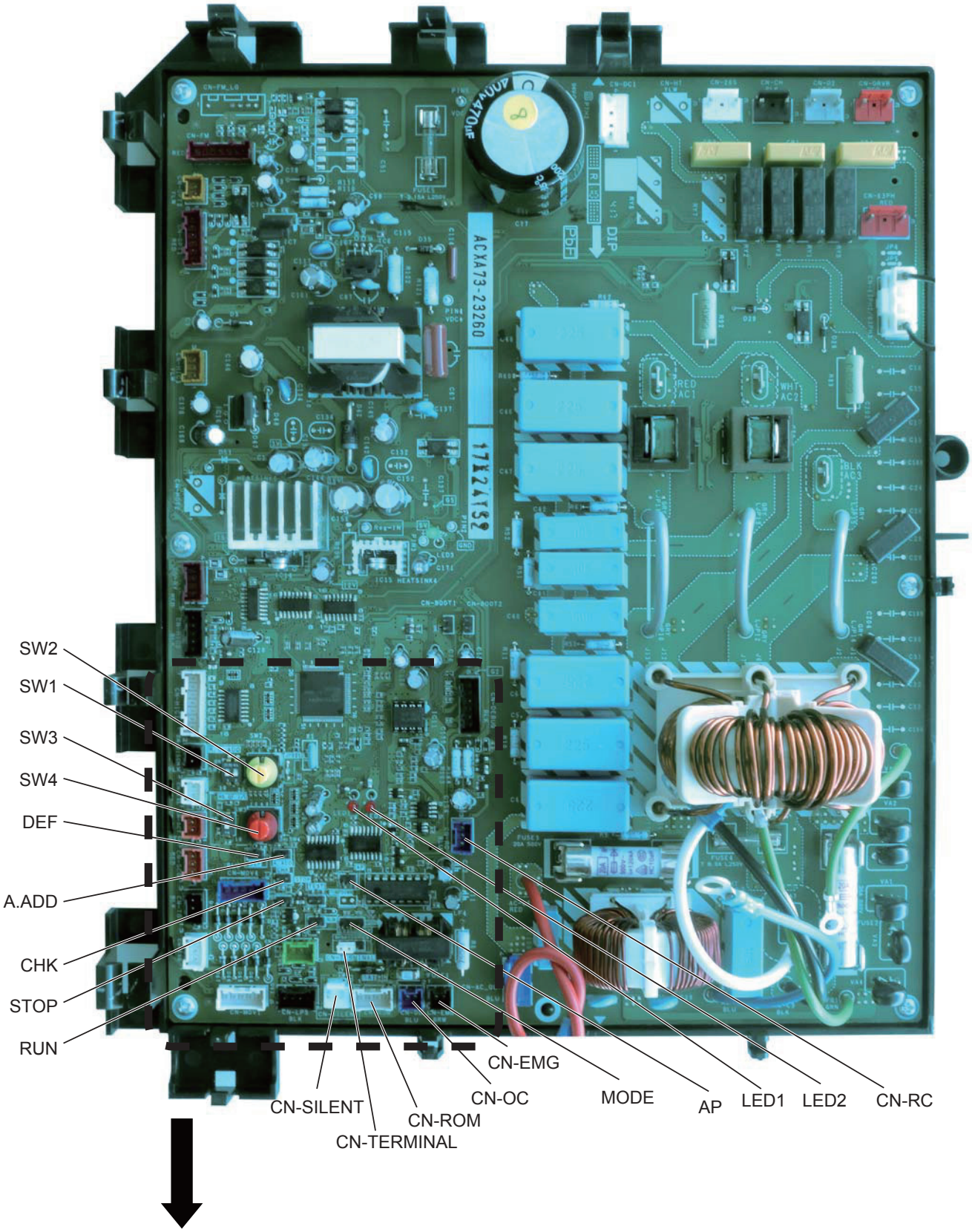
3. Main Outdoor Unit P.C. Board Setting
U-4LE2E5, U-5LE2E5, U-6LE2E5



For detailed drawing, see the page 5-7.

3. Main Outdoor Unit PCB Setting

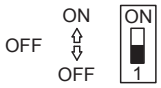
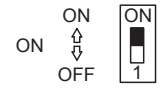
U-4LE2E8, U-5LE2E8, U-6LE2E8



For detailed drawing, see the page 5-7.

3. Main Outdoor Unit PCB Setting

● **The number of indoor units settings (SW3, SW4)**

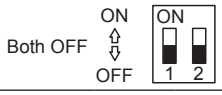
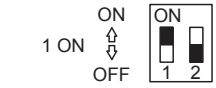
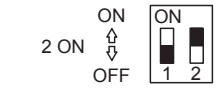
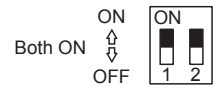
Number of indoor units	Indoor unit setting (SW3) (1P DIP switch) 10	Indoor unit setting (SW4) (Rotary switch)
1 - 9 unit (factory setting : 1 unit)		 Set to 1 - 9
10 - 12 unit		 Set to 0 - 2

DO NOT exceed the maximum number of indoor units when making connections.

The indoor unit address setting should also be set less than “12”.

In the event of setting more than “13”, the communication cannot be made between the outdoor and indoor units.

● **Examples of refrigerant circuit (R.C.) address settings (required when link wiring is used) (SW1, SW2)**

System address No.	System address (SW1) (2P DIP switch) 10 20	System address (SW2) (Rotary switch)
System 1 (factory setting)		 Set to 1
System 11		 Set to 1
System 21		 Set to 1
System 30		 Set to 0

5

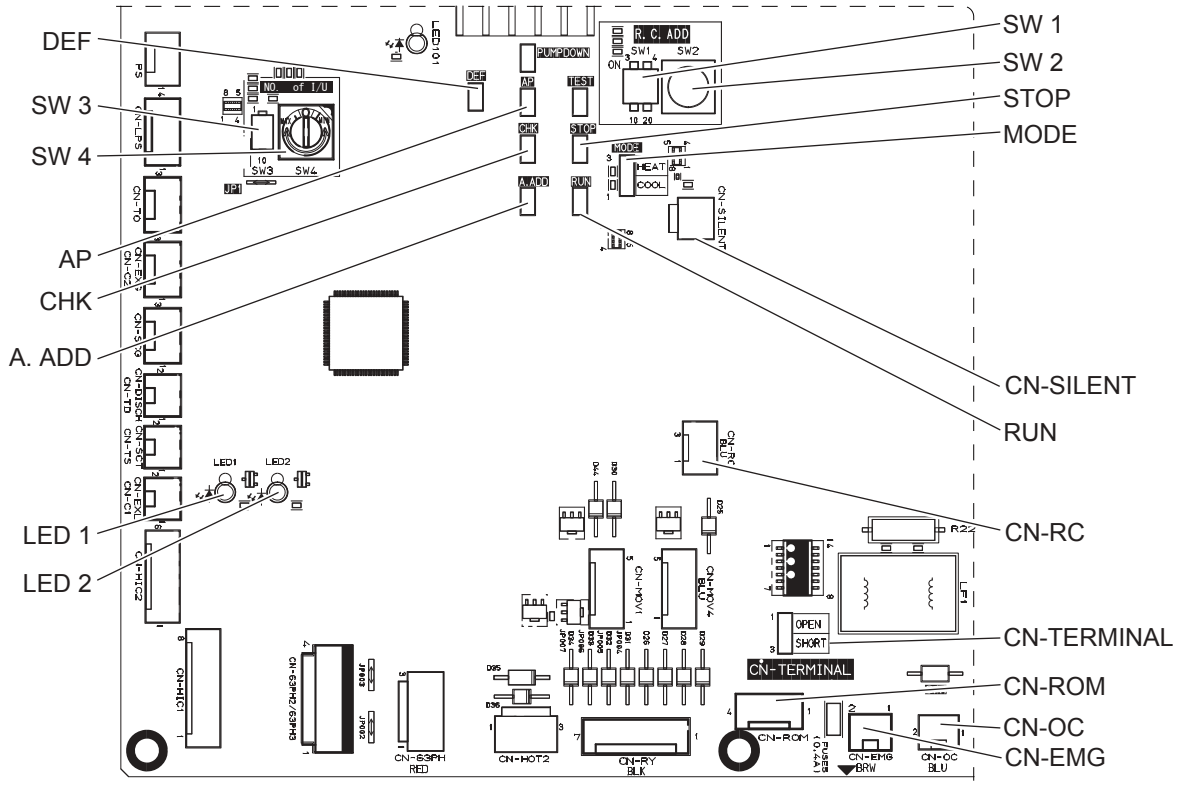
● **Setting the System Address**
[SW2: Rotary switch (Yellow), SW1: 2P DIP (Black)]

	Outdoor system address	SW2 setting	SW1 setting	
			1P (10s digit)	2P (20s digit)
Link wiring	1	1	OFF	OFF
	2	2	OFF	OFF
	3	3	OFF	OFF
	4	4	OFF	OFF
	5	5	OFF	OFF
	6	6	OFF	OFF
	7	7	OFF	OFF
	8	8	OFF	OFF
	9	9	OFF	OFF
	10	0	ON	OFF
	11	1	ON	OFF
	12	2	ON	OFF
	13	3	ON	OFF
	14	4	ON	OFF
	15	5	ON	OFF
	16	6	ON	OFF
	17	7	ON	OFF
	18	8	ON	OFF
	19	9	ON	OFF

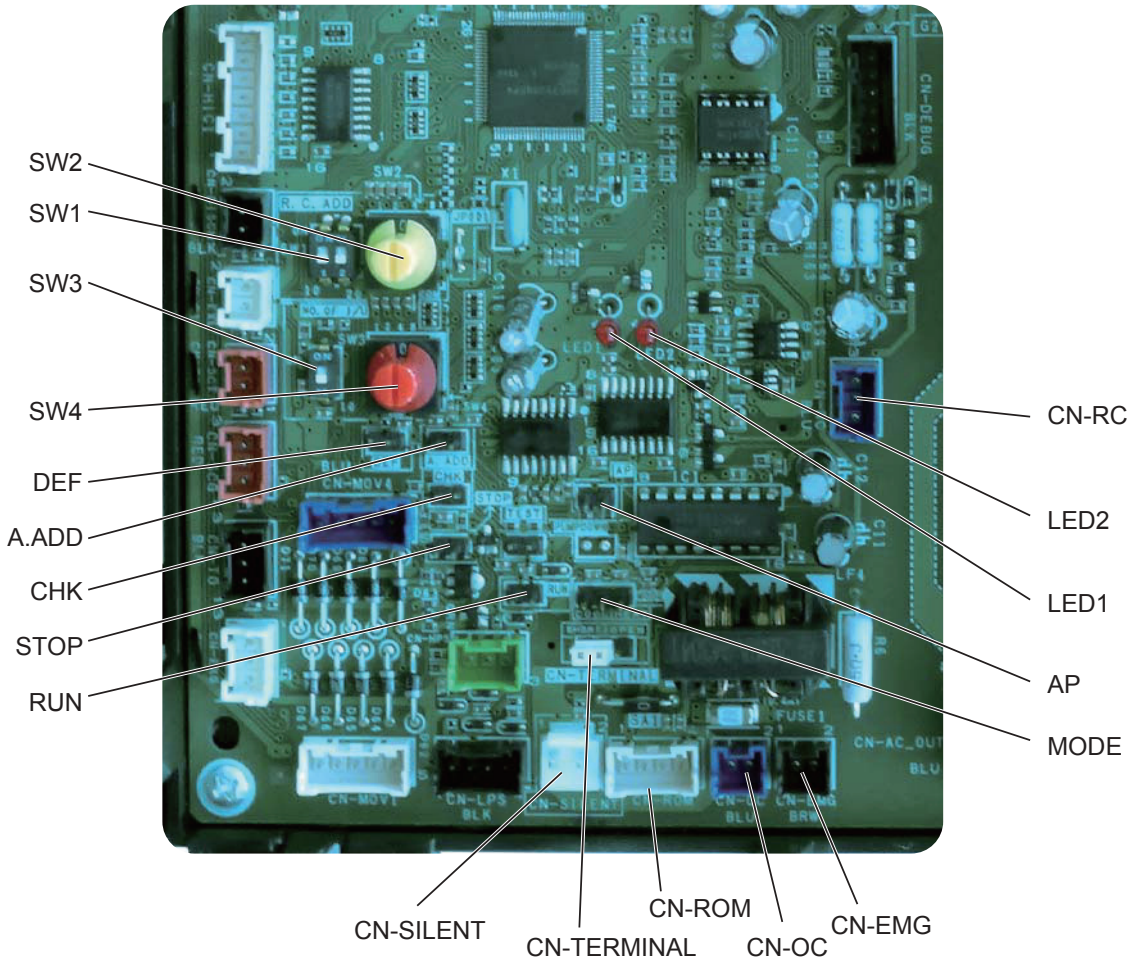
	Outdoor system address	SW2 setting	SW1 setting	
			1P (10s digit)	2P (20s digit)
Link wiring	20	0	OFF	ON
	21	1	OFF	ON
	22	2	OFF	ON
	23	3	OFF	ON
	24	4	OFF	ON
	25	5	OFF	ON
	26	6	OFF	ON
	27	7	OFF	ON
	28	8	OFF	ON
	29	9	OFF	ON
	30	0	ON	ON

3. Main Outdoor Unit PCB Setting

U-4LE2E5, U-5LE2E5, U-6LE2E5



U-4LE2E8, U-5LE2E8, U-6LE2E8



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3. Main Outdoor Unit PCB Setting

● Name and Function of Each Switch on Outdoor Unit Control P.C. Board

Function Switch	Remarks
MODE pin (3P, BLK)	Changes to cooling/heating mode. When in normal operation: When short circuited the COOL side, indoor unit operation in the same refrigerant system changes to all cooling mode. When short circuited the HEAT side, indoor unit operation in the same refrigerant system changes to all heating mode. When in auto address setting: Changes to heating mode with open-circuit.
A.ADD pin (2P, BLK)	Short circuited for over 1 second long → Auto address setting starts with open-circuit. If short circuit lasts for over 1 second long during auto address setting, the setting is interrupted.
CHK pin (2P, BLK)	When short circuited, test run begins. (If the remote controller is connected in test run mode, it is automatically cancelled after 1 hour.) Also, if short-circuit is cancelled, test run mode is cancelled.
RC plug (3P, BLU)	Connects to outdoor unit maintenance remote controller and content of alarm message will be checked.
RUN pin (2P, BLK)	When short circuited and pulse signal is given, all indoor units operate in the same refrigerant system.
STOP pin (2P, BLK)	When short circuited and pulse signal is given, all indoor units stop in the same refrigerant system. (When short circuited, operation cannot be performed by the indoor unit's remote controller.)
DEF pin (2P, BLK)	When the pin of the main unit is short-circuit in heating mode, defrosting operation is started. Even if short circuited, defrosting will not be activated immediately.
AP pin (2P, BLK)	Can be used when vacuuming the outdoor unit.
SILENT plug (2P, WHT)	Can be used when setting the outdoor unit fan in sound absorbing mode.

For details, refer to the Test Run Service Manual.

4. Auto Address Setting

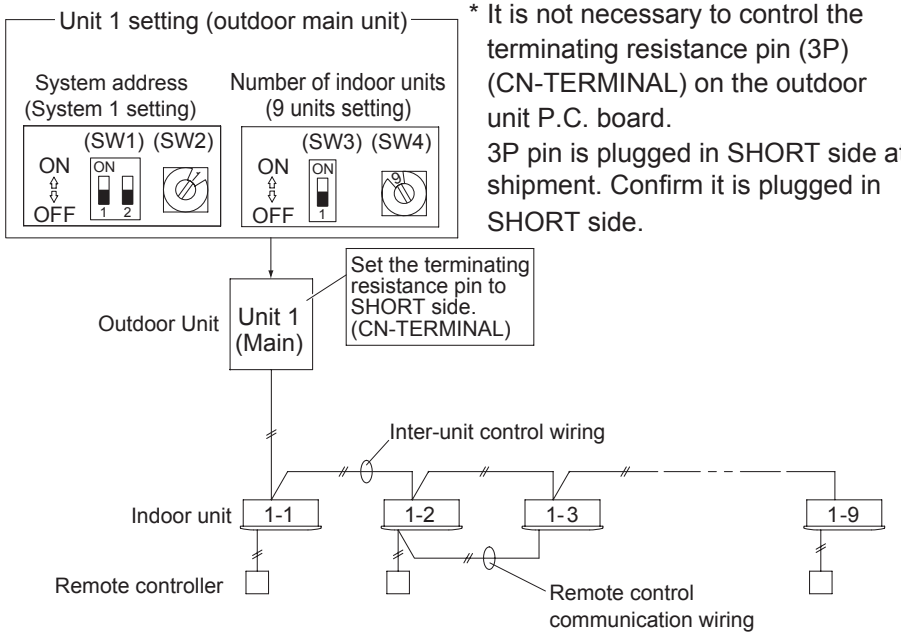
4. Auto Address Setting

Example: Basic Wiring Diagram (1)

- **Case of no link wiring**
  (Inter-unit control wiring is not connected to a multiple system.)
  Indoor unit address setting is possible without starting the compressor.

3P terminating resistance pin (SHORT side)





* It is not necessary to control the terminating resistance pin (3P) (CN-TERMINAL) on the outdoor unit P.C. board.
3P pin is plugged in SHORT side at shipment. Confirm it is plugged in SHORT side.

Case 1

Auto Address Control for One Refrigerant System

1. Check the refrigerant system's Address Setting Rotary switch (SW2) on outdoor main unit control P.C. board to “1” and the Dip switch (SW1) to “0” (at shipment). 

2. Regarding the setting of the number of indoor units connected to the outdoor unit, set the Dip switch (SW3) for setting the number of indoor units on outdoor main unit control P.C. board connected to the outdoor unit to “0” 

and set the Rotary switch (SW4) to “9”.
3. Turn on power to indoor and outdoor units.
4. Short circuit the A.ADD pin on outdoor main unit control P.C. board for over 1 second long and open circuit. Communication for auto address setting begins.
   * To cancel, short circuit the A.ADD pin again for over 1 second long and then open circuit. The LED that indicates auto address setting goes out and the process is stopped. Be sure to perform auto address setting again.

   ⇩

   Auto address setting is completed when LEDs 1 and 2 on outdoor main unit control P.C.board go out.

   ⇩
5. Remote control operation is now available.
   * When auto address setting is controlled by the remote controller, perform auto address setting by the remote controller after step 3 described above.

5

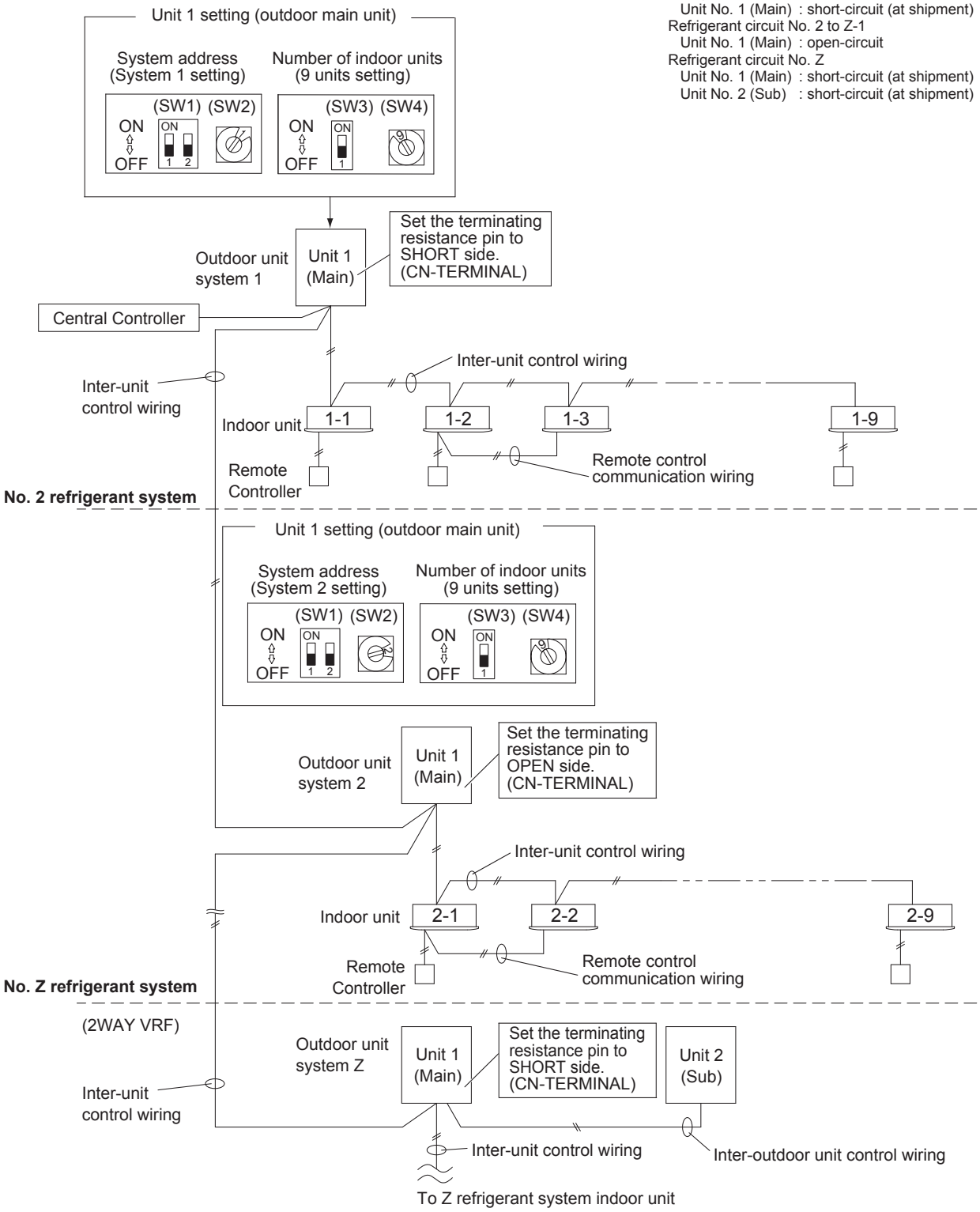
4. Auto Address Setting

Example: Basic Wiring Diagram (2)

- **Case of link wiring**

* See the section “ATTENTION!”.

Setting of terminal pin (CN-TERMINAL)
Refrigerant circuit No. 1
Unit No. 1 (Main) : short-circuit (at shipment)
Refrigerant circuit No. 2 to Z-1
Unit No. 1 (Main) : open-circuit
Refrigerant circuit No. Z
Unit No. 1 (Main) : short-circuit (at shipment)
Unit No. 2 (Sub) : short-circuit (at shipment)



4. Auto Address Setting

● **Final check before operation**

Final check must be done under the conditions of inter-outdoor unit control wiring connected to the centralized control system and the resistor between conductors must be measured by a Megger. Check if it is showing between 30Ω and 120Ω.

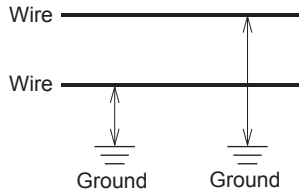
If the resistance value is out of range, check adjustment of the termination resistor again. Even if it is out of range, the problem is caused by wiring.

- Is the wiring connection properly completed?
- Are there any scratches or deterioration on the coverage?
- Measure between conductors and also between wiring and ground by 500V Megger insulation resistance tester.
  Make sure the Megger is showing more than 100MΩ.
  When measuring, remove both ends of the wiring from the terminal board.
  If not removed, it will be damaged.
  If it is less than 100MΩ, a new wiring connection should be made.

Between conductors



Between wiring and ground



Case 2 **Auto Address Control for Multiple Linked Refrigerant System How to Control Auto Address Setting from Outdoor Unit**

1. Check that the refrigerant system address Rotary switch (SW2) on outdoor main unit control P.C. board in 1 refrigerant system is set to “1” and the Dip switch (SW1) is set to “0” (at shipment). 

2. Regarding the number of indoor units connected to the outdoor unit, set the Dip switch (SW3) for setting the number of indoor units on outdoor main unit control P.C. board to “0” 

and set the Rotary switch (SW4) to “9”. Total of 9 units installation is made.
3. Turn ON power to all indoor and outdoor units only for one refrigerant system or disconnect link wires for multiple refrigerant system.
4. Short circuit the A.ADD pin of outdoor main unit for over 1 second long and then open circuit.
   Communication for auto address setting begins.

   * To cancel, again short circuit the A.ADD pin for over 1 second long and then open circuit.
     LEDs 1 and 2 that indicate auto address setting is in progress go out and that process is stopped.
     Be sure to perform auto address setting again.

   ⇩

   Auto address setting is completed when the compressor stops and LEDs 1 and 2 on outdoor main unit control P.C. board go out.

   ⇩
5. Remote control operation is now available.

   * When performing auto address setting by the remote controller, perform auto address setting by the remote controller after step 3.

● See the section “Auto Address Setting from Remote Controller”.

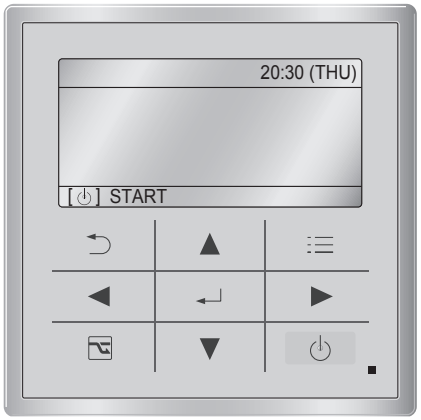
5

4. Auto Address Setting

Auto Address Setting from the High-spec Wired Remote Controller (CZ-RTC5A / CZ-RTC5B)

① Keep pressing the [↩], [↵] and [▶] buttons simultaneously for 4 or more seconds.
The "Maintenance func" screen appears on the LCD display.

② Press the [▼] or [▲] button to see each menu.
If you wish to see the next screen instantly, press the [◀] or [▶] button.
Select "9. Auto address" on the LCD display and press the [↵] button.



Maintenance func 20:30 (THU)
9. Auto address
10. Set elec. consumption
11. Set touch key
12. Check touch key
Sel. Page [↵] Confirm

③ The "Auto address" screen appears on the LCD display.
Change the "Code no." to "A1" by pressing the [▼] or [▲] button.

Auto address	20:30 (THU)
Code no.	O/D unit no.
A1	1
Sel. Next	

④ Select the "O/D unit no." by pressing the [◀] or [▶] button.
Select one of the "O/D unit no." for auto address by pressing the [▼] or [▲] button.

Approximately about 10 minutes are required.
When auto address setting is completed, the units return to normal stopped status.

Auto Address Setting* from the Remote Controller (CZ-RTC4)

* Auto address setting in Cooling mode cannot be done from the remote controller.

NOTE

- Selecting each refrigerant system individually for auto address setting
- Auto address setting for each system
  : Item code "A1"

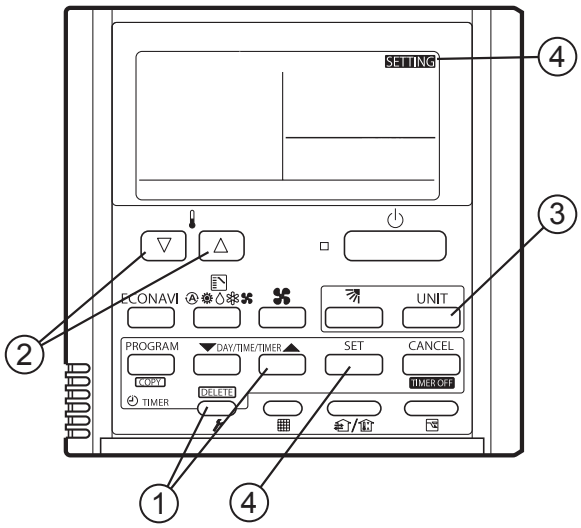
① Press the remote controller timer time /TIMER button and button at the same time.
(Press and hold for 4 seconds or longer.)

② Next, press either the temperature setting ▽ / △ button. (Check that the item code is "A1".)

③ Use either the UNIT button to set the system No. to perform auto address setting.

④ Then press the SET button.
(Auto address setting for one refrigerant system begins.) (When auto address setting for one system is completed, the system returns to normal stopped status.)
<Approximately 4 – 5 minutes is required.>
(During auto address setting, " SETTING " is displayed on the remote controller.
This message disappears when auto address setting is completed.)

⑤ Repeat the same steps to perform auto address setting for each successive system.



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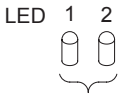
4. Auto Address Setting

Display During Auto Address Setting

● On the surface of outdoor unit control P.C. board



* Do not short circuit the A.ADD pin again during auto address setting.
LEDs 1 and 2 go out and address setting is interrupted.

* When auto address setting is normally completed, both LEDs 1 and 2 go out.
In other cases, correct settings referring to the following table and perform auto address setting again.

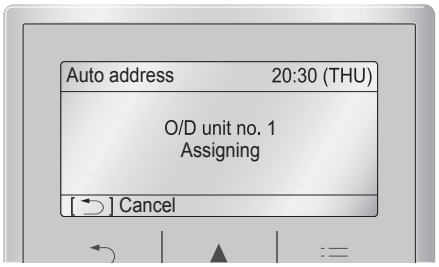
● Contents of LEDs 1 and 2 on outdoor unit control P.C. board

☼ : Illuminating
✷ : Blinking
● : Go out

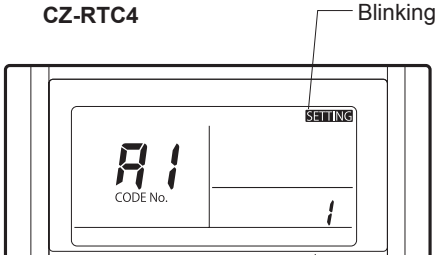
LED 1	LED 2	Contents of display
☼	☼	After turned ON power (not during auto address setting), it is entirely impossible to communicate with the indoor unit in the system.
●	☼	After power is turned ON (and auto address setting is not in progress), one or more indoor units are confirmed in that system; however, the number of indoor units does not match the number that was set. This status remains even if the indoor unit address (indoor EEPROM item code : 13) is set more than 13 indoor units. In this case, be sure to set the indoor unit address less than 12.
✷ Alternately	✷ Alternately	Under auto address setting
●	●	Auto address setting completed
✷ Simultaneously	✷ Simultaneously	There are inconsistencies between the number of indoor units and setting number of indoor units. (at the time of auto address setting)
✷ Alternating	✷ Alternating	See the section “7. Self-Diagnosis Function Table and Contents of Alarm Display”.

● Display of remote controller

CZ-RTC5A / CZ-RTC5B



CZ-RTC4



Request concerning recording the indoor/outdoor unit combination Nos.

After auto address setting has been completed, be sure to record them for future reference.

List the outdoor main unit system address and the addresses of the indoor units in that system in an easily visible location (next to the nameplate), using a permanent marking pen or similar means that cannot be abraded easily.

Example: (Outdoor) 1 - (Indoor) 1-1, 1-2, 1-3… (Outdoor) 2 - (Indoor) 2-1, 2-2, 2-3…

These numbers are necessary for later maintenance. Please be sure to indicate them.

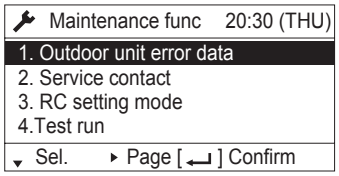
4. Auto Address Setting

Checking the indoor unit addresses

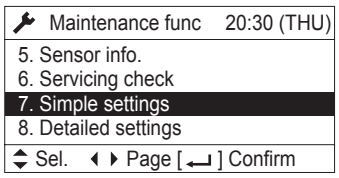
Use the remote controller to check the indoor unit address.

CZ-RTC5A / CZ-RTC5B (High-spec wired remote controller)

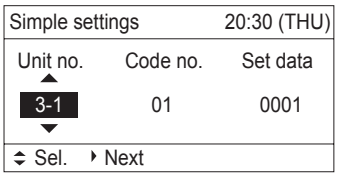
① Keep pressing the [↩], [↵] and [▶] buttons simultaneously for 4 or more seconds.
The “Maintenance func” screen appears on the LCD display.



② Press the [▼] or [▲] button to see each menu.
If you wish to see the next screen instantly, press the [◀] or [▶] button.
Select “7. Simple settings” on the LCD display and press the [↵] button.



③ The “Simple settings” screen appears on the LCD display.
Select the “Unit no.” by pressing the [▼] or [▲] button for changes.

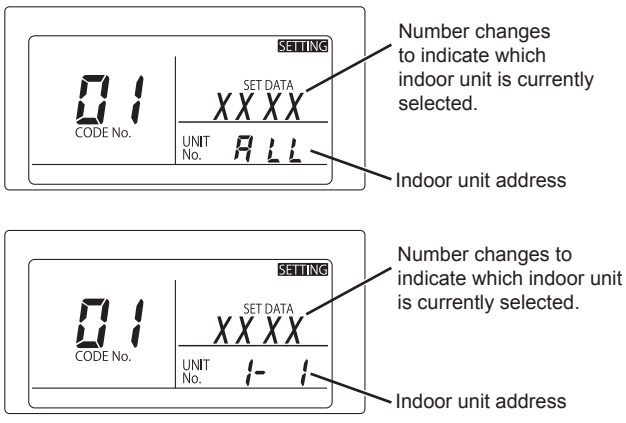


The indoor unit fan operates only at the selected indoor unit.



CZ-RTC4 (Timer remote controller)

1. Press and hold the [🔧] button and [🏠/🏢] button for 4 seconds or longer (simple settings mode).
2. “ALL” is displayed on the remote controller.
3. Next, press the [UNIT] button.
4. The address is displayed for 1 of the indoor units which is connected to the remote controller. Check that the fan of that indoor unit starts and that air is discharged.
5. Press the [UNIT] button again and check the address of each indoor unit in sequence.
6. Press the [🔧] again to return to normal remote controller mode.

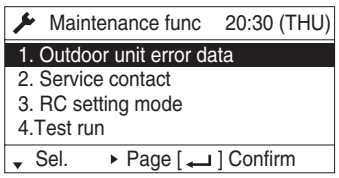


5. Setting Test Run Remote Controller

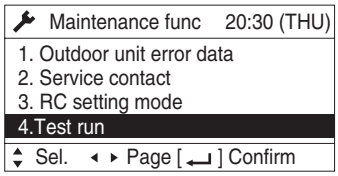
5. Setting Test Run Remote Controller

CZ-RTC5A / CZ-RTC5B (High-spec wired remote controller)

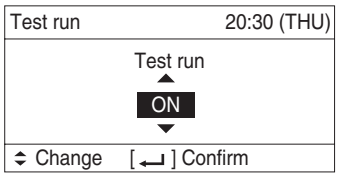
① Keep pressing the [↩], [↵] and [▶] buttons simultaneously for 4 or more seconds.
The "Maintenance func" screen appears on the LCD display.

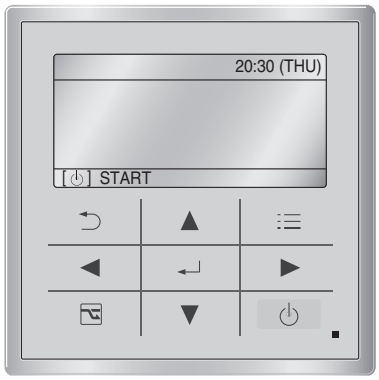


② Press the [▼] or [▲] button to see each menu.
If you wish to see the next screen instantly, press the [◀] or [▶] button.
Select "4. Test run" on the LCD display and press the [↵] button.

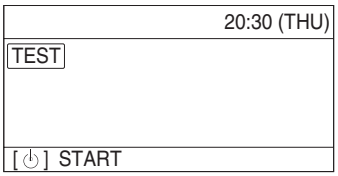


Change the display from OFF to ON by pressing the [▼] or [▲] button. Then press the [↵] button.

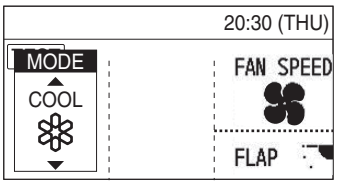




③ Press the [↩] button. "TEST" will be displayed on the LCD display.



④ Press the [⏻] button. Test run will be started.
Test run setting mode screen appears on the LCD display.



CZ-RTC4 (Timer remote controller)

1. Press the remote controller [⚡] button for 4 seconds or longer.
   Then press the [⏻] button.

● "TEST" appears on the LCD display while the test run is in progress.

● The temperature cannot be adjusted when in Test Run mode.
(This mode places a heavy load on the machines.
Therefore use it only when performing the test run.)

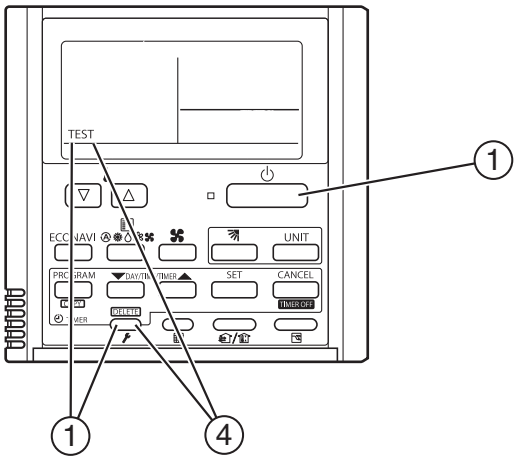
2. The test run can be performed using the HEAT, COOL, or FAN operation modes.

NOTE

The outdoor units will not operate for approximately 3 minutes after the power is turned ON and after operation is stopped.

3. If correct operation is not possible, a code is displayed on the remote controller LCD display.
(See the section "7. Self-Diagnostic Function Table and Contents of Alarm Display" and correct the problem.)
4. After the test run is completed, press the [⚡] button again.
Check that "TEST" disappears from the LCD display.
(To prevent continuous test runs, this remote controller includes a timer function that cancels the test run after 60 minutes.)

* If the test run is performed using the wired remote controller, operation is possible even if the cassette-type ceiling panel has not been installed. ("P09" display does not occur.)



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6. Caution for Pump Down
7. Self-Diagnosis Function Table and Contents of Alarm Display

6. Caution for Pump Down

Pump down means refrigerant gas in the system is returned to the outdoor unit.
Pump down is used when the unit is to be moved, or before servicing the refrigerant circuit.
(Refer to the Service Manual)

CAUTION

- **This outdoor unit cannot collect more than the rated refrigerant amount as shown by the nameplate on the back.**
- **If the amount of refrigerant is more than that recommended, do not conduct pump down. In this case use another refrigerant collecting system.**

7. Self-Diagnosis Function Table and Contents of Alarm Display

How to know LEDs 1 and 2 alarm display on outdoor unit control P.C.board

<table>
<tr><th>LED 1</th><th>LED 2</th><th>Contents of Alarm Display</th></tr>
<tr><td>☀</td><td>☀</td><td rowspan="2">Alarm display
After LED1 blinks M times, LED2 blinks N times.
This will be repeated.
<table>
<tr><th></th><th>Number of blinks</th><th>Type of alarm</th></tr>
<tr><td rowspan="5">M</td><td>2</td><td>Alarm P</td></tr>
<tr><td>3</td><td>Alarm H</td></tr>
<tr><td>4</td><td>Alarm E</td></tr>
<tr><td>5</td><td>Alarm F</td></tr>
<tr><td>6</td><td>Alarm L</td></tr>
</table>
N = number of alarm No.
For example: After LED1 blinks twice, LED2 blinks 17 times. This will be repeated.
The alarm shows “P17”.</td></tr>
<tr><td colspan="2">Alternating</td></tr>
</table>

(☀ : Blink) Connect the outdoor unit maintenance remote controller to the RC plug (3P, BLU) on outdoor main unit control P.C.board and make confirmation.

■ **Self-Diagnosis Function Table**

- Cause and countermeasure against the symptom of auto address failure

Symptom	Cause and countermeasure
● When turning ON power to the outdoor main unit, LEDs 1 and 2 illuminate or blink excluding going out. Auto address setting is not available.	See “Contents of Alarm Display” and make corrections.
● When auto address setting by the remote controller begins, the alarm display appears immediately.	
● When auto address setting by the remote controller begins, no display appears.	Are remote control wiring and inter-unit control wiring connected properly? Is indoor unit turned ON power?

- Auto address setting begins but finishes improperly.

Symptom	Cause and countermeasure
● Soon after a few seconds or after a few minutes, the alarm content is displayed on the remote controller.	See “Contents of Alarm Display” and make a correction.
● After a few minutes when auto address setting begins, the compressor may occasionally start and stop several times. LEDs 1 and 2 on outdoor unit control P.C.board show the display of auto address setting with blinking alternately but LEDs 1 and 2 do not indicate the completion of auto address setting (go out).	Are remote control wiring and inter-unit control wiring connected properly? Is indoor unit turned ON power?

7. Self-Diagnosis Function Table and Contents of Alarm Display

- If the alarm display “E15”, “E16” and “E20” appear after auto address setting began, check the following items.

Alarm display	Alarm contents
E15	Recognized number of indoor units at the time of auto address setting are fewer than that of indoor units set by SW3 and SW4 on outdoor main unit P.C. board.
E16	Recognized number of indoor units at the time of auto address setting are more than that of indoor units set by SW3 and SW4 on outdoor main unit P.C. board.
E20	Outdoor unit could not entirely receive serial communication signal from the indoor unit within 90 seconds after auto address setting began.

Check	E15	E16	E20
Have you forgotten to turn ON power to indoor unit?	○		○
Are indoor and outdoor control wiring connected properly? (Check for incorrect wiring to open & short-circuit, terminal plug and remote control terminal.)	○	○	○
Is remote control wiring connected properly? (Check for open & short-circuit, wrong connection to indoor/outdoor unit control wiring terminal, inter-unit control wiring.)	○		○
Are the number of the connecting indoor units set by SW3 and SW4 of outdoor main unit control P.C. board connected properly?	○	○	
Is additional appropriate amount of refrigerant charge? (Compressor ON at the time of auto address setting)	○		
Is the refrigerant tubing connected properly? (Compressor ON at the time of auto address setting)	○	○	
Are E1 and E3 sensors of indoor unit normal? (Compressor ON at the time of auto address setting)	○		
Are there any wrong system address installed in indoor units caused by manual or incorrect auto address control?		○	

1) When auto address setting from outdoor main unit control P.C. board or remote controller begins, “Under Setting” appears on the remote controller as for normal indoor units under the inter-unit control wirings and remote control wirings.
   LEDs 1 and 2 indicators on outdoor main unit control P.C. board blink alternately.
2) If there is an error at the inter-unit control wiring of the remote controller when in the indoor unit group control, address setting may not occasionally be made although “under setting” is displayed.
3) Although the alarm “E15” and “E16” are displayed, addresses will be installed in the recognized indoor units.
   The installed addresses can be checked by the remote controller. See the section “Checking the indoor unit address”.

- When operating the remote controller after auto address setting completed (LEDs 1 and 2 indicators on outdoor main unit control P.C. board go out), correct the symptom if the following alarms appear on the remote controller.

Remote control display	Cause
No display	Remote controller is not connected properly. (Power failure) When auto address setting was completed, the power of indoor unit was turned off.
E01	Remote controller is not connected properly. (Receiving failure from remote control) Indoor unit address was mistakenly controlled by undesired indoor unit remote controller. (Impossible to communicate with outdoor unit)
E02	Remote controller is not connected properly. (Impossible to communicate with indoor unit by remote controller)
P09	Connector of indoor unit ceiling panel is not connected properly.

If any other alarm appear on the display, refer to the Test Run Service Manual.

- Alarm display can be checked by the outdoor maintenance remote controller. When operating, refer to theTest Run Service Manual.
  Alarm display can also be checked by number of blinking of LEDs 1 and 2 on outdoor unit control P.C. board.
  (See the section “How to know LEDs 1 and 2 alarm display on outdoor unit control P.C. board” under the section “7. Self-Diagnosis Function Table and Contents of Alarm Display”.

Remote control display	Alarm contents
C17	Indoor unit does not respond to central control equipment.
E01	Indoor unit does not respond to remote controller.
E02	Remote controller is having error in sending serial communication signal.
E03	Remote controller does not respond to indoor unit.
E04	Oudoor unit does not respond to indoor unit.
E06	Some indoor units does not respond to outdoor unit.
E08	Indoor unit address is dupulicating.
E09	Two or more remote controllers are set as main on R1-R2 link.
E12	Auto Address failed to start.

7. Self-Diagnosis Function Table and Contents of Alarm Display

Remote control display	Alarm contents
E14	Two or more indoor units are set as main, in the group controlled indoor units.
E15	Fewer indoor units are found in Auto Addressing than the setting on outdoor PCB.
E16	More indoor units are found in Auto Addressing than the setting on outdoor PCB.
E18	No response from sub indoor to the main indoor unit in group control wiring.
E20	No indoor unit responded in Auto Addressing.
E31	Error in communication inside outdoor unit control box.
F01	Indoor unit heat exchanger liquid temperature sensor has failure. (E1)
F02	Indoor unit heat exchanger temperature sensor has failure. (E2)
F03	Indoor unit heat exchanger gas temperature sensor has failure. (E3)
F04	Compressor discharge temperature sensor has failure. (DISCH)
F06	Outdoor unit heat exchanger gas temperature sensor has failure. (EXG)
F07	Outdoor unit heat exchanger liquid temperature sensor has failure. (EXL)
F08	Outdoor temperature sensor has failure. (TO)
F10	Indoor suction air (room) temperature sensor has failure. (TA)
F11	Indoor discharge air temperature sensor has failure. (BL)
F12	Compressor inlet temperature sensor has failure. (SCT)
F14	Subcooling heat exchanger temperature sensor has failure. (SCG)
F16	High pressure sensor has failure. (HPS)
F17	Low pressure sensor has failure. (LPS)
F29	EEPROM on indoor unit PCB has failure.
F31	EEPROM on outdoor unit PCB has failure.
H01	Compressor primary current is overcurrent.
H02	PFC is overcurrent or VDC is overvoltage. (Single phase only)
H03	Compressor current sensor is disconnected or shorted.
H05	Compressor discharge temperature sensor is disconnected, shorted or misplaced. (DISCH)
H06	Low pressure sensor value is too low.
H31	Compressor HIC has failure. HIC is overcurrent or overheat. VDC is undervoltage or overvoltage.
L01	Indoor unit address setting has error. (No main indoor unit in group control.)
L02	Indoor unit model does not match with the outdoor unit model. (Multi-split/mini-split)
L03	Two or more indoor units are set as main in group control.
L04	Duplicate system address setting on outdoor units.
L05	Two or more indoor units are set as priority indoor unit (priority indoor unit).
L06	Two or more indoor units are set as priority indoor unit (non-priority indoor unit).
L07	Group control wiring is detected for indoor unit set as individual control.
L08	Indoor unit address is not set.
L09	Capacity setting of indoor unit is not correct.
L10	Capacity setting of outdoor unit is not correct.
L13	Indoor unit model does not match with outdoor unit.
L17	Model mismatch between outdoor units.
L18	4-way valve has failure.
P01	Thermal protector for Indoor unit fan motor is activated.
P03	Compressor discharge temperature is too high.
P04	High pressure swich is activated.
P05	AC power supply has abnormal.
P09	Connection to the panel of indoor unit is not good.
P10	Float switch of drain pan safety is activated.
P11	Drain pump failure or locked rotor.
P12	Indoor unit fan inverter protection control is activated.
P14	O_2 sensor has activated.
P16	Compressor secondary current is overcurrent.
P20	Too high load in refrigerant circuit.
P22	Outdoor unit fan motor has failure.
P29	Compressor start failure. Compressor is missing phase or reverse phase
P31	Other indoor unit in group control has an alarm.

7. Self-Diagnosis Function Table and Contents of Alarm Display

- Contents of alarm display on remote controller
  For the remote controller, there are other alarm contents listed on the following table besides the alarm display on outdoor main unit control P.C. board.

Wired remote control display	Detected contents	
<E01>	Remote controller is detecting error signal from indoor unit.	Indoor unit does not respond to remote controller.
<E02>		Remote controller is having error in sending serial communication signal.
<<E03>>	Remote controller does not respond to indoor unit.	
E04	Remote controller is detecting error signal from outdoor unit.	Oudoor unit does not respond to indoor unit.
E08	Improper setting	Indoor unit address is dupulicating.
<<E09>>		Two or more remote controllers are set as main on R1-R2 link.
E18	Indoor unit communication error in group control wiring	No response from sub indoor to the main indoor unit in group control wiring.
<<L02>>	Improper setting	Indoor unit model does not match with the outdoor unit model. (Multi-split/mini-split)
<L03>		Two or more indoor units are set as main in group control.
L07		Group control wiring is detected for indoor unit set as individual control.
L08		Indoor unit address is not set.
<<L09>>		Capacity setting of indoor unit is not correct.
<<F01>>	Indoor unit sensor has failure	Indoor unit heat exchanger liquid temperature sensor has failure. (E1)
<<F03>>		Indoor unit heat exchanger gas temperature sensor has failure. (E3)
<<F10>>		Indoor suction air (room) temperature sensor has failure. (TA)
<<F11>>		Indoor discharge air temperature sensor has failure. (BL)
<<P09>>	Connection to the panel of indoor unit is not good.	
<<P01>>	Activation of protective device for Indoor unit	Thermal protector for Indoor unit fan motor is activated.
<<P10>>		Float switch of drain pan safety is activated.
<<P11>>		Drain pump failure or locked rotor.
<<P12>>		Indoor unit fan inverter protection control is activated.
F29	EEPROM on indoor unit PCB has failure.	

- The parentheses of << >> used in the table of alarm display does not affect anything the operation of other indoor units.
- The parentheses of < > used in the table of alarm display implies that there are two cases : according to the content of the symptom, some affect the operation of other indoor units and others do not affect anything.

Alarm messages displayed on system controller			
Serial communication errors Mis-setting	Error in transmitting serial communication signal	Indoor or main outdoor unit is not operating correctly. Mis-wiring of control wiring between indoor unit, main outdoor unit and system controller.	C05
	Error in receiving serial communication signal	Indoor or main outdoor unit is not operating correctly. Mis-wiring of control wiring between indoor unit, main outdoor unit and system controller. CN1 is not connected properly.	C06
Activation of protective device	Protective device of sub indoor unit in group control is activated.	When using wireless remote controller or system controller, in order to check the alarm message in detail, connect wired remote controller to indoor unit temporarily.	P30

NOTE

1. Alarm messages in << >> do not affect other indoor unit operations.
2. Alarm messages in < > sometimes affect other indoor unit operations depending on the fault.

7. Self-Diagnosis Function Table and Contents of Alarm Display

ATTENTION!

Adjustment of terminating resistance (pin) is necessary.

Communication failure will occur unless adjustment is made correctly.

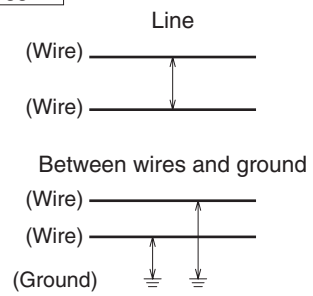
- Terminating resistance (pin) is mounted on outdoor unit control P.C.board.
- When connecting central controller, interface or peripheral equipment, adjustment of terminating resistance (pin) is necessary. Although the connection is not made, confirmation is necessary for VRF systems.
- In the case of a refrigerant system, the terminating resistance (pin) for this inter-unit control wiring (S-LINK wiring) is one location (See the section “4. Auto Address Setting”).
  For 2 or more refrigerant systems, 2 locations should be valid (“SHORT” for VRF systems at shipment). See the section “4. Auto Address Setting”.
  In order to make 2 locations valid, let the terminating resistance (pin) of the nearest outdoor unit and the farthest outdoor unit be valid (SHORT side) from the location of central controller.
  In other refrigerant systems excepting 2 locations described above, make them invalid (OPEN side).
  It is prohibited making more than 3 locations of terminating resistance valid.
- Since the use of linking the sub outdoor units of VRF systems is not connected to the inter-unit control wiring, it is not necessary to make the terminating resistance invalid “OPEN side”.

Make final confirmation regarding the central controller or interface & inter-unit control wiring (S-LINK wiring) connected to the peripheral equipment.
Measure the line resistance with a tester and check whether the values are in the range of 30Ω - 120Ω.

If the resistance values are out of range, check again the terminating resistance.
Nevertheless, if the values are out of range, the problem comes from wiring.

- Is the connection properly made?
- Are there any scratches or damages on the coated surface?
- Measure the line, between wires and ground with the 500V megger (insulation resistance meter) and check the values are over 100MΩ.
- When measuring, be sure to remove both edges of the wire from the terminal board. If not removed, it will be damaged.
- If the line resistance is within 100MΩ, newly carry out the wiring work.

Megger



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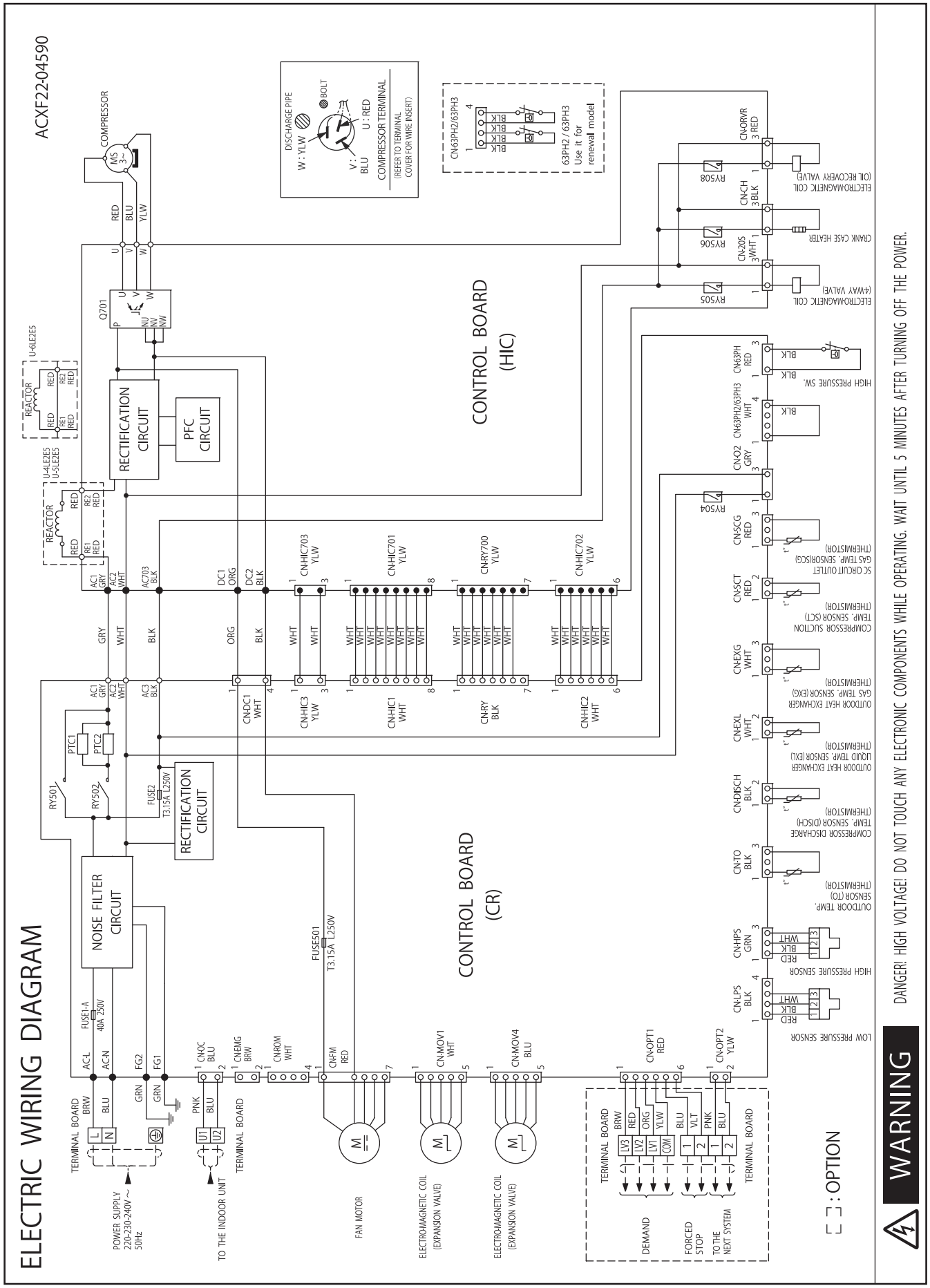
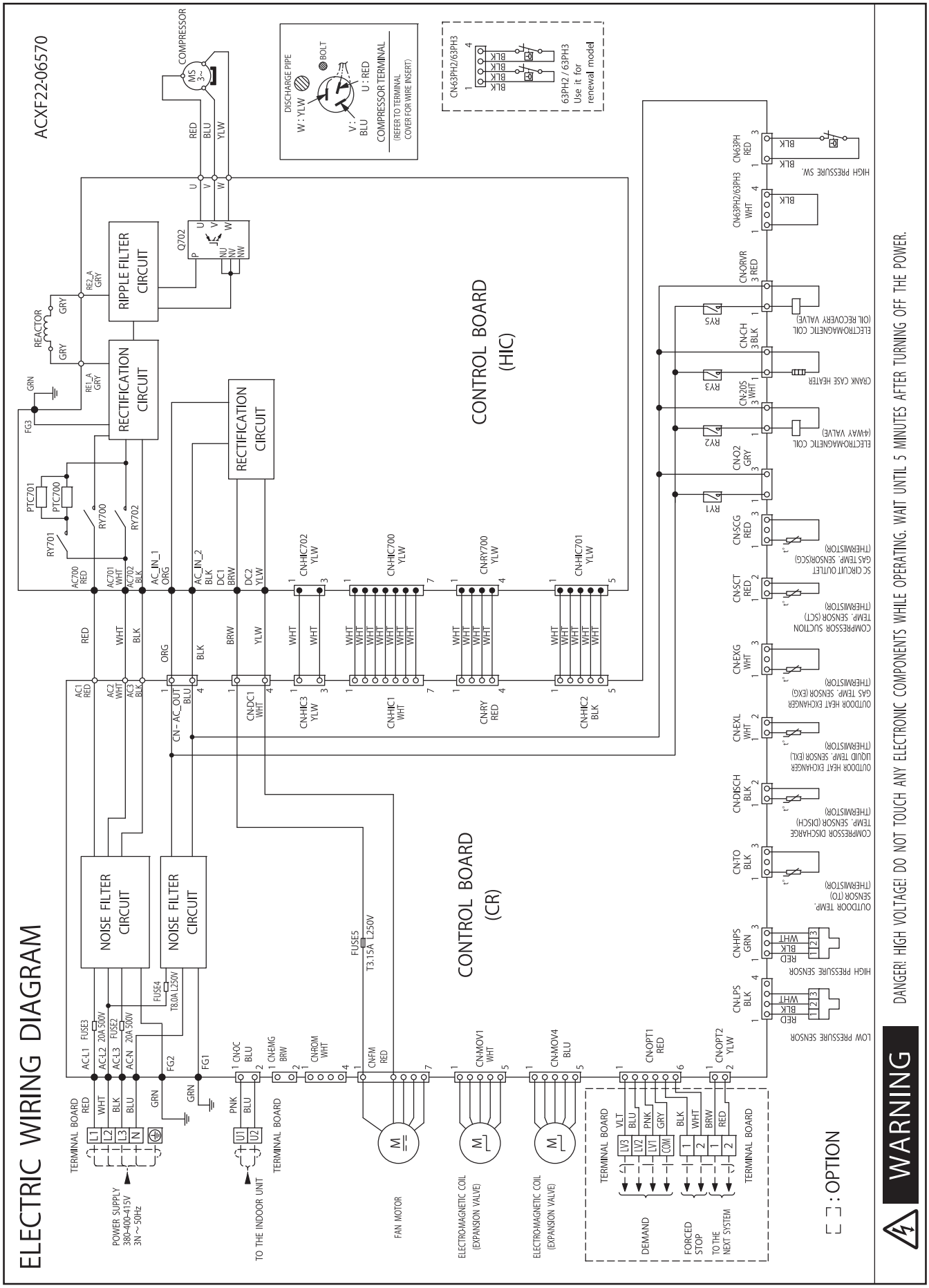
1. Outdoor Unit

(1) Electric Wiring Diagram U-4LE2E5, U-5LE2E5, U-6LE2E5



1. Outdoor Unit

(2) Electric Wiring Diagram U-4LE2E8, U-5LE2E8, U-6LE2E8



– MEMO –

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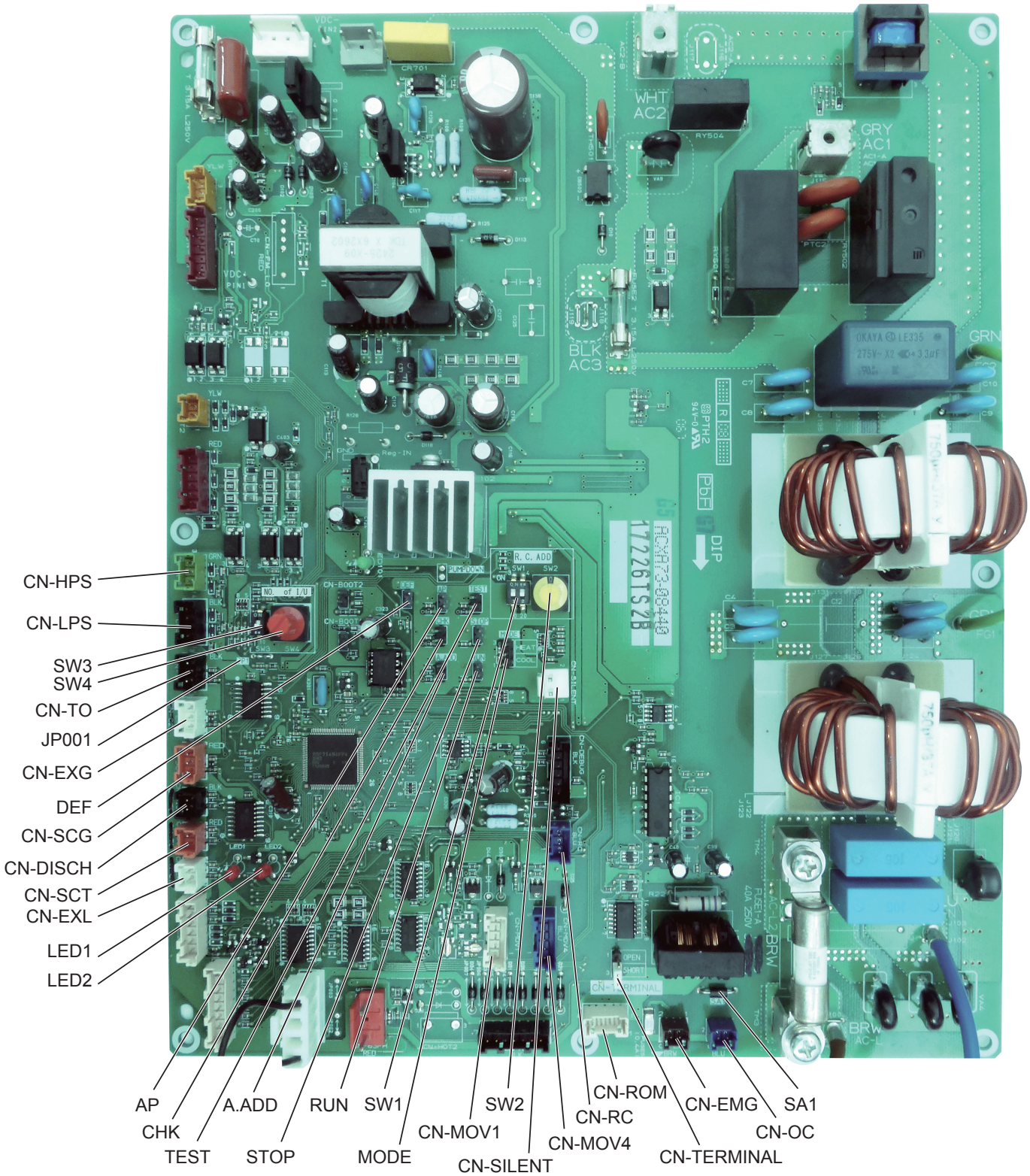
1. Outdoor Unit Control PCB

1-1. Outdoor Unit Control PCB
U-4LE2E5, U-5LE2E5, U-6LE2E5



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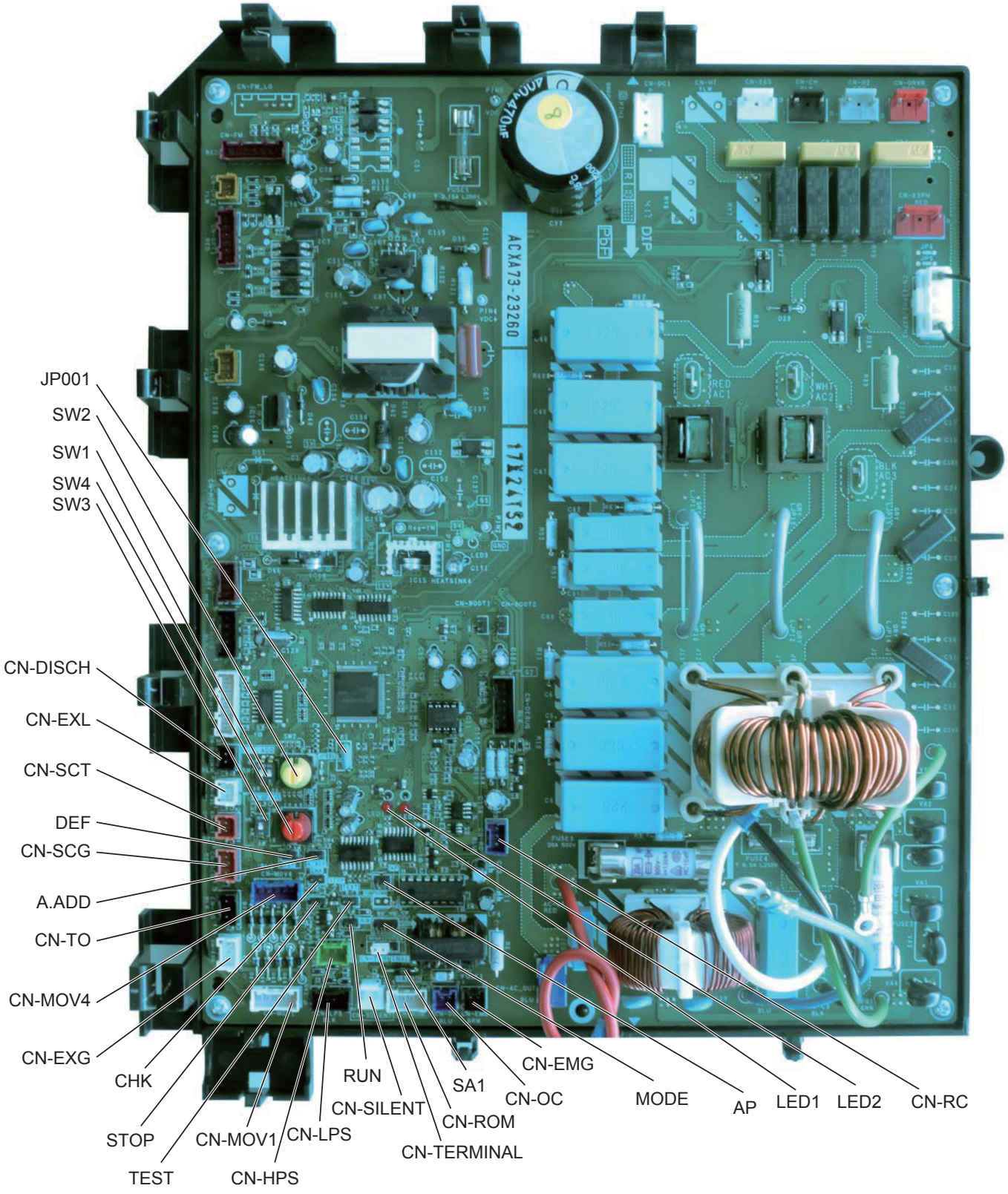
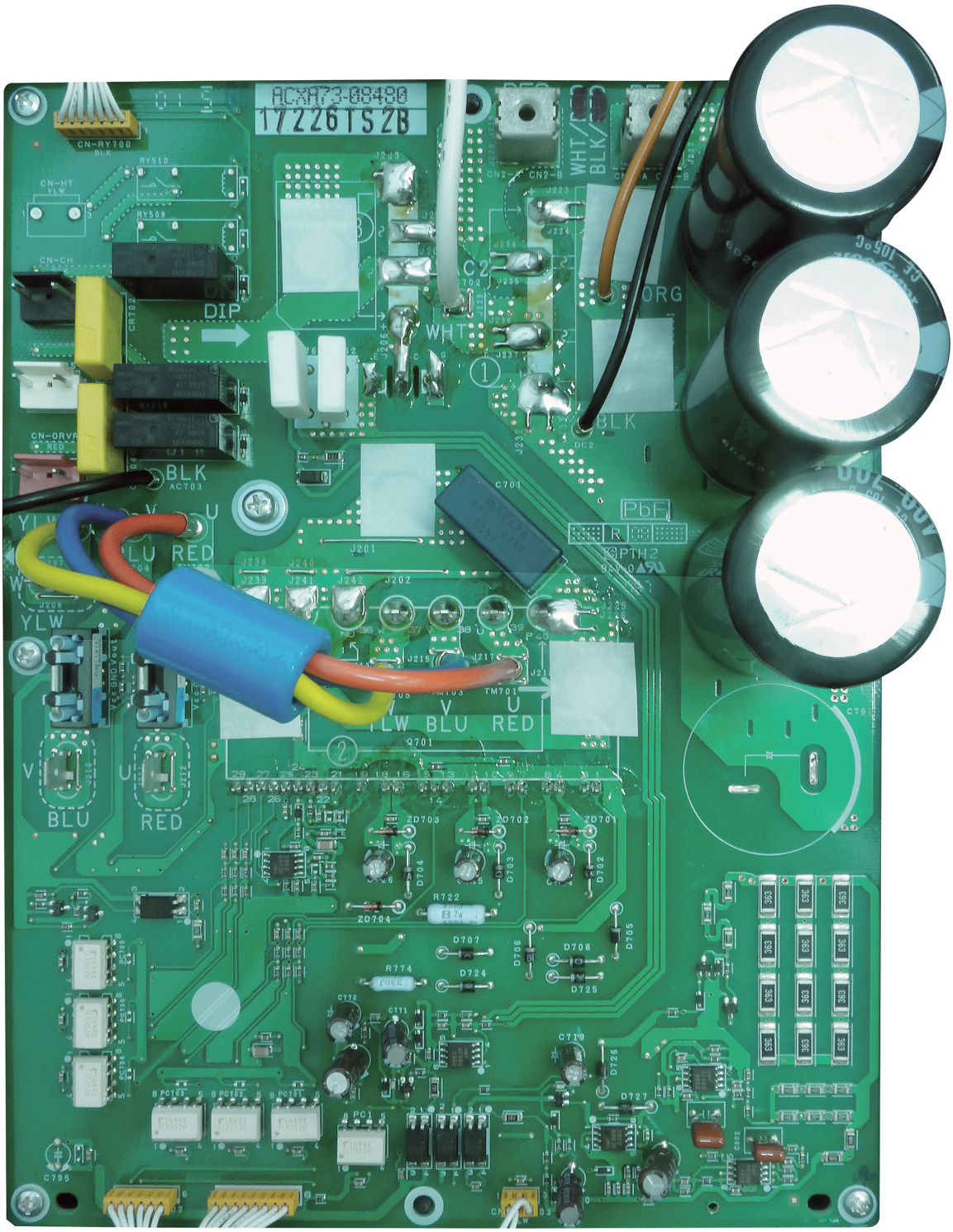
1. Outdoor Unit Control PCB

U-4LE2E8, U-5LE2E8, U-6LE2E8



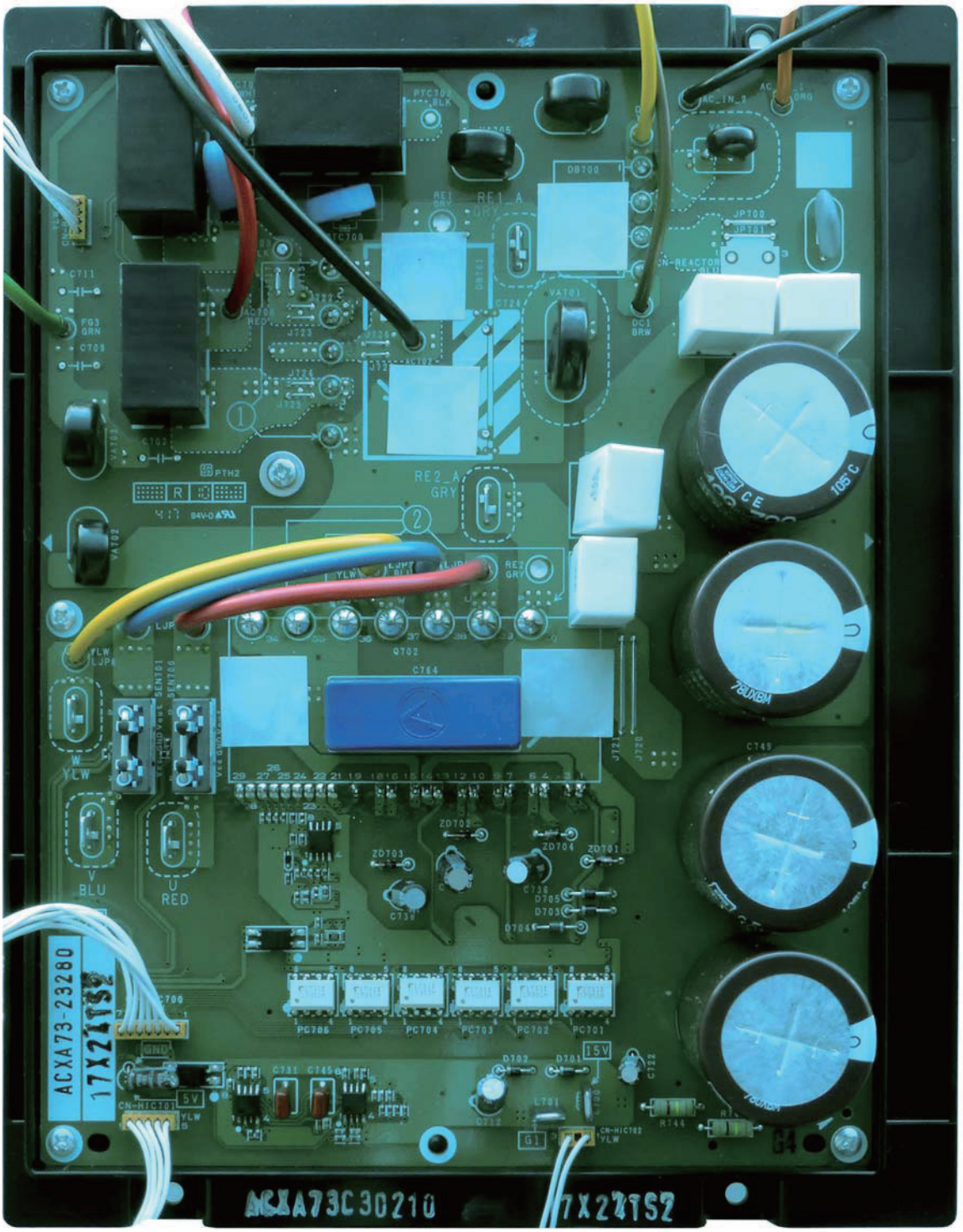
1. Outdoor Unit Control PCB

1-2. Outdoor Unit HIC PCB
U-4LE2E5, U-5LE2E5, U-6LE2E5



1. Outdoor Unit Control PCB

U-4LE2E8, U-5LE2E8, U-6LE2E8



1. Outdoor Unit Control PCB

1-3. Functions

A. ADD pin (2P, Black)	Short circuited for over 1 second long → Auto address setting starts with open-circuit. If short circuit lasts for over 1 second long during auto address setting, the setting is interrupted.
SW1 DIP switch (2P, Black)	Switches for setting system address 10s digit and 20s digit • If 10 systems or more are set, the setting is made by a combination of this DIP switch and S002. • If 10 - 19 systems are set, set switch 1 (10s digit) to ON. • If 20 - 29 systems are set, set switch 2 (20s digit) to ON, and set switch 1 (10s digit) to OFF. • If 30 systems are set, set both switch 1 (10s digit) and switch 2 (20s digit) to ON. (For details, see Table 7-2.)
SW2 Rotary switch (10 positions, Yellow)	Outdoor system address setting switch • The setting is "1" at the time of shipment. It is not necessary to change the setting if wiring is connected only to an outdoor unit and indoor units in a single system and the inter-unit control wiring does not cross multiple systems. • If wiring links the inter-unit control wiring for multiple systems to the same communications lines, then a different address must be set for each refrigerant tubing system. • If wiring links multiple systems, a maximum of 30 systems (up to 64 indoor units) can be connected. This setting can be set up to "39," however control will be for 30 systems even if the setting is set to higher than 30. An alarm will be displayed if system addresses are duplicated. (For details, see Table 7-2.)
SW3 DIP switch (1P, Black)	Switches for setting the 10s digit for the number of connected indoor units • If 10 systems or more are set, the setting is made by a combination of this DIP switch and SW4. • If 10 - 12 units are set, set only switch 1 (10s digit) to ON.
SW4 Rotary switch (10 positions, Red)	Switch for setting the number of connected indoor units. In order to allow the outdoor unit to manage indoor units in the same refrigerant system, set the number of connected indoor units. (For details, see Table 7-1.)

1. Outdoor Unit Control PCB

CN-TERMINAL pin (3P, Black)	For communications circuit impedance matching • A connecting socket (3P, Black) is attached to the terminal plug at the time of shipment from the factory. • In the case of link wiring which combines the inter-unit control wiring for multiple systems into a single communications circuit, When using, refer to the item “4. Auto Address Setting” under the section “5. TEST RUN” in the TECHNICAL DATA.
LED1, 2 (2P, Red)	• LED 1 and 2 blink alternately while auto address setting is in progress. • Display the alarm contents for alarms which were detected by the outdoor unit.
RUN pin (2P, Black)	When short circuited and pulse signal is given, all indoor units operate in the same refrigerant system.
STOP pin (2P, Black)	When short circuited and pulse signal is given, all indoor units stop in the same refrigerant system. (When short circuited, operation cannot be performed by the indoor unit’s remote controller.)
AP pin (2P, Black)	Vacuuming pin • To perform vacuuming of the outdoor unit, short-circuit this pin and then turn the power ON. All solenoid valves turn ON and vacuuming begins smoothly. (Do not perform auto address setting at this time.) • Release the short-circuit to return the unit to normal status.
MODE pin (3P, Black)	Changes to cooling/heating mode. • When in normal operation: When short circuited the COOL side, indoor unit operation in the same refrigerant system changes to all cooling mode. When short circuited the HEAT side, indoor unit operation in the same refrigerant system changes to all heating mode. • When in auto address setting: Changes to heating mode with open-circuit.
TEST pin (2P, Black)	• This pin is used to test the PCB at the factory. • When the power is turned ON after this pin has been short-circuited, all output signals will be output in sequence. (Sequential output does not occur if this pin is short-circuited when the power is already ON.) Releasing this pin returns the unit to normal control.
CHK pin (2P, Black)	When short circuited, test run begins. (If the remote controller is connected in test run mode, it is automatically cancelled after 1 hour.) Also, if short-circuit is cancelled, test run mode is cancelled.
DEF pin (2P, Black)	When the pin of the main unit is short-circuit in heating mode, defrosting operation is started. Even if short circuited, defrosting will not be activated immediately.
SILENT plug (2P, White)	Can be used when setting the outdoor unit fan in sound absorbing mode.
OC EMG terminal (3P, Black)	If “TO INDOOR UNIT” accidently connected to high voltage, use the following method. 1. Replace the wire CN-OC with the wire CN-EMG. 2. Cut off SA1.

1. Outdoor Unit Control PCB

Table 7-1

● **The number of indoor units settings (SW3, SW4)**

Number of indoor units	Indoor unit setting (SW3) (1P DIP switch) 10	Indoor unit setting (SW4) (Rotary switch)
1 - 9 unit (factory setting : 1 unit)		 Set to 1 - 9
10 - 12 unit		 Set to 0 - 2

DO NOT exceed the maximum number of indoor units when making connections.

The indoor unit address setting should also be set less than “12”.

In the event of setting more than “13”, the communication cannot be made between the outdoor and indoor units.

Table 7-2

● **Examples of refrigerant circuit (R.C.) address settings (required when link wiring is used) (SW1, SW2)**

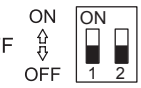
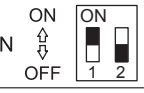
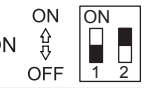
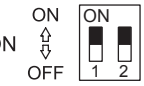
System address No.	System address (SW1) (2P DIP switch) 10 20	System address (SW2) (Rotary switch)
System 1 (factory setting)		 Set to 1
System 11		 Set to 1
System 21		 Set to 1
System 30		 Set to 0

Table 7-3

● **Setting the System Address**
[SW2: Rotary switch (Yellow), SW1: 2P DIP (Black)]

	Outdoor system address	SW2 setting	SW1 setting	
			1P (10s digit)	2P (20s digit)
Link wiring	1	1	OFF	OFF
	2	2	OFF	OFF
	3	3	OFF	OFF
	4	4	OFF	OFF
	5	5	OFF	OFF
	6	6	OFF	OFF
	7	7	OFF	OFF
	8	8	OFF	OFF
	9	9	OFF	OFF
	10	0	ON	OFF
	11	1	ON	OFF
	12	2	ON	OFF
	13	3	ON	OFF
	14	4	ON	OFF
	15	5	ON	OFF
	16	6	ON	OFF
	17	7	ON	OFF
	18	8	ON	OFF
	19	9	ON	OFF

	Outdoor system address	SW2 setting	SW1 setting	
			1P (10s digit)	2P (20s digit)
Link wiring	20	0	OFF	ON
	21	1	OFF	ON
	22	2	OFF	ON
	23	3	OFF	ON
	24	4	OFF	ON
	25	5	OFF	ON
	26	6	OFF	ON
	27	7	OFF	ON
	28	8	OFF	ON
	29	9	OFF	ON
	30	0	ON	ON

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1. Capacity of Outdoor Unit

1-1. U-4LE2E5, U-4LE2E8 (Cooling)

Capacity Ratio 30-130%

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-10.0	10.5	0.95	12.6	1.13	13.0	1.18	13.0	1.18	14.7	1.32	16.5	1.48	18.2	1.63
	-5.0	10.5	0.95	12.6	1.14	13.0	1.17	13.0	1.17	14.7	1.33	16.5	1.48	18.2	1.64
	0.0	10.5	0.96	12.6	1.13	13.0	1.17	13.0	1.17	14.7	1.33	16.5	1.49	18.2	1.64
	5.0	10.5	0.95	12.6	1.14	13.0	1.18	13.0	1.18	14.7	1.34	16.5	1.50	18.2	1.65
	10.0	10.5	0.96	12.6	1.15	13.0	1.20	13.0	1.20	14.7	1.36	16.5	1.52	18.2	1.68
	15.0	10.5	1.00	12.6	1.20	13.0	1.26	13.0	1.26	14.7	1.45	16.5	1.68	18.2	1.93
	20.0	10.5	1.28	12.6	1.57	13.0	1.72	13.0	1.72	14.7	2.00	16.5	2.30	18.2	2.61
	25.0	10.5	1.68	12.6	2.05	13.0	2.20	13.0	2.20	14.7	2.53	16.5	2.88	18.2	3.23
	30.0	10.5	2.02	12.6	2.45	13.0	2.59	13.0	2.59	14.7	2.96	16.5	3.35	18.2	3.74
	35.0	10.5	2.32	12.6	2.80	13.0	2.96	13.0	2.96	14.7	3.39	16.5	3.83	17.3	3.90
	40.0	10.5	2.66	12.6	3.23	13.0	3.42	13.0	3.42	14.7	3.90	15.6	3.90	16.5	3.90
	43.0	10.3	2.86	12.3	3.47	12.4	3.48	12.4	3.48	13.4	3.53	14.5	3.62	15.8	3.75
	46.0	10.1	3.01	11.0	3.01	11.0	3.01	11.0	3.01	12.1	3.13	13.4	3.29	14.8	3.47

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-10.0	9.7	0.88	11.6	1.05	12.7	1.15	12.7	1.15	14.4	1.30	16.1	1.44	17.8	1.59
	-5.0	9.7	0.88	11.6	1.05	12.7	1.14	12.7	1.14	14.4	1.29	16.1	1.45	17.8	1.60
	0.0	9.7	0.89	11.6	1.05	12.7	1.15	12.7	1.15	14.4	1.30	16.1	1.45	17.8	1.60
	5.0	9.7	0.88	11.6	1.05	12.7	1.16	12.7	1.16	14.4	1.31	16.1	1.46	17.8	1.62
	10.0	9.7	0.89	11.6	1.07	12.7	1.17	12.7	1.17	14.4	1.33	16.1	1.49	17.8	1.64
	15.0	9.7	0.93	11.6	1.11	12.7	1.23	12.7	1.23	14.4	1.39	16.1	1.60	17.8	1.83
	20.0	9.7	1.17	11.6	1.44	12.7	1.65	12.7	1.65	14.4	1.92	16.1	2.20	17.8	2.50
	25.0	9.7	1.54	11.6	1.88	12.7	2.12	12.7	2.12	14.4	2.44	16.1	2.77	17.8	3.11
	30.0	9.7	1.86	11.6	2.25	12.7	2.51	12.7	2.51	14.4	2.87	16.1	3.24	17.8	3.61
	35.0	9.7	2.14	11.6	2.58	12.7	2.87	12.7	2.87	14.4	3.28	16.1	3.70	17.2	3.90
	40.0	9.7	2.45	11.6	2.96	12.7	3.31	12.7	3.31	14.4	3.80	15.4	3.90	16.4	3.90
	43.0	9.5	2.63	11.4	3.19	12.3	3.45	12.3	3.45	13.2	3.48	14.2	3.56	15.5	3.67
	46.0	9.3	2.82	10.8	2.97	10.8	2.97	10.8	2.97	11.8	3.07	13.0	3.21	14.4	3.38

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-10.0	8.9	0.80	10.6	0.96	12.4	1.12	12.4	1.12	14.1	1.27	15.7	1.41	17.4	1.56
	-5.0	8.9	0.81	10.6	0.97	12.4	1.12	12.4	1.12	14.1	1.26	15.7	1.41	17.4	1.56
	0.0	8.9	0.82	10.6	0.96	12.4	1.12	12.4	1.12	14.1	1.27	15.7	1.42	17.4	1.57
	5.0	8.9	0.81	10.6	0.97	12.4	1.13	12.4	1.13	14.1	1.28	15.7	1.43	17.4	1.58
	10.0	8.9	0.82	10.6	0.98	12.4	1.15	12.4	1.15	14.1	1.30	15.7	1.45	17.4	1.60
	15.0	8.9	0.85	10.6	1.02	12.4	1.19	12.4	1.19	14.1	1.35	15.7	1.53	17.4	1.74
	20.0	8.9	1.07	10.6	1.31	12.4	1.58	12.4	1.58	14.1	1.84	15.7	2.10	17.4	2.38
	25.0	8.9	1.41	10.6	1.71	12.4	2.05	12.4	2.05	14.1	2.35	15.7	2.67	17.4	2.99
	30.0	8.9	1.71	10.6	2.06	12.4	2.43	12.4	2.43	14.1	2.77	15.7	3.13	17.4	3.49
	35.0	8.9	1.96	10.6	2.36	12.4	2.78	12.4	2.78	14.1	3.17	15.7	3.57	17.1	3.90
	40.0	8.9	2.24	10.6	2.71	12.4	3.20	12.4	3.20	14.1	3.67	15.3	3.90	16.2	3.90
	43.0	8.7	2.41	10.4	2.91	12.1	3.42	12.1	3.42	12.9	3.44	14.0	3.50	15.1	3.60
	46.0	8.5	2.58	10.1	2.92	10.6	2.92	10.6	2.92	11.6	3.01	12.7	3.14	14.0	3.30

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-10.0	8.1	0.73	9.7	0.88	11.3	1.02	12.1	1.10	13.7	1.24	15.3	1.37	16.9	1.52
	-5.0	8.1	0.74	9.7	0.88	11.3	1.03	12.1	1.10	13.7	1.23	15.3	1.38	16.9	1.52
	0.0	8.1	0.74	9.7	0.88	11.3	1.02	12.1	1.09	13.7	1.24	15.3	1.38	16.9	1.53
	5.0	8.1	0.74	9.7	0.88	11.3	1.03	12.1	1.10	13.7	1.25	15.3	1.39	16.9	1.54
	10.0	8.1	0.75	9.7	0.90	11.3	1.04	12.1	1.12	13.7	1.27	15.3	1.41	16.9	1.56
	15.0	8.1	0.78	9.7	0.93	11.3	1.09	12.1	1.16	13.7	1.31	15.3	1.46	16.9	1.65
	20.0	8.1	0.97	9.7	1.18	11.3	1.40	12.1	1.52	13.7	1.76	15.3	2.01	16.9	2.27
	25.0	8.1	1.28	9.7	1.55	11.3	1.83	12.1	1.97	13.7	2.26	15.3	2.56	16.9	2.87
	30.0	8.1	1.55	9.7	1.87	11.3	2.19	12.1	2.35	13.7	2.68	15.3	3.02	16.9	3.36
	35.0	8.1	1.78	9.7	2.14	11.3	2.50	12.1	2.69	13.7	3.06	15.3	3.45	16.9	3.85
	40.0	8.1	2.04	9.7	2.45	11.3	2.88	12.1	3.09	13.7	3.54	15.2	3.89	16.1	3.90
	43.0	7.9	2.18	9.5	2.63	11.1	3.09	11.9	3.33	12.8	3.40	13.7	3.44	14.8	3.53
	46.0	7.7	2.34	9.3	2.82	10.0	2.86	10.4	2.88	11.4	2.96	12.4	3.07	13.7	3.21

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-4LE2E5, U-4LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-10.0	7.3	0.66	8.7	0.79	10.2	0.92	10.9	0.99	12.3	1.12	13.8	1.25	15.2	1.38
	-5.0	7.3	0.67	8.7	0.80	10.2	0.93	10.9	0.99	12.3	1.12	13.8	1.24	15.2	1.37
	0.0	7.3	0.67	8.7	0.80	10.2	0.92	10.9	0.99	12.3	1.12	13.8	1.25	15.2	1.38
	5.0	7.3	0.67	8.7	0.80	10.2	0.93	10.9	0.99	12.3	1.12	13.8	1.25	15.2	1.39
	10.0	7.3	0.67	8.7	0.81	10.2	0.94	10.9	1.00	12.3	1.14	13.8	1.27	15.2	1.40
	15.0	7.3	0.70	8.7	0.83	10.2	0.97	10.9	1.04	12.3	1.17	13.8	1.31	15.2	1.44
	20.0	7.3	0.84	8.7	1.01	10.2	1.18	10.9	1.27	12.3	1.46	13.8	1.66	15.2	1.86
	25.0	7.3	1.12	8.7	1.34	10.2	1.57	10.9	1.69	12.3	1.92	13.8	2.17	15.2	2.42
	30.0	7.3	1.37	8.7	1.64	10.2	1.91	10.9	2.05	12.3	2.32	13.8	2.60	15.2	2.89
	35.0	7.3	1.58	8.7	1.88	10.2	2.19	10.9	2.35	12.3	2.66	13.8	2.98	15.2	3.31
	40.0	7.3	1.80	8.7	2.15	10.2	2.51	10.9	2.69	12.3	3.05	13.8	3.42	15.1	3.73
	43.0	7.1	1.92	8.5	2.30	10.0	2.69	10.7	2.88	12.1	3.28	12.8	3.25	13.6	3.28
	46.0	7.0	2.06	8.4	2.47	9.5	2.76	9.8	2.75	10.5	2.77	11.4	2.82	12.3	2.91

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-10.0	6.5	0.59	7.7	0.71	9.0	0.82	9.7	0.88	11.0	1.00	12.3	1.11	13.6	1.23
	-5.0	6.5	0.59	7.7	0.71	9.0	0.83	9.7	0.88	11.0	1.00	12.3	1.12	13.6	1.22
	0.0	6.5	0.60	7.7	0.71	9.0	0.83	9.7	0.89	11.0	0.99	12.3	1.11	13.6	1.23
	5.0	6.5	0.61	7.7	0.71	9.0	0.82	9.7	0.88	11.0	1.00	12.3	1.12	13.6	1.23
	10.0	6.5	0.60	7.7	0.72	9.0	0.83	9.7	0.89	11.0	1.01	12.3	1.13	13.6	1.24
	15.0	6.5	0.62	7.7	0.74	9.0	0.86	9.7	0.92	11.0	1.03	12.3	1.15	13.6	1.27
	20.0	6.5	0.72	7.7	0.85	9.0	0.99	9.7	1.06	11.0	1.20	12.3	1.34	13.6	1.49
	25.0	6.5	0.96	7.7	1.14	9.0	1.33	9.7	1.42	11.0	1.61	12.3	1.80	13.6	1.99
	30.0	6.5	1.20	7.7	1.42	9.0	1.64	9.7	1.75	11.0	1.98	12.3	2.21	13.6	2.44
	35.0	6.5	1.39	7.7	1.64	9.0	1.90	9.7	2.03	11.0	2.29	12.3	2.55	13.6	2.81
	40.0	6.5	1.57	7.7	1.87	9.0	2.16	9.7	2.31	11.0	2.61	12.3	2.91	13.6	3.21
	43.0	6.3	1.68	7.6	1.99	8.9	2.31	9.5	2.47	10.8	2.79	12.0	3.12	12.6	3.09
	46.0	6.2	1.80	7.4	2.14	8.7	2.48	9.3	2.65	9.8	2.63	10.4	2.63	11.2	2.66

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-10.0	5.6	0.52	6.8	0.62	7.9	0.72	8.5	0.77	9.6	0.87	10.7	0.97	11.9	1.08
	-5.0	5.6	0.52	6.8	0.62	7.9	0.72	8.5	0.77	9.6	0.88	10.7	0.98	11.9	1.08
	0.0	5.6	0.52	6.8	0.63	7.9	0.73	8.5	0.78	9.6	0.88	10.7	0.98	11.9	1.07
	5.0	5.6	0.53	6.8	0.63	7.9	0.74	8.5	0.77	9.6	0.88	10.7	0.98	11.9	1.08
	10.0	5.6	0.53	6.8	0.63	7.9	0.73	8.5	0.78	9.6	0.88	10.7	0.99	11.9	1.09
	15.0	5.6	0.54	6.8	0.64	7.9	0.75	8.5	0.80	9.6	0.90	10.7	1.00	11.9	1.11
	20.0	5.6	0.62	6.8	0.72	7.9	0.82	8.5	0.87	9.6	0.97	10.7	1.07	11.9	1.17
	25.0	5.6	0.82	6.8	0.96	7.9	1.10	8.5	1.17	9.6	1.31	10.7	1.46	11.9	1.60
	30.0	5.6	1.03	6.8	1.21	7.9	1.39	8.5	1.48	9.6	1.66	10.7	1.84	11.9	2.01
	35.0	5.6	1.20	6.8	1.41	7.9	1.62	8.5	1.73	9.6	1.94	10.7	2.15	11.9	2.36
	40.0	5.6	1.36	6.8	1.60	7.9	1.84	8.5	1.96	9.6	2.20	10.7	2.44	11.9	2.68
	43.0	5.5	1.45	6.6	1.70	7.7	1.96	8.3	2.09	9.4	2.35	10.5	2.60	11.6	2.86
	46.0	5.4	1.55	6.5	1.82	7.6	2.10	8.1	2.24	9.2	2.52	9.7	2.50	10.2	2.48

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-10.0	4.8	0.44	5.8	0.53	6.8	0.62	7.3	0.66	8.2	0.75	9.2	0.84	10.2	0.92
	-5.0	4.8	0.45	5.8	0.53	6.8	0.62	7.3	0.67	8.2	0.75	9.2	0.84	10.2	0.93
	0.0	4.8	0.45	5.8	0.54	6.8	0.63	7.3	0.67	8.2	0.76	9.2	0.85	10.2	0.93
	5.0	4.8	0.46	5.8	0.54	6.8	0.63	7.3	0.68	8.2	0.76	9.2	0.84	10.2	0.93
	10.0	4.8	0.47	5.8	0.54	6.8	0.63	7.3	0.67	8.2	0.76	9.2	0.85	10.2	0.93
	15.0	4.8	0.46	5.8	0.55	6.8	0.64	7.3	0.68	8.2	0.77	9.2	0.86	10.2	0.95
	20.0	4.8	0.52	5.8	0.60	6.8	0.69	7.3	0.73	8.2	0.81	9.2	0.90	10.2	0.99
	25.0	4.8	0.69	5.8	0.80	6.8	0.90	7.3	0.95	8.2	1.05	9.2	1.15	10.2	1.25
	30.0	4.8	0.87	5.8	1.01	6.8	1.15	7.3	1.22	8.2	1.36	9.2	1.49	10.2	1.62
	35.0	4.8	1.02	5.8	1.19	6.8	1.36	7.3	1.44	8.2	1.61	9.2	1.77	10.2	1.94
	40.0	4.8	1.16	5.8	1.35	6.8	1.55	7.3	1.64	8.2	1.83	9.2	2.02	10.2	2.21
	43.0	4.7	1.23	5.7	1.43	6.6	1.64	7.1	1.74	8.1	1.94	9.0	2.14	10.0	2.34
	46.0	4.6	1.31	5.6	1.53	6.5	1.75	7.0	1.86	7.9	2.07	8.8	2.29	9.5	2.37

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-4LE2E5, U-4LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-10.0	4.0	0.37	4.8	0.44	5.6	0.52	6.1	0.55	6.9	0.63	7.7	0.70	8.5	0.77
	-5.0	4.0	0.37	4.8	0.45	5.6	0.52	6.1	0.56	6.9	0.63	7.7	0.70	8.5	0.78
	0.0	4.0	0.38	4.8	0.45	5.6	0.52	6.1	0.56	6.9	0.63	7.7	0.71	8.5	0.78
	5.0	4.0	0.38	4.8	0.46	5.6	0.53	6.1	0.57	6.9	0.64	7.7	0.71	8.5	0.79
	10.0	4.0	0.39	4.8	0.46	5.6	0.54	6.1	0.57	6.9	0.63	7.7	0.71	8.5	0.78
	15.0	4.0	0.39	4.8	0.46	5.6	0.53	6.1	0.57	6.9	0.64	7.7	0.72	8.5	0.79
	20.0	4.0	0.42	4.8	0.49	5.6	0.56	6.1	0.60	6.9	0.67	7.7	0.74	8.5	0.81
	25.0	4.0	0.57	4.8	0.65	5.6	0.72	6.1	0.76	6.9	0.82	7.7	0.89	8.5	0.95
	30.0	4.0	0.72	4.8	0.83	5.6	0.93	6.1	0.98	6.9	1.08	7.7	1.17	8.5	1.26
	35.0	4.0	0.85	4.8	0.98	5.6	1.12	6.1	1.18	6.9	1.30	7.7	1.42	8.5	1.54
	40.0	4.0	0.96	4.8	1.12	5.6	1.27	6.1	1.34	6.9	1.49	7.7	1.63	8.5	1.77
	43.0	4.0	1.02	4.7	1.18	5.5	1.34	5.9	1.42	6.7	1.58	7.5	1.73	8.3	1.87
	46.0	3.9	1.08	4.6	1.26	5.4	1.42	5.8	1.51	6.6	1.67	7.4	1.83	8.1	1.99

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-10.0	3.2	0.30	3.9	0.36	4.5	0.42	4.8	0.44	5.5	0.50	6.1	0.56	6.8	0.62
	-5.0	3.2	0.30	3.9	0.36	4.5	0.42	4.8	0.45	5.5	0.51	6.1	0.56	6.8	0.62
	0.0	3.2	0.30	3.9	0.36	4.5	0.42	4.8	0.45	5.5	0.51	6.1	0.57	6.8	0.63
	5.0	3.2	0.31	3.9	0.37	4.5	0.43	4.8	0.45	5.5	0.51	6.1	0.57	6.8	0.63
	10.0	3.2	0.31	3.9	0.37	4.5	0.43	4.8	0.46	5.5	0.52	6.1	0.58	6.8	0.64
	15.0	3.2	0.32	3.9	0.38	4.5	0.43	4.8	0.46	5.5	0.52	6.1	0.57	6.8	0.63
	20.0	3.2	0.33	3.9	0.39	4.5	0.45	4.8	0.47	5.5	0.53	6.1	0.59	6.8	0.65
	25.0	3.2	0.46	3.9	0.51	4.5	0.56	4.8	0.58	5.5	0.63	6.1	0.67	6.8	0.71
	30.0	3.2	0.58	3.9	0.66	4.5	0.73	4.8	0.76	5.5	0.83	6.1	0.88	6.8	0.94
	35.0	3.2	0.69	3.9	0.79	4.5	0.88	4.8	0.93	5.5	1.02	6.1	1.10	6.8	1.18
	40.0	3.2	0.78	3.9	0.90	4.5	1.01	4.8	1.07	5.5	1.17	6.1	1.28	6.8	1.38
	43.0	3.2	0.82	3.8	0.94	4.4	1.06	4.7	1.12	5.4	1.24	6.0	1.35	6.6	1.45
	46.0	3.1	0.87	3.7	1.00	4.3	1.13	4.6	1.19	5.3	1.31	5.9	1.42	6.5	1.53

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-10.0	2.4	0.23	2.9	0.27	3.4	0.31	3.6	0.34	4.1	0.38	4.6	0.42	5.1	0.47
	-5.0	2.4	0.23	2.9	0.27	3.4	0.32	3.6	0.34	4.1	0.38	4.6	0.43	5.1	0.47
	0.0	2.4	0.23	2.9	0.27	3.4	0.32	3.6	0.34	4.1	0.38	4.6	0.43	5.1	0.47
	5.0	2.4	0.23	2.9	0.28	3.4	0.32	3.6	0.34	4.1	0.39	4.6	0.43	5.1	0.48
	10.0	2.4	0.24	2.9	0.28	3.4	0.33	3.6	0.35	4.1	0.39	4.6	0.44	5.1	0.48
	15.0	2.4	0.25	2.9	0.29	3.4	0.33	3.6	0.36	4.1	0.40	4.6	0.44	5.1	0.49
	20.0	2.4	0.25	2.9	0.29	3.4	0.34	3.6	0.36	4.1	0.40	4.6	0.44	5.1	0.49
	25.0	2.4	0.36	2.9	0.40	3.4	0.42	3.6	0.43	4.1	0.45	4.6	0.48	5.1	0.52
	30.0	2.4	0.45	2.9	0.50	3.4	0.55	3.6	0.57	4.1	0.60	4.6	0.64	5.1	0.67
	35.0	2.4	0.53	2.9	0.60	3.4	0.67	3.6	0.69	4.1	0.75	4.6	0.80	5.1	0.85
	40.0	2.4	0.60	2.9	0.69	3.4	0.77	3.6	0.80	4.1	0.88	4.6	0.94	5.1	1.01
	43.0	2.4	0.63	2.8	0.72	3.3	0.81	3.6	0.85	4.0	0.93	4.5	1.00	5.0	1.07
	46.0	2.3	0.67	2.8	0.76	3.3	0.85	3.5	0.89	3.9	0.97	4.4	1.05	4.9	1.13

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

1-2. U-4LE2E5, U-4LE2E8 (Heating)

Capacity Ratio 30-130%

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-19.8	-20.0	9.5	3.36	9.2	3.29	8.7	3.14	8.5	3.07	7.7	2.82	7.1	2.65	5.7	2.18
	-14.7	-15.0	10.8	3.49	10.6	3.49	10.2	3.39	9.9	3.31	8.9	3.04	8.3	2.85	6.6	2.34
	-9.6	-10.0	11.8	3.49	11.7	3.49	11.4	3.49	11.3	3.49	10.5	3.30	9.7	3.08	7.8	2.52
	-4.4	-5.0	13.0	3.49	12.9	3.49	12.6	3.49	12.4	3.49	11.9	3.46	10.9	3.17	8.5	2.45
	-1.8	-2.5	13.6	3.49	13.5	3.49	13.2	3.49	13.0	3.49	11.9	3.24	10.9	2.97	8.5	2.30
	0.8	0.0	14.2	3.49	14.1	3.49	13.8	3.49	13.4	3.41	11.9	3.04	10.9	2.79	8.5	2.17
	2.8	2.0	14.8	3.49	14.6	3.49	13.9	3.36	13.4	3.25	11.9	2.89	10.9	2.65	8.5	2.07
	6.0	5.0	15.4	3.30	14.9	3.19	13.9	2.98	13.4	2.88	11.9	2.57	10.9	2.36	8.5	1.86
	7.0	6.0	15.4	3.15	14.9	3.05	13.9	2.86	13.4	2.76	11.9	2.46	10.9	2.27	8.5	1.79
	8.6	7.5	15.4	2.96	14.9	2.87	13.9	2.69	13.4	2.60	11.9	2.32	10.9	2.14	8.5	1.69
	11.2	10.0	15.4	2.69	14.9	2.61	13.9	2.45	13.4	2.37	11.9	2.13	10.9	1.97	8.5	1.56
	16.4	15.0	15.4	2.18	14.9	2.12	13.9	2.01	13.4	1.95	11.9	1.77	10.9	1.65	8.5	1.33
	24.0	18.0	15.4	1.84	14.9	1.79	13.9	1.71	13.4	1.67	11.9	1.53	10.9	1.44	8.5	1.19

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-19.8	-20.0	9.5	3.33	9.2	3.26	8.7	3.12	8.5	3.04	7.6	2.80	7.1	2.63	5.6	2.16
	-14.7	-15.0	10.8	3.49	10.7	3.49	10.2	3.36	9.9	3.28	8.9	3.02	8.3	2.83	6.6	2.32
	-9.6	-10.0	11.9	3.49	11.8	3.49	11.5	3.49	11.3	3.49	10.4	3.27	9.7	3.06	7.8	2.50
	-4.4	-5.0	13.1	3.49	12.9	3.49	12.6	3.49	12.5	3.49	11.7	3.33	10.7	3.05	8.3	2.37
	-1.8	-2.5	13.7	3.49	13.5	3.49	13.2	3.49	13.1	3.49	11.7	3.12	10.7	2.86	8.3	2.23
	0.8	0.0	14.3	3.49	14.2	3.49	13.6	3.41	13.1	3.29	11.7	2.93	10.7	2.69	8.3	2.11
	2.8	2.0	14.9	3.49	14.6	3.45	13.6	3.22	13.1	3.11	11.7	2.77	10.7	2.55	8.3	2.00
	6.0	5.0	15.1	3.13	14.6	3.04	13.6	2.84	13.1	2.75	11.7	2.46	10.7	2.27	8.3	1.79
	7.0	6.0	15.1	3.00	14.6	2.91	13.6	2.73	13.1	2.64	11.7	2.36	10.7	2.18	8.3	1.73
	8.6	7.5	15.1	2.83	14.6	2.74	13.6	2.57	13.1	2.49	11.7	2.23	10.7	2.06	8.3	1.64
	11.2	10.0	15.1	2.58	14.6	2.50	13.6	2.35	13.1	2.28	11.7	2.05	10.7	1.90	8.3	1.52
	16.4	15.0	15.1	2.07	14.6	2.02	13.6	1.91	13.1	1.86	11.7	1.70	10.7	1.59	8.3	1.29
	24.0	18.0	15.1	1.73	14.6	1.69	13.6	1.62	13.1	1.58	11.7	1.46	10.7	1.38	8.3	1.14

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-19.8	-20.0	9.5	3.31	9.2	3.24	8.7	3.10	8.4	3.02	7.6	2.78	7.1	2.61	5.6	2.15
	-14.7	-15.0	10.9	3.49	10.7	3.49	10.1	3.34	9.8	3.26	8.9	3.00	8.3	2.81	6.6	2.31
	-9.6	-10.0	11.9	3.49	11.8	3.49	11.5	3.49	11.4	3.49	10.4	3.25	9.7	3.04	7.8	2.48
	-4.4	-5.0	13.1	3.49	13.0	3.49	12.7	3.49	12.5	3.49	11.4	3.21	10.4	2.94	8.1	2.30
	-1.8	-2.5	13.7	3.49	13.6	3.49	13.3	3.49	12.8	3.37	11.4	3.01	10.4	2.76	8.1	2.16
	0.8	0.0	14.4	3.49	14.2	3.49	13.3	3.28	12.8	3.16	11.4	2.83	10.4	2.60	8.1	2.04
	2.8	2.0	14.7	3.39	14.2	3.29	13.3	3.08	12.8	2.97	11.4	2.66	10.4	2.45	8.1	1.93
	6.0	5.0	14.7	2.98	14.2	2.89	13.3	2.71	12.8	2.62	11.4	2.36	10.4	2.18	8.1	1.73
	7.0	6.0	14.7	2.86	14.2	2.78	13.3	2.61	12.8	2.52	11.4	2.27	10.4	2.10	8.1	1.67
	8.6	7.5	14.7	2.70	14.2	2.62	13.3	2.46	12.8	2.39	11.4	2.15	10.4	1.99	8.1	1.58
	11.2	10.0	14.7	2.47	14.2	2.40	13.3	2.26	12.8	2.19	11.4	1.98	10.4	1.83	8.1	1.47
	16.4	15.0	14.7	1.96	14.2	1.91	13.3	1.82	12.8	1.77	11.4	1.62	10.4	1.52	8.1	1.25
	24.0	18.0	14.7	1.63	14.2	1.60	13.3	1.53	12.8	1.50	11.4	1.39	10.4	1.32	8.1	1.10

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	9.5	3.29	9.2	3.22	8.7	3.08	8.4	3.00	7.6	2.77	7.1	2.60	5.6	2.14
	-14.7	-15.0	10.9	3.49	10.7	3.48	10.1	3.32	9.8	3.24	8.9	2.98	8.3	2.80	6.6	2.29
	-9.6	-10.0	12.0	3.49	11.9	3.49	11.6	3.49	11.4	3.49	10.4	3.23	9.7	3.02	7.8	2.47
	-4.4	-5.0	13.2	3.49	13.0	3.49	12.7	3.49	12.5	3.46	11.1	3.09	10.2	2.84	7.9	2.22
	-1.8	-2.5	13.8	3.49	13.6	3.49	13.0	3.36	12.5	3.24	11.1	2.90	10.2	2.67	7.9	2.09
	0.8	0.0	14.4	3.47	13.9	3.37	13.0	3.15	12.5	3.05	11.1	2.73	10.2	2.51	7.9	1.98
	2.8	2.0	14.4	3.22	13.9	3.13	13.0	2.93	12.5	2.84	11.1	2.55	10.2	2.35	7.9	1.86
	6.0	5.0	14.4	2.84	13.9	2.76	13.0	2.59	12.5	2.51	11.1	2.26	10.2	2.09	7.9	1.66
	7.0	6.0	14.4	2.73	13.9	2.65	13.0	2.49	12.5	2.41	11.1	2.17	10.2	2.01	7.9	1.61
	8.6	7.5	14.4	2.58	13.9	2.50	13.0	2.36	12.5	2.28	11.1	2.06	10.2	1.91	7.9	1.53
	11.2	10.0	14.4	2.35	13.9	2.29	13.0	2.16	12.5	2.10	11.1	1.90	10.2	1.77	7.9	1.42
	16.4	15.0	14.4	1.85	13.9	1.81	13.0	1.73	12.5	1.69	11.1	1.55	10.2	1.45	7.9	1.18
	24.0	18.0	14.4	1.47	13.9	1.44	13.0	1.38	12.5	1.35	11.1	1.24	10.2	1.16	7.9	0.95

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-4LE2E5, U-4LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	9.5	3.22	9.2	3.16	8.7	3.02	8.4	2.95	7.6	2.72	7.0	2.55	5.6	2.10
	-14.7	-15.0	11.1	3.48	10.8	3.41	10.2	3.26	9.8	3.18	8.9	2.92	8.3	2.74	6.6	2.25
	-9.6	-10.0	12.2	3.49	12.1	3.49	11.7	3.45	11.3	3.33	10.0	2.99	9.2	2.76	7.1	2.18
	-4.4	-5.0	12.9	3.32	12.5	3.23	11.7	3.03	11.3	2.93	10.0	2.64	9.2	2.44	7.1	1.94
	-1.8	-2.5	12.9	3.13	12.5	3.04	11.7	2.86	11.3	2.76	10.0	2.49	9.2	2.30	7.1	1.83
	0.8	0.0	12.9	2.84	12.5	2.77	11.7	2.62	11.3	2.54	10.0	2.30	9.2	2.14	7.1	1.72
	2.8	2.0	12.9	2.62	12.5	2.55	11.7	2.41	11.3	2.34	10.0	2.13	9.2	1.99	7.1	1.61
	6.0	5.0	12.9	2.36	12.5	2.30	11.7	2.19	11.3	2.13	10.0	1.94	9.2	1.81	7.1	1.46
	7.0	6.0	12.9	2.31	12.5	2.25	11.7	2.13	11.3	2.06	10.0	1.87	9.2	1.75	7.1	1.41
	8.6	7.5	12.9	2.19	12.5	2.13	11.7	2.02	11.3	1.96	10.0	1.79	9.2	1.66	7.1	1.35
	11.2	10.0	12.9	1.98	12.5	1.94	11.7	1.84	11.3	1.79	10.0	1.64	9.2	1.54	7.1	1.26
	16.4	15.0	12.9	1.50	12.5	1.47	11.7	1.42	11.3	1.39	10.0	1.30	9.2	1.23	7.1	1.03
	24.0	18.0	12.9	1.18	12.5	1.15	11.7	1.10	11.3	1.08	10.0	1.01	9.2	0.96	7.1	0.80

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	9.6	3.21	9.3	3.14	8.8	3.01	8.5	2.94	7.7	2.71	7.1	2.54	5.6	2.09
	-14.7	-15.0	11.2	3.47	10.9	3.40	10.3	3.25	10.0	3.17	8.9	2.86	8.1	2.66	6.3	2.12
	-9.6	-10.0	11.5	3.14	11.1	3.05	10.4	2.88	10.0	2.79	8.9	2.53	8.1	2.35	6.3	1.88
	-4.4	-5.0	11.5	2.78	11.1	2.71	10.4	2.56	10.0	2.48	8.9	2.25	8.1	2.09	6.3	1.68
	-1.8	-2.5	11.5	2.53	11.1	2.47	10.4	2.35	10.0	2.29	8.9	2.10	8.1	1.96	6.3	1.60
	0.8	0.0	11.5	2.30	11.1	2.25	10.4	2.15	10.0	2.10	8.9	1.93	8.1	1.81	6.3	1.49
	2.8	2.0	11.5	2.17	11.1	2.12	10.4	2.02	10.0	1.97	8.9	1.81	8.1	1.70	6.3	1.40
	6.0	5.0	11.5	1.99	11.1	1.95	10.4	1.86	10.0	1.81	8.9	1.66	8.1	1.55	6.3	1.26
	7.0	6.0	11.5	1.94	11.1	1.89	10.4	1.80	10.0	1.75	8.9	1.60	8.1	1.50	6.3	1.23
	8.6	7.5	11.5	1.83	11.1	1.79	10.4	1.71	10.0	1.66	8.9	1.53	8.1	1.43	6.3	1.18
	11.2	10.0	11.5	1.63	11.1	1.60	10.4	1.54	10.0	1.51	8.9	1.40	8.1	1.32	6.3	1.10
	16.4	15.0	11.5	1.18	11.1	1.17	10.4	1.14	10.0	1.13	8.9	1.07	8.1	1.02	6.3	0.88
	24.0	18.0	11.5	1.06	11.1	1.03	10.4	0.97	10.0	0.94	8.9	0.86	8.1	0.80	6.3	0.68

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-19.8	-20.0	9.9	3.28	9.7	3.21	9.1	3.07	8.8	2.98	7.8	2.70	7.1	2.52	5.5	2.03
	-14.7	-15.0	10.0	2.92	9.7	2.85	9.1	2.70	8.8	2.62	7.8	2.39	7.1	2.23	5.5	1.81
	-9.6	-10.0	10.0	2.59	9.7	2.52	9.1	2.39	8.8	2.33	7.8	2.12	7.1	1.98	5.5	1.61
	-4.4	-5.0	10.0	2.25	9.7	2.21	9.1	2.11	8.8	2.07	7.8	1.91	7.1	1.79	5.5	1.46
	-1.8	-2.5	10.0	2.07	9.7	2.03	9.1	1.95	8.8	1.90	7.8	1.76	7.1	1.66	5.5	1.38
	0.8	0.0	10.0	1.92	9.7	1.88	9.1	1.80	8.8	1.76	7.8	1.63	7.1	1.53	5.5	1.28
	2.8	2.0	10.0	1.81	9.7	1.77	9.1	1.70	8.8	1.66	7.8	1.53	7.1	1.44	5.5	1.20
	6.0	5.0	10.0	1.66	9.7	1.62	9.1	1.55	8.8	1.52	7.8	1.40	7.1	1.32	5.5	1.09
	7.0	6.0	10.0	1.59	9.7	1.56	9.1	1.50	8.8	1.46	7.8	1.36	7.1	1.28	5.5	1.06
	8.6	7.5	10.0	1.49	9.7	1.46	9.1	1.41	8.8	1.38	7.8	1.29	7.1	1.22	5.5	1.02
	11.2	10.0	10.0	1.30	9.7	1.28	9.1	1.25	8.8	1.23	7.8	1.17	7.1	1.11	5.5	0.95
	16.4	15.0	10.0	0.95	9.7	0.92	9.1	0.90	8.8	0.89	7.8	0.87	7.1	0.84	5.5	0.74
	24.0	18.0	10.0	0.95	9.7	0.92	9.1	0.87	8.8	0.84	7.8	0.77	7.1	0.71	5.5	0.58

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-19.8	-20.0	8.6	2.68	8.3	2.62	7.8	2.49	7.5	2.43	6.7	2.23	6.1	2.08	4.7	1.70
	-14.7	-15.0	8.6	2.37	8.3	2.31	7.8	2.20	7.5	2.15	6.7	1.97	6.1	1.85	4.7	1.52
	-9.6	-10.0	8.6	2.13	8.3	2.09	7.8	1.99	7.5	1.94	6.7	1.78	6.1	1.67	4.7	1.37
	-4.4	-5.0	8.6	1.83	8.3	1.80	7.8	1.74	7.5	1.70	6.7	1.59	6.1	1.50	4.7	1.24
	-1.8	-2.5	8.6	1.69	8.3	1.66	7.8	1.60	7.5	1.57	6.7	1.46	6.1	1.39	4.7	1.17
	0.8	0.0	8.6	1.58	8.3	1.55	7.8	1.49	7.5	1.45	6.7	1.35	6.1	1.28	4.7	1.08
	2.8	2.0	8.6	1.49	8.3	1.46	7.8	1.41	7.5	1.38	6.7	1.28	6.1	1.21	4.7	1.01
	6.0	5.0	8.6	1.33	8.3	1.31	7.8	1.27	7.5	1.24	6.7	1.16	6.1	1.10	4.7	0.92
	7.0	6.0	8.6	1.27	8.3	1.25	7.8	1.22	7.5	1.20	6.7	1.12	6.1	1.07	4.7	0.90
	8.6	7.5	8.6	1.17	8.3	1.16	7.8	1.13	7.5	1.12	6.7	1.06	6.1	1.01	4.7	0.87
	11.2	10.0	8.6	1.00	8.3	1.00	7.8	0.99	7.5	0.98	6.7	0.95	6.1	0.92	4.7	0.80
	16.4	15.0	8.6	0.83	8.3	0.81	7.8	0.77	7.5	0.74	6.7	0.69	6.1	0.68	4.7	0.62
	24.0	18.0	8.6	0.83	8.3	0.81	7.8	0.77	7.5	0.74	6.7	0.68	6.1	0.63	4.7	0.52

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

8

1. Capacity of Outdoor Unit

U-4LE2E5, U-4LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-19.8	-20.0	7.2	2.12	6.9	2.08	6.5	1.99	6.3	1.95	5.6	1.80	5.1	1.69	3.9	1.40
	-14.7	-15.0	7.2	1.92	6.9	1.88	6.5	1.79	6.3	1.75	5.6	1.62	5.1	1.52	3.9	1.26
	-9.6	-10.0	7.2	1.72	6.9	1.69	6.5	1.63	6.3	1.59	5.6	1.47	5.1	1.38	3.9	1.14
	-4.4	-5.0	7.2	1.47	6.9	1.44	6.5	1.40	6.3	1.37	5.6	1.29	5.1	1.23	3.9	1.04
	-1.8	-2.5	7.2	1.36	6.9	1.34	6.5	1.29	6.3	1.27	5.6	1.19	5.1	1.13	3.9	0.97
	0.8	0.0	7.2	1.27	6.9	1.25	6.5	1.20	6.3	1.18	5.6	1.10	5.1	1.05	3.9	0.89
	2.8	2.0	7.2	1.18	6.9	1.16	6.5	1.13	6.3	1.11	5.6	1.04	5.1	0.99	3.9	0.84
	6.0	5.0	7.2	1.03	6.9	1.02	6.5	1.00	6.3	0.99	5.6	0.94	5.1	0.90	3.9	0.77
	7.0	6.0	7.2	0.97	6.9	0.97	6.5	0.96	6.3	0.95	5.6	0.91	5.1	0.87	3.9	0.75
	8.6	7.5	7.2	0.89	6.9	0.89	6.5	0.88	6.3	0.88	5.6	0.85	5.1	0.82	3.9	0.72
	11.2	10.0	7.2	0.76	6.9	0.76	6.5	0.76	6.3	0.76	5.6	0.75	5.1	0.74	3.9	0.66
	16.4	15.0	7.2	0.72	6.9	0.70	6.5	0.66	6.3	0.64	5.6	0.59	5.1	0.55	3.9	0.51
	24.0	18.0	7.2	0.72	6.9	0.70	6.5	0.66	6.3	0.64	5.6	0.59	5.1	0.55	3.9	0.46

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-19.8	-20.0	5.7	1.67	5.6	1.64	5.2	1.57	5.0	1.54	4.4	1.43	4.1	1.35	3.1	1.13
	-14.7	-15.0	5.7	1.51	5.6	1.48	5.2	1.42	5.0	1.39	4.4	1.29	4.1	1.22	3.1	1.02
	-9.6	-10.0	5.7	1.33	5.6	1.31	5.2	1.27	5.0	1.25	4.4	1.17	4.1	1.11	3.1	0.93
	-4.4	-5.0	5.7	1.14	5.6	1.13	5.2	1.09	5.0	1.07	4.4	1.01	4.1	0.97	3.1	0.84
	-1.8	-2.5	5.7	1.06	5.6	1.04	5.2	1.01	5.0	0.99	4.4	0.94	4.1	0.89	3.1	0.77
	0.8	0.0	5.7	0.97	5.6	0.96	5.2	0.94	5.0	0.92	4.4	0.87	4.1	0.83	3.1	0.72
	2.8	2.0	5.7	0.89	5.6	0.89	5.2	0.87	5.0	0.86	4.4	0.82	4.1	0.78	3.1	0.68
	6.0	5.0	5.7	0.76	5.6	0.76	5.2	0.76	5.0	0.76	4.4	0.74	4.1	0.71	3.1	0.63
	7.0	6.0	5.7	0.72	5.6	0.72	5.2	0.72	5.0	0.72	4.4	0.71	4.1	0.69	3.1	0.61
	8.6	7.5	5.7	0.65	5.6	0.66	5.2	0.66	5.0	0.67	4.4	0.66	4.1	0.65	3.1	0.59
	11.2	10.0	5.7	0.60	5.6	0.59	5.2	0.57	5.0	0.58	4.4	0.58	4.1	0.58	3.1	0.54
	16.4	15.0	5.7	0.60	5.6	0.59	5.2	0.56	5.0	0.54	4.4	0.50	4.1	0.47	3.1	0.41
	24.0	18.0	5.7	0.60	5.6	0.59	5.2	0.56	5.0	0.54	4.4	0.50	4.1	0.47	3.1	0.39

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-19.8	-20.0	4.3	1.24	4.2	1.22	3.9	1.18	3.8	1.15	3.3	1.08	3.1	1.02	2.4	0.87
	-14.7	-15.0	4.3	1.13	4.2	1.11	3.9	1.07	3.8	1.05	3.3	0.98	3.1	0.93	2.4	0.79
	-9.6	-10.0	4.3	0.97	4.2	0.96	3.9	0.94	3.8	0.93	3.3	0.88	3.1	0.85	2.4	0.72
	-4.4	-5.0	4.3	0.84	4.2	0.83	3.9	0.81	3.8	0.79	3.3	0.75	3.1	0.73	2.4	0.64
	-1.8	-2.5	4.3	0.77	4.2	0.77	3.9	0.75	3.8	0.74	3.3	0.70	3.1	0.68	2.4	0.60
	0.8	0.0	4.3	0.70	4.2	0.70	3.9	0.69	3.8	0.68	3.3	0.66	3.1	0.63	2.4	0.56
	2.8	2.0	4.3	0.64	4.2	0.64	3.9	0.64	3.8	0.64	3.3	0.62	3.1	0.60	2.4	0.53
	6.0	5.0	4.3	0.54	4.2	0.54	3.9	0.55	3.8	0.55	3.3	0.55	3.1	0.54	2.4	0.49
	7.0	6.0	4.3	0.51	4.2	0.51	3.9	0.52	3.8	0.53	3.3	0.53	3.1	0.52	2.4	0.48
	8.6	7.5	4.3	0.49	4.2	0.47	3.9	0.48	3.8	0.49	3.3	0.49	3.1	0.49	2.4	0.46
	11.2	10.0	4.3	0.49	4.2	0.47	3.9	0.45	3.8	0.44	3.3	0.43	3.1	0.43	2.4	0.42
	16.4	15.0	4.3	0.49	4.2	0.47	3.9	0.45	3.8	0.44	3.3	0.41	3.1	0.39	2.4	0.33
	24.0	18.0	4.3	0.49	4.2	0.47	3.9	0.45	3.8	0.44	3.3	0.41	3.1	0.39	2.4	0.33

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

1-3. U-5LE2E5, U-5LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-10.0	12.1	1.10	14.6	1.31	15.1	1.35	15.1	1.35	17.1	1.53	19.1	1.71	21.1	1.89
	-5.0	12.1	1.10	14.6	1.30	15.1	1.35	15.1	1.35	17.1	1.53	19.1	1.71	21.1	1.89
	0.0	12.1	1.09	14.6	1.31	15.1	1.36	15.1	1.36	17.1	1.54	19.1	1.73	21.1	1.90
	5.0	12.1	1.10	14.6	1.32	15.1	1.38	15.1	1.38	17.1	1.56	19.1	1.75	21.1	1.93
	10.0	12.1	1.13	14.6	1.35	15.1	1.42	15.1	1.42	17.1	1.61	19.1	1.83	21.1	2.17
	15.0	12.1	1.23	14.6	1.57	15.1	1.80	15.1	1.80	17.1	2.16	19.1	2.56	21.1	2.98
	20.0	12.1	1.69	14.6	2.13	15.1	2.38	15.1	2.38	17.1	2.81	19.1	3.26	21.1	3.73
	25.0	12.1	2.14	14.6	2.64	15.1	2.88	15.1	2.88	17.1	3.35	19.1	3.83	21.1	4.34
	30.0	12.1	2.51	14.6	3.07	15.1	3.31	15.1	3.31	17.1	3.84	19.1	4.40	21.0	4.97
	35.0	12.1	2.87	14.6	3.53	15.1	3.83	15.1	3.83	17.1	4.45	18.8	5.00	19.6	5.00
	40.0	12.1	3.34	14.6	4.11	15.1	4.47	15.1	4.47	16.1	4.54	17.1	4.56	18.4	4.64
	43.0	11.9	3.58	13.3	3.89	13.3	3.89	13.3	3.89	14.4	3.95	15.6	4.06	17.0	4.21
	46.0	11.6	3.33	11.7	3.33	11.7	3.33	11.7	3.33	12.9	3.47	14.3	3.64	15.7	3.84

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-10.0	11.2	1.01	13.4	1.21	14.7	1.32	14.7	1.32	16.7	1.49	18.6	1.67	20.6	1.84
	-5.0	11.2	1.02	13.4	1.21	14.7	1.32	14.7	1.32	16.7	1.50	18.6	1.68	20.6	1.85
	0.0	11.2	1.01	13.4	1.21	14.7	1.33	14.7	1.33	16.7	1.51	18.6	1.69	20.6	1.86
	5.0	11.2	1.02	13.4	1.22	14.7	1.35	14.7	1.35	16.7	1.53	18.6	1.71	20.6	1.88
	10.0	11.2	1.04	13.4	1.25	14.7	1.38	14.7	1.38	16.7	1.57	18.6	1.76	20.6	2.05
	15.0	11.2	1.13	13.4	1.43	14.7	1.72	14.7	1.72	16.7	2.06	18.6	2.44	20.6	2.84
	20.0	11.2	1.55	13.4	1.94	14.7	2.29	14.7	2.29	16.7	2.70	18.6	3.13	20.6	3.58
	25.0	11.2	1.97	13.4	2.43	14.7	2.78	14.7	2.78	16.7	3.23	18.6	3.70	20.6	4.19
	30.0	11.2	2.31	13.4	2.82	14.7	3.20	14.7	3.20	16.7	3.71	18.6	4.24	20.6	4.81
	35.0	11.2	2.64	13.4	3.24	14.7	3.70	14.7	3.70	16.7	4.30	18.6	4.94	19.5	5.00
	40.0	11.2	3.07	13.4	3.77	14.7	4.32	14.7	4.32	15.9	4.51	16.9	4.51	18.0	4.57
	43.0	11.0	3.29	13.2	3.85	13.2	3.85	13.2	3.85	14.1	3.90	15.3	3.99	16.6	4.12
	46.0	10.8	3.28	11.5	3.28	11.5	3.28	11.5	3.28	12.7	3.41	13.9	3.56	15.3	3.75

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-10.0	10.3	0.93	12.3	1.12	14.4	1.29	14.4	1.29	16.3	1.46	18.2	1.63	20.1	1.80
	-5.0	10.3	0.94	12.3	1.11	14.4	1.29	14.4	1.29	16.3	1.46	18.2	1.64	20.1	1.81
	0.0	10.3	0.93	12.3	1.11	14.4	1.30	14.4	1.30	16.3	1.47	18.2	1.65	20.1	1.82
	5.0	10.3	0.94	12.3	1.12	14.4	1.31	14.4	1.31	16.3	1.49	18.2	1.67	20.1	1.84
	10.0	10.3	0.96	12.3	1.15	14.4	1.35	14.4	1.35	16.3	1.53	18.2	1.71	20.1	1.94
	15.0	10.3	1.03	12.3	1.30	14.4	1.64	14.4	1.64	16.3	1.97	18.2	2.32	20.1	2.70
	20.0	10.3	1.41	12.3	1.77	14.4	2.20	14.4	2.20	16.3	2.59	18.2	3.01	20.1	3.43
	25.0	10.3	1.80	12.3	2.21	14.4	2.69	14.4	2.69	16.3	3.12	18.2	3.57	20.1	4.03
	30.0	10.3	2.11	12.3	2.58	14.4	3.10	14.4	3.10	16.3	3.58	18.2	4.09	20.1	4.63
	35.0	10.3	2.42	12.3	2.95	14.4	3.57	14.4	3.57	16.3	4.14	18.2	4.75	19.4	5.00
	40.0	10.3	2.80	12.3	3.44	14.4	4.17	14.4	4.17	15.7	4.48	16.6	4.46	17.7	4.50
	43.0	10.1	3.01	12.1	3.69	13.0	3.82	13.0	3.82	13.9	3.85	15.0	3.92	16.2	4.04
	46.0	9.9	3.18	10.8	3.24	11.3	3.24	11.3	3.24	12.4	3.34	13.6	3.48	15.0	3.65

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-10.0	9.3	0.85	11.2	1.02	13.1	1.19	14.0	1.26	15.9	1.42	17.7	1.59	19.6	1.76
	-5.0	9.3	0.86	11.2	1.01	13.1	1.18	14.0	1.26	15.9	1.43	17.7	1.60	19.6	1.76
	0.0	9.3	0.85	11.2	1.02	13.1	1.18	14.0	1.27	15.9	1.44	17.7	1.61	19.6	1.77
	5.0	9.3	0.86	11.2	1.03	13.1	1.20	14.0	1.28	15.9	1.45	17.7	1.62	19.6	1.80
	10.0	9.3	0.87	11.2	1.05	13.1	1.23	14.0	1.31	15.9	1.49	17.7	1.67	19.6	1.84
	15.0	9.3	0.95	11.2	1.17	13.1	1.43	14.0	1.57	15.9	1.87	17.7	2.21	19.6	2.56
	20.0	9.3	1.28	11.2	1.59	13.1	1.93	14.0	2.11	15.9	2.49	17.7	2.88	19.6	3.29
	25.0	9.3	1.63	11.2	2.00	13.1	2.39	14.0	2.59	15.9	3.01	17.7	3.44	19.6	3.88
	30.0	9.3	1.92	11.2	2.34	13.1	2.77	14.0	3.00	15.9	3.46	17.7	3.95	19.6	4.45
	35.0	9.3	2.19	11.2	2.67	13.1	3.18	14.0	3.45	15.9	3.99	17.7	4.57	19.3	5.00
	40.0	9.3	2.54	11.2	3.11	13.1	3.71	14.0	4.02	15.5	4.45	16.4	4.42	17.4	4.44
	43.0	9.1	2.73	11.0	3.33	12.5	3.80	12.9	3.79	13.7	3.81	14.7	3.86	15.9	3.96
	46.0	9.0	2.89	9.9	3.11	10.7	3.16	11.1	3.19	12.1	3.28	13.3	3.41	14.6	3.56

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-5LE2E5, U-5LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-10.0	8.4	0.77	10.1	0.92	11.8	1.07	12.6	1.14	14.3	1.28	16.0	1.43	17.6	1.58
	-5.0	8.4	0.77	10.1	0.92	11.8	1.06	12.6	1.14	14.3	1.29	16.0	1.44	17.6	1.59
	0.0	8.4	0.78	10.1	0.92	11.8	1.07	12.6	1.14	14.3	1.29	16.0	1.44	17.6	1.60
	5.0	8.4	0.77	10.1	0.92	11.8	1.08	12.6	1.15	14.3	1.30	16.0	1.46	17.6	1.61
	10.0	8.4	0.79	10.1	0.94	11.8	1.10	12.6	1.18	14.3	1.33	16.0	1.49	17.6	1.65
	15.0	8.4	0.84	10.1	1.01	11.8	1.19	12.6	1.30	14.3	1.53	16.0	1.78	17.6	2.06
	20.0	8.4	1.10	10.1	1.36	11.8	1.63	12.6	1.78	14.3	2.08	16.0	2.40	17.6	2.73
	25.0	8.4	1.42	10.1	1.74	11.8	2.06	12.6	2.23	14.3	2.58	16.0	2.94	17.6	3.31
	30.0	8.4	1.69	10.1	2.05	11.8	2.42	12.6	2.61	14.3	2.99	16.0	3.39	17.6	3.80
	35.0	8.4	1.93	10.1	2.34	11.8	2.76	12.6	2.98	14.3	3.43	16.0	3.89	17.6	4.38
	40.0	8.4	2.23	10.1	2.70	11.8	3.20	12.6	3.46	14.3	4.00	15.6	4.30	16.3	4.24
	43.0	8.2	2.39	9.9	2.91	11.5	3.44	12.3	3.72	13.0	3.67	13.7	3.65	14.6	3.68
	46.0	8.1	2.55	9.6	3.06	10.1	3.04	10.5	3.04	11.2	3.07	12.1	3.13	13.1	3.23

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-10.0	7.5	0.68	9.0	0.82	10.5	0.95	11.2	1.02	12.7	1.15	14.2	1.29	15.7	1.41
	-5.0	7.5	0.69	9.0	0.82	10.5	0.96	11.2	1.02	12.7	1.14	14.2	1.28	15.7	1.41
	0.0	7.5	0.69	9.0	0.82	10.5	0.95	11.2	1.02	12.7	1.15	14.2	1.28	15.7	1.42
	5.0	7.5	0.69	9.0	0.82	10.5	0.96	11.2	1.02	12.7	1.16	14.2	1.29	15.7	1.43
	10.0	7.5	0.70	9.0	0.83	10.5	0.97	11.2	1.04	12.7	1.18	14.2	1.32	15.7	1.46
	15.0	7.5	0.74	9.0	0.88	10.5	1.03	11.2	1.10	12.7	1.24	14.2	1.42	15.7	1.62
	20.0	7.5	0.94	9.0	1.14	10.5	1.35	11.2	1.47	12.7	1.70	14.2	1.95	15.7	2.21
	25.0	7.5	1.22	9.0	1.48	10.5	1.75	11.2	1.89	12.7	2.17	14.2	2.46	15.7	2.76
	30.0	7.5	1.48	9.0	1.77	10.5	2.08	11.2	2.24	12.7	2.56	14.2	2.88	15.7	3.22
	35.0	7.5	1.69	9.0	2.03	10.5	2.38	11.2	2.56	12.7	2.92	14.2	3.29	15.7	3.68
	40.0	7.5	1.93	9.0	2.33	10.5	2.74	11.2	2.95	12.7	3.38	14.2	3.82	15.4	4.14
	43.0	7.3	2.07	8.8	2.50	10.2	2.94	11.0	3.17	12.4	3.60	12.9	3.52	13.5	3.48
	46.0	7.2	2.22	8.6	2.68	9.7	2.97	9.9	2.94	10.5	2.91	11.1	2.92	11.9	2.95

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-10.0	6.5	0.60	7.8	0.72	9.1	0.83	9.8	0.89	11.1	1.01	12.4	1.13	13.7	1.25
	-5.0	6.5	0.60	7.8	0.72	9.1	0.84	9.8	0.90	11.1	1.01	12.4	1.12	13.7	1.24
	0.0	6.5	0.61	7.8	0.73	9.1	0.84	9.8	0.89	11.1	1.01	12.4	1.12	13.7	1.24
	5.0	6.5	0.62	7.8	0.72	9.1	0.84	9.8	0.90	11.1	1.01	12.4	1.13	13.7	1.25
	10.0	6.5	0.61	7.8	0.73	9.1	0.85	9.8	0.91	11.1	1.03	12.4	1.15	13.7	1.27
	15.0	6.5	0.64	7.8	0.76	9.1	0.89	9.8	0.95	11.1	1.07	12.4	1.20	13.7	1.32
	20.0	6.5	0.79	7.8	0.95	9.1	1.11	9.8	1.19	11.1	1.37	12.4	1.55	13.7	1.74
	25.0	6.5	1.04	7.8	1.24	9.1	1.46	9.8	1.57	11.1	1.79	12.4	2.02	13.7	2.25
	30.0	6.5	1.27	7.8	1.51	9.1	1.76	9.8	1.89	11.1	2.15	12.4	2.41	13.7	2.67
	35.0	6.5	1.46	7.8	1.74	9.1	2.02	9.8	2.16	11.1	2.46	12.4	2.75	13.7	3.05
	40.0	6.5	1.66	7.8	1.98	9.1	2.31	9.8	2.48	11.1	2.82	12.4	3.16	13.7	3.52
	43.0	6.4	1.77	7.7	2.12	9.0	2.48	9.6	2.66	10.9	3.03	12.2	3.41	12.7	3.37
	46.0	6.3	1.90	7.5	2.28	8.8	2.66	9.4	2.85	9.9	2.83	10.3	2.77	10.9	2.75

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-10.0	5.6	0.51	6.7	0.61	7.8	0.72	8.4	0.77	9.5	0.87	10.6	0.97	11.8	1.07
	-5.0	5.6	0.52	6.7	0.62	7.8	0.72	8.4	0.77	9.5	0.87	10.6	0.97	11.8	1.07
	0.0	5.6	0.52	6.7	0.62	7.8	0.73	8.4	0.78	9.5	0.88	10.6	0.97	11.8	1.07
	5.0	5.6	0.53	6.7	0.63	7.8	0.72	8.4	0.77	9.5	0.87	10.6	0.97	11.8	1.07
	10.0	5.6	0.53	6.7	0.63	7.8	0.73	8.4	0.78	9.5	0.88	10.6	0.98	11.8	1.08
	15.0	5.6	0.54	6.7	0.65	7.8	0.75	8.4	0.80	9.5	0.91	10.6	1.01	11.8	1.12
	20.0	5.6	0.66	6.7	0.77	7.8	0.89	8.4	0.95	9.5	1.08	10.6	1.20	11.8	1.33
	25.0	5.6	0.87	6.7	1.03	7.8	1.19	8.4	1.27	9.5	1.43	10.6	1.60	11.8	1.77
	30.0	5.6	1.07	6.7	1.26	7.8	1.46	8.4	1.56	9.5	1.76	10.6	1.97	11.8	2.17
	35.0	5.6	1.24	6.7	1.46	7.8	1.69	8.4	1.80	9.5	2.03	10.6	2.26	11.8	2.50
	40.0	5.6	1.40	6.7	1.66	7.8	1.92	8.4	2.05	9.5	2.32	10.6	2.58	11.8	2.85
	43.0	5.5	1.49	6.6	1.77	7.7	2.05	8.2	2.19	9.3	2.48	10.4	2.76	11.5	3.05
	46.0	5.4	1.60	6.5	1.90	7.5	2.20	8.1	2.35	9.1	2.66	9.7	2.71	10.1	2.63

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-5LE2E5, U-5LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-10.0	4.7	0.43	5.6	0.51	6.5	0.60	7.0	0.64	7.9	0.72	8.9	0.81	9.8	0.89
	-5.0	4.7	0.43	5.6	0.52	6.5	0.60	7.0	0.64	7.9	0.73	8.9	0.81	9.8	0.90
	0.0	4.7	0.44	5.6	0.52	6.5	0.61	7.0	0.65	7.9	0.73	8.9	0.82	9.8	0.90
	5.0	4.7	0.44	5.6	0.53	6.5	0.61	7.0	0.66	7.9	0.73	8.9	0.81	9.8	0.90
	10.0	4.7	0.45	5.6	0.52	6.5	0.61	7.0	0.65	7.9	0.73	8.9	0.82	9.8	0.90
	15.0	4.7	0.45	5.6	0.54	6.5	0.62	7.0	0.67	7.9	0.75	8.9	0.84	9.8	0.92
	20.0	4.7	0.55	5.6	0.63	6.5	0.71	7.0	0.75	7.9	0.83	8.9	0.91	9.8	1.00
	25.0	4.7	0.71	5.6	0.83	6.5	0.94	7.0	1.00	7.9	1.12	8.9	1.23	9.8	1.35
	30.0	4.7	0.88	5.6	1.03	6.5	1.18	7.0	1.26	7.9	1.40	8.9	1.55	9.8	1.70
	35.0	4.7	1.03	5.6	1.20	6.5	1.38	7.0	1.46	7.9	1.64	8.9	1.82	9.8	1.99
	40.0	4.7	1.16	5.6	1.36	6.5	1.56	7.0	1.66	7.9	1.86	8.9	2.06	9.8	2.26
	43.0	4.6	1.23	5.5	1.45	6.4	1.66	6.9	1.77	7.8	1.98	8.7	2.19	9.6	2.41
	46.0	4.5	1.31	5.4	1.55	6.3	1.78	6.7	1.89	7.6	2.12	8.5	2.35	9.4	2.58

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-10.0	3.7	0.35	4.5	0.41	5.2	0.48	5.6	0.51	6.3	0.58	7.1	0.65	7.8	0.72
	-5.0	3.7	0.35	4.5	0.42	5.2	0.48	5.6	0.52	6.3	0.58	7.1	0.65	7.8	0.72
	0.0	3.7	0.35	4.5	0.42	5.2	0.49	5.6	0.52	6.3	0.59	7.1	0.66	7.8	0.72
	5.0	3.7	0.36	4.5	0.42	5.2	0.49	5.6	0.53	6.3	0.59	7.1	0.66	7.8	0.73
	10.0	3.7	0.36	4.5	0.43	5.2	0.50	5.6	0.54	6.3	0.59	7.1	0.66	7.8	0.72
	15.0	3.7	0.36	4.5	0.43	5.2	0.50	5.6	0.53	6.3	0.60	7.1	0.67	7.8	0.74
	20.0	3.7	0.42	4.5	0.48	5.2	0.55	5.6	0.58	6.3	0.64	7.1	0.71	7.8	0.78
	25.0	3.7	0.57	4.5	0.65	5.2	0.73	5.6	0.76	6.3	0.84	7.1	0.91	7.8	0.99
	30.0	3.7	0.71	4.5	0.81	5.2	0.92	5.6	0.97	6.3	1.08	7.1	1.18	7.8	1.27
	35.0	3.7	0.83	4.5	0.96	5.2	1.09	5.6	1.15	6.3	1.28	7.1	1.40	7.8	1.53
	40.0	3.7	0.93	4.5	1.08	5.2	1.23	5.6	1.31	6.3	1.45	7.1	1.60	7.8	1.74
	43.0	3.7	0.98	4.4	1.15	5.1	1.30	5.5	1.38	6.2	1.54	7.0	1.69	7.7	1.84
	46.0	3.6	1.05	4.3	1.22	5.0	1.39	5.4	1.47	6.1	1.64	6.8	1.80	7.5	1.96

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-10.0	2.8	0.26	3.4	0.31	3.9	0.36	4.2	0.39	4.8	0.44	5.3	0.49	5.9	0.54
	-5.0	2.8	0.26	3.4	0.31	3.9	0.37	4.2	0.39	4.8	0.44	5.3	0.49	5.9	0.54
	0.0	2.8	0.27	3.4	0.32	3.9	0.37	4.2	0.39	4.8	0.44	5.3	0.50	5.9	0.55
	5.0	2.8	0.27	3.4	0.32	3.9	0.37	4.2	0.40	4.8	0.45	5.3	0.50	5.9	0.55
	10.0	2.8	0.28	3.4	0.33	3.9	0.38	4.2	0.40	4.8	0.46	5.3	0.51	5.9	0.56
	15.0	2.8	0.29	3.4	0.34	3.9	0.38	4.2	0.40	4.8	0.45	5.3	0.50	5.9	0.55
	20.0	2.8	0.30	3.4	0.35	3.9	0.40	4.2	0.42	4.8	0.47	5.3	0.52	5.9	0.57
	25.0	2.8	0.44	3.4	0.49	3.9	0.54	4.2	0.56	4.8	0.61	5.3	0.65	5.9	0.69
	30.0	2.8	0.54	3.4	0.62	3.9	0.68	4.2	0.72	4.8	0.78	5.3	0.84	5.9	0.90
	35.0	2.8	0.64	3.4	0.73	3.9	0.82	4.2	0.86	4.8	0.94	5.3	1.02	5.9	1.10
	40.0	2.8	0.72	3.4	0.82	3.9	0.93	4.2	0.98	4.8	1.08	5.3	1.17	5.9	1.27
	43.0	2.7	0.75	3.3	0.87	3.8	0.98	4.1	1.03	4.7	1.14	5.2	1.24	5.8	1.34
	46.0	2.7	0.80	3.2	0.92	3.8	1.03	4.0	1.09	4.6	1.20	5.1	1.31	5.6	1.41

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

8

1. Capacity of Outdoor Unit

1-4. U-5LE2E5, U-5LE2E8 (Heating)

Capacity Ratio 30-130%

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-19.8	-20.0	10.8	3.86	10.5	3.78	9.9	3.61	9.6	3.52	8.7	3.25	8.1	3.05	6.5	2.51
	-14.7	-15.0	12.4	4.17	12.1	4.08	11.5	3.90	11.2	3.80	10.2	3.50	9.5	3.29	7.6	2.70
	-9.6	-10.0	14.4	4.53	14.1	4.43	13.3	4.23	13.0	4.13	11.8	3.79	11.0	3.55	8.9	2.91
	-4.4	-5.0	16.7	4.97	16.3	4.86	15.5	4.62	15.1	4.50	13.8	4.12	12.9	3.85	10.4	3.12
	-1.8	-2.5	17.7	5.05	17.5	5.05	16.7	4.83	16.3	4.70	14.8	4.28	13.9	3.99	10.8	3.07
	0.8	0.0	18.5	5.05	18.4	5.05	17.8	4.97	17.2	4.76	15.3	4.17	14.0	3.79	10.8	2.88
	2.8	2.0	19.2	5.05	19.1	5.05	17.8	4.68	17.2	4.49	15.3	3.94	14.0	3.59	10.8	2.74
	6.0	5.0	19.7	4.83	19.1	4.65	17.8	4.31	17.2	4.14	15.3	3.65	14.0	3.33	10.8	2.54
	7.0	6.0	19.7	4.70	19.1	4.53	17.8	4.20	17.2	4.04	15.3	3.54	14.0	3.21	10.8	2.45
	8.6	7.5	19.7	4.46	19.1	4.29	17.8	3.96	17.2	3.80	15.3	3.33	14.0	3.03	10.8	2.31
	11.2	10.0	19.7	3.98	19.1	3.84	17.8	3.55	17.2	3.41	15.3	3.00	14.0	2.74	10.8	2.11
	16.4	15.0	19.7	3.27	19.1	3.16	17.8	2.94	17.2	2.84	15.3	2.52	14.0	2.31	10.8	1.81
	24.0	18.0	19.7	2.91	19.1	2.81	17.8	2.63	17.2	2.53	15.3	2.26	14.0	2.08	10.8	1.64

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-19.8	-20.0	10.7	3.82	10.4	3.75	9.9	3.58	9.6	3.49	8.7	3.22	8.1	3.02	6.5	2.49
	-14.7	-15.0	12.4	4.13	12.1	4.04	11.5	3.86	11.1	3.77	10.1	3.47	9.4	3.26	7.6	2.67
	-9.6	-10.0	14.4	4.49	14.0	4.39	13.3	4.19	12.9	4.09	11.8	3.76	11.0	3.52	8.9	2.88
	-4.4	-5.0	16.7	4.92	16.3	4.81	15.5	4.58	15.1	4.46	13.8	4.08	12.8	3.81	10.4	3.09
	-1.8	-2.5	17.8	5.05	17.6	5.03	16.7	4.78	16.2	4.65	14.8	4.24	13.7	3.90	10.6	2.96
	0.8	0.0	18.6	5.05	18.5	5.05	17.4	4.75	16.8	4.56	14.9	4.00	13.7	3.64	10.6	2.78
	2.8	2.0	19.3	5.03	18.7	4.85	17.4	4.49	16.8	4.31	14.9	3.79	13.7	3.46	10.6	2.65
	6.0	5.0	19.3	4.62	18.7	4.46	17.4	4.14	16.8	3.98	14.9	3.51	13.7	3.20	10.6	2.44
	7.0	6.0	19.3	4.50	18.7	4.33	17.4	4.01	16.8	3.85	14.9	3.38	13.7	3.08	10.6	2.36
	8.6	7.5	19.3	4.23	18.7	4.07	17.4	3.76	16.8	3.62	14.9	3.18	13.7	2.90	10.6	2.22
	11.2	10.0	19.3	3.78	18.7	3.64	17.4	3.38	16.8	3.25	14.9	2.87	13.7	2.63	10.6	2.03
	16.4	15.0	19.3	3.12	18.7	3.02	17.4	2.81	16.8	2.71	14.9	2.42	13.7	2.22	10.6	1.75
	24.0	18.0	19.3	2.76	18.7	2.67	17.4	2.50	16.8	2.41	14.9	2.16	13.7	1.99	10.6	1.58

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-19.8	-20.0	10.7	3.79	10.4	3.71	9.9	3.55	9.6	3.46	8.7	3.19	8.1	3.00	6.5	2.46
	-14.7	-15.0	12.4	4.09	12.1	4.00	11.4	3.83	11.1	3.73	10.1	3.44	9.4	3.23	7.6	2.65
	-9.6	-10.0	14.4	4.45	14.0	4.35	13.3	4.15	12.9	4.05	11.8	3.72	11.0	3.49	8.9	2.85
	-4.4	-5.0	16.7	4.87	16.3	4.76	15.5	4.54	15.0	4.42	13.7	4.04	12.8	3.77	10.3	3.05
	-1.8	-2.5	17.9	5.05	17.6	4.98	16.7	4.73	16.2	4.60	14.6	4.12	13.4	3.75	10.3	2.86
	0.8	0.0	18.7	5.05	18.2	4.91	17.0	4.54	16.4	4.37	14.6	3.84	13.4	3.51	10.3	2.69
	2.8	2.0	18.8	4.81	18.2	4.63	17.0	4.30	16.4	4.13	14.6	3.65	13.4	3.33	10.3	2.57
	6.0	5.0	18.8	4.43	18.2	4.28	17.0	3.96	16.4	3.81	14.6	3.36	13.4	3.06	10.3	2.35
	7.0	6.0	18.8	4.27	18.2	4.11	17.0	3.81	16.4	3.66	14.6	3.23	13.4	2.95	10.3	2.27
	8.6	7.5	18.8	4.00	18.2	3.86	17.0	3.57	16.4	3.44	14.6	3.03	13.4	2.77	10.3	2.14
	11.2	10.0	18.8	3.58	18.2	3.46	17.0	3.22	16.4	3.10	14.6	2.75	13.4	2.52	10.3	1.96
	16.4	15.0	18.8	2.97	18.2	2.88	17.0	2.69	16.4	2.60	14.6	2.32	13.4	2.14	10.3	1.69
	24.0	18.0	18.8	2.61	18.2	2.53	17.0	2.37	16.4	2.30	14.6	2.06	13.4	1.91	10.3	1.52

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	10.7	3.75	10.4	3.68	9.8	3.51	9.5	3.43	8.6	3.16	8.0	2.97	6.4	2.44
	-14.7	-15.0	12.4	4.05	12.1	3.97	11.4	3.79	11.1	3.70	10.1	3.41	9.4	3.20	7.5	2.63
	-9.6	-10.0	14.4	4.40	14.0	4.31	13.3	4.11	12.9	4.01	11.7	3.69	10.9	3.46	8.8	2.83
	-4.4	-5.0	16.7	4.83	16.3	4.72	15.5	4.49	15.0	4.37	13.7	4.00	12.8	3.74	10.1	2.94
	-1.8	-2.5	18.0	5.05	17.5	4.93	16.6	4.66	16.0	4.48	14.2	3.95	13.0	3.60	10.1	2.76
	0.8	0.0	18.4	4.86	17.8	4.69	16.6	4.35	16.0	4.18	14.2	3.69	13.0	3.37	10.1	2.60
	2.8	2.0	18.4	4.59	17.8	4.43	16.6	4.12	16.0	3.96	14.2	3.51	13.0	3.21	10.1	2.48
	6.0	5.0	18.4	4.21	17.8	4.06	16.6	3.77	16.0	3.63	14.2	3.21	13.0	2.93	10.1	2.26
	7.0	6.0	18.4	4.04	17.8	3.90	16.6	3.62	16.0	3.48	14.2	3.08	13.0	2.81	10.1	2.18
	8.6	7.5	18.4	3.78	17.8	3.65	16.6	3.39	16.0	3.26	14.2	2.89	13.0	2.65	10.1	2.06
	11.2	10.0	18.4	3.40	17.8	3.29	16.6	3.06	16.0	2.95	14.2	2.63	13.0	2.42	10.1	1.90
	16.4	15.0	18.4	2.83	17.8	2.74	16.6	2.57	16.0	2.48	14.2	2.22	13.0	2.05	10.1	1.62
	24.0	18.0	18.4	2.44	17.8	2.36	16.6	2.21	16.0	2.14	14.2	1.91	13.0	1.75	10.1	1.36

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-5LE2E5, U-5LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	10.6	3.62	10.3	3.55	9.7	3.39	9.4	3.31	8.5	3.05	7.9	2.87	6.3	2.36
	-14.7	-15.0	12.3	3.90	12.0	3.82	11.3	3.65	11.0	3.57	9.9	3.29	9.2	3.08	7.4	2.54
	-9.6	-10.0	14.3	4.25	13.9	4.16	13.2	3.97	12.8	3.87	11.6	3.56	10.8	3.33	8.7	2.73
	-4.4	-5.0	16.5	4.61	16.0	4.45	14.9	4.15	14.4	4.00	12.8	3.56	11.7	3.26	9.1	2.54
	-1.8	-2.5	16.5	4.30	16.0	4.16	14.9	3.88	14.4	3.75	12.8	3.34	11.7	3.07	9.1	2.39
	0.8	0.0	16.5	4.03	16.0	3.90	14.9	3.65	14.4	3.52	12.8	3.14	11.7	2.89	9.1	2.26
	2.8	2.0	16.5	3.81	16.0	3.69	14.9	3.45	14.4	3.33	12.8	2.97	11.7	2.74	9.1	2.17
	6.0	5.0	16.5	3.39	16.0	3.29	14.9	3.10	14.4	3.00	12.8	2.70	11.7	2.49	9.1	1.96
	7.0	6.0	16.5	3.32	16.0	3.22	14.9	3.01	14.4	2.91	12.8	2.60	11.7	2.39	9.1	1.89
	8.6	7.5	16.5	3.12	16.0	3.03	14.9	2.83	14.4	2.74	12.8	2.45	11.7	2.26	9.1	1.79
	11.2	10.0	16.5	2.85	16.0	2.76	14.9	2.59	14.4	2.51	12.8	2.25	11.7	2.09	9.1	1.66
	16.4	15.0	16.5	2.33	16.0	2.27	14.9	2.14	14.4	2.08	12.8	1.88	11.7	1.75	9.1	1.40
	24.0	18.0	16.5	1.93	16.0	1.88	14.9	1.78	14.4	1.72	12.8	1.56	11.7	1.45	9.1	1.15

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	10.5	3.51	10.2	3.44	9.6	3.29	9.3	3.22	8.4	2.97	7.8	2.79	6.2	2.30
	-14.7	-15.0	12.2	3.79	11.9	3.71	11.3	3.55	10.9	3.46	9.9	3.19	9.2	3.00	7.3	2.47
	-9.6	-10.0	14.3	4.13	13.9	4.04	13.2	3.86	12.8	3.76	11.4	3.38	10.4	3.12	8.1	2.45
	-4.4	-5.0	14.7	3.77	14.2	3.66	13.3	3.43	12.8	3.32	11.4	2.98	10.4	2.75	8.1	2.18
	-1.8	-2.5	14.7	3.55	14.2	3.44	13.3	3.23	12.8	3.13	11.4	2.81	10.4	2.60	8.1	2.07
	0.8	0.0	14.7	3.26	14.2	3.18	13.3	3.01	12.8	2.92	11.4	2.65	10.4	2.46	8.1	1.97
	2.8	2.0	14.7	3.05	14.2	2.98	13.3	2.82	12.8	2.74	11.4	2.48	10.4	2.31	8.1	1.86
	6.0	5.0	14.7	2.78	14.2	2.71	13.3	2.56	12.8	2.49	11.4	2.26	10.4	2.10	8.1	1.68
	7.0	6.0	14.7	2.72	14.2	2.65	13.3	2.49	12.8	2.41	11.4	2.18	10.4	2.02	8.1	1.62
	8.6	7.5	14.7	2.58	14.2	2.51	13.3	2.36	12.8	2.29	11.4	2.07	10.4	1.92	8.1	1.55
	11.2	10.0	14.7	2.36	14.2	2.29	13.3	2.17	12.8	2.11	11.4	1.91	10.4	1.78	8.1	1.44
	16.4	15.0	14.7	1.85	14.2	1.82	13.3	1.73	12.8	1.69	11.4	1.56	10.4	1.46	8.1	1.20
	24.0	18.0	14.7	1.47	14.2	1.44	13.3	1.38	12.8	1.35	11.4	1.24	10.4	1.17	8.1	0.96

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-19.8	-20.0	10.6	3.47	10.3	3.40	9.7	3.25	9.4	3.17	8.5	2.93	7.8	2.75	6.2	2.27
	-14.7	-15.0	12.4	3.74	12.0	3.66	11.3	3.50	11.0	3.42	9.9	3.15	9.1	2.93	7.1	2.34
	-9.6	-10.0	12.9	3.47	12.4	3.38	11.6	3.18	11.2	3.09	10.0	2.79	9.1	2.59	7.1	2.08
	-4.4	-5.0	12.9	3.08	12.4	3.00	11.6	2.83	11.2	2.75	10.0	2.50	9.1	2.32	7.1	1.87
	-1.8	-2.5	12.9	2.87	12.4	2.80	11.6	2.66	11.2	2.59	10.0	2.37	9.1	2.21	7.1	1.78
	0.8	0.0	12.9	2.64	12.4	2.58	11.6	2.46	11.2	2.39	10.0	2.19	9.1	2.05	7.1	1.68
	2.8	2.0	12.9	2.48	12.4	2.42	11.6	2.30	11.2	2.24	10.0	2.06	9.1	1.92	7.1	1.57
	6.0	5.0	12.9	2.27	12.4	2.22	11.6	2.11	11.2	2.05	10.0	1.88	9.1	1.75	7.1	1.42
	7.0	6.0	12.9	2.22	12.4	2.16	11.6	2.05	11.2	1.99	10.0	1.82	9.1	1.70	7.1	1.38
	8.6	7.5	12.9	2.10	12.4	2.05	11.6	1.95	11.2	1.90	10.0	1.73	9.1	1.62	7.1	1.32
	11.2	10.0	12.9	1.90	12.4	1.86	11.6	1.78	11.2	1.73	10.0	1.59	9.1	1.50	7.1	1.23
	16.4	15.0	12.9	1.42	12.4	1.40	11.6	1.36	11.2	1.33	10.0	1.25	9.1	1.19	7.1	1.01
	24.0	18.0	12.9	1.17	12.4	1.14	11.6	1.07	11.2	1.04	10.0	0.97	9.1	0.92	7.1	0.79

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-19.8	-20.0	10.9	3.52	10.6	3.45	10.0	3.29	9.6	3.20	8.5	2.91	7.8	2.71	6.0	2.18
	-14.7	-15.0	11.0	3.14	10.7	3.06	10.0	2.90	9.6	2.82	8.5	2.57	7.8	2.40	6.0	1.95
	-9.6	-10.0	11.0	2.79	10.7	2.73	10.0	2.59	9.6	2.52	8.5	2.30	7.8	2.15	6.0	1.75
	-4.4	-5.0	11.0	2.49	10.7	2.44	10.0	2.33	9.6	2.27	8.5	2.09	7.8	1.95	6.0	1.58
	-1.8	-2.5	11.0	2.29	10.7	2.24	10.0	2.15	9.6	2.10	8.5	1.94	7.8	1.83	6.0	1.51
	0.8	0.0	11.0	2.12	10.7	2.07	10.0	1.98	9.6	1.94	8.5	1.79	7.8	1.69	6.0	1.40
	2.8	2.0	11.0	2.00	10.7	1.96	10.0	1.87	9.6	1.82	8.5	1.68	7.8	1.58	6.0	1.32
	6.0	5.0	11.0	1.84	10.7	1.80	10.0	1.72	9.6	1.67	8.5	1.54	7.8	1.45	6.0	1.19
	7.0	6.0	11.0	1.77	10.7	1.73	10.0	1.66	9.6	1.62	8.5	1.49	7.8	1.40	6.0	1.16
	8.6	7.5	11.0	1.66	10.7	1.63	10.0	1.57	9.6	1.53	8.5	1.42	7.8	1.34	6.0	1.12
	11.2	10.0	11.0	1.47	10.7	1.45	10.0	1.40	9.6	1.38	8.5	1.30	7.8	1.23	6.0	1.04
	16.4	15.0	11.0	1.05	10.7	1.04	10.0	1.03	9.6	1.02	8.5	0.98	7.8	0.94	6.0	0.83
	24.0	18.0	11.0	1.03	10.7	1.00	10.0	0.94	9.6	0.92	8.5	0.83	7.8	0.78	6.0	0.64

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-5LE2E5, U-5LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-19.8	-20.0	9.2	2.78	8.9	2.72	8.3	2.59	8.0	2.53	7.1	2.32	6.5	2.17	5.0	1.78
	-14.7	-15.0	9.2	2.48	8.9	2.43	8.3	2.32	8.0	2.26	7.1	2.08	6.5	1.95	5.0	1.60
	-9.6	-10.0	9.2	2.26	8.9	2.20	8.3	2.10	8.0	2.05	7.1	1.88	6.5	1.76	5.0	1.45
	-4.4	-5.0	9.2	1.95	8.9	1.91	8.3	1.84	8.0	1.81	7.1	1.68	6.5	1.59	5.0	1.32
	-1.8	-2.5	9.2	1.80	8.9	1.77	8.3	1.70	8.0	1.67	7.1	1.55	6.5	1.47	5.0	1.24
	0.8	0.0	9.2	1.68	8.9	1.64	8.3	1.58	8.0	1.55	7.1	1.44	6.5	1.36	5.0	1.15
	2.8	2.0	9.2	1.58	8.9	1.56	8.3	1.50	8.0	1.46	7.1	1.36	6.5	1.28	5.0	1.08
	6.0	5.0	9.2	1.42	8.9	1.40	8.3	1.35	8.0	1.33	7.1	1.24	6.5	1.17	5.0	0.98
	7.0	6.0	9.2	1.36	8.9	1.34	8.3	1.30	8.0	1.28	7.1	1.20	6.5	1.14	5.0	0.96
	8.6	7.5	9.2	1.26	8.9	1.25	8.3	1.22	8.0	1.20	7.1	1.13	6.5	1.08	5.0	0.92
	11.2	10.0	9.2	1.09	8.9	1.08	8.3	1.07	8.0	1.06	7.1	1.02	6.5	0.98	5.0	0.86
	16.4	15.0	9.2	0.88	8.9	0.86	8.3	0.81	8.0	0.79	7.1	0.75	6.5	0.73	5.0	0.67
	24.0	18.0	9.2	0.88	8.9	0.86	8.3	0.81	8.0	0.79	7.1	0.72	6.5	0.67	5.0	0.56

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-19.8	-20.0	7.3	2.14	7.1	2.10	6.6	2.01	6.4	1.97	5.7	1.82	5.2	1.71	4.0	1.42
	-14.7	-15.0	7.3	1.94	7.1	1.90	6.6	1.81	6.4	1.77	5.7	1.64	5.2	1.54	4.0	1.29
	-9.6	-10.0	7.3	1.74	7.1	1.71	6.6	1.65	6.4	1.61	5.7	1.49	5.2	1.40	4.0	1.17
	-4.4	-5.0	7.3	1.49	7.1	1.46	6.6	1.42	6.4	1.39	5.7	1.31	5.2	1.25	4.0	1.06
	-1.8	-2.5	7.3	1.38	7.1	1.36	6.6	1.31	6.4	1.29	5.7	1.21	5.2	1.15	4.0	0.99
	0.8	0.0	7.3	1.29	7.1	1.27	6.6	1.22	6.4	1.20	5.7	1.12	5.2	1.07	4.0	0.91
	2.8	2.0	7.3	1.20	7.1	1.18	6.6	1.15	6.4	1.13	5.7	1.06	5.2	1.01	4.0	0.86
	6.0	5.0	7.3	1.04	7.1	1.04	6.6	1.02	6.4	1.01	5.7	0.96	5.2	0.92	4.0	0.79
	7.0	6.0	7.3	0.99	7.1	0.98	6.6	0.97	6.4	0.96	5.7	0.93	5.2	0.89	4.0	0.77
	8.6	7.5	7.3	0.90	7.1	0.90	6.6	0.90	6.4	0.90	5.7	0.87	5.2	0.84	4.0	0.74
	11.2	10.0	7.3	0.77	7.1	0.78	6.6	0.78	6.4	0.78	5.7	0.77	5.2	0.76	4.0	0.68
	16.4	15.0	7.3	0.74	7.1	0.72	6.6	0.68	6.4	0.66	5.7	0.61	5.2	0.57	4.0	0.53
	24.0	18.0	7.3	0.74	7.1	0.72	6.6	0.68	6.4	0.66	5.7	0.61	5.2	0.57	4.0	0.48

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-19.8	-20.0	5.5	1.58	5.3	1.55	5.0	1.49	4.8	1.46	4.3	1.36	3.9	1.29	3.0	1.08
	-14.7	-15.0	5.5	1.43	5.3	1.41	5.0	1.35	4.8	1.32	4.3	1.23	3.9	1.16	3.0	0.98
	-9.6	-10.0	5.5	1.26	5.3	1.24	5.0	1.21	4.8	1.19	4.3	1.12	3.9	1.06	3.0	0.90
	-4.4	-5.0	5.5	1.08	5.3	1.07	5.0	1.04	4.8	1.02	4.3	0.97	3.9	0.93	3.0	0.81
	-1.8	-2.5	5.5	1.00	5.3	0.99	5.0	0.96	4.8	0.95	4.3	0.89	3.9	0.86	3.0	0.75
	0.8	0.0	5.5	0.92	5.3	0.91	5.0	0.89	4.8	0.88	4.3	0.83	3.9	0.80	3.0	0.70
	2.8	2.0	5.5	0.84	5.3	0.84	5.0	0.83	4.8	0.82	4.3	0.79	3.9	0.76	3.0	0.66
	6.0	5.0	5.5	0.72	5.3	0.72	5.0	0.72	4.8	0.72	4.3	0.71	3.9	0.69	3.0	0.62
	7.0	6.0	5.5	0.68	5.3	0.68	5.0	0.69	4.8	0.69	4.3	0.68	3.9	0.66	3.0	0.60
	8.6	7.5	5.5	0.62	5.3	0.62	5.0	0.63	4.8	0.64	4.3	0.64	3.9	0.63	3.0	0.57
	11.2	10.0	5.5	0.59	5.3	0.58	5.0	0.55	4.8	0.55	4.3	0.56	3.9	0.56	3.0	0.53
	16.4	15.0	5.5	0.59	5.3	0.58	5.0	0.55	4.8	0.54	4.3	0.50	3.9	0.47	3.0	0.41
	24.0	18.0	5.5	0.59	5.3	0.58	5.0	0.55	4.8	0.54	4.3	0.50	3.9	0.47	3.0	0.40

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

1-5. U-6LE2E5, U-6LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-10.0	13.4	1.19	16.1	1.42	16.7	1.47	16.7	1.47	18.9	1.66	21.1	1.86	23.3	2.05
	-5.0	13.4	1.19	16.1	1.42	16.7	1.48	16.7	1.48	18.9	1.67	21.1	1.87	23.3	2.06
	0.0	13.4	1.19	16.1	1.43	16.7	1.49	16.7	1.49	18.9	1.69	21.1	1.89	23.3	2.08
	5.0	13.4	1.21	16.1	1.45	16.7	1.52	16.7	1.52	18.9	1.73	21.1	1.92	23.3	2.18
	10.0	13.4	1.25	16.1	1.50	16.7	1.70	16.7	1.70	18.9	2.10	21.1	2.56	23.3	3.07
	15.0	13.4	1.53	16.1	1.99	16.7	2.34	16.7	2.34	18.9	2.84	21.1	3.37	23.3	3.93
	20.0	13.4	2.05	16.1	2.60	16.7	2.94	16.7	2.94	18.9	3.48	21.1	4.04	23.3	4.64
	25.0	13.4	2.50	16.1	3.12	16.7	3.43	16.7	3.43	18.9	4.02	21.1	4.66	23.3	5.35
	30.0	13.4	2.89	16.1	3.59	16.7	3.95	16.7	3.95	18.9	4.66	21.1	5.43	22.9	6.02
	35.0	13.4	3.34	16.1	4.17	16.7	4.63	16.7	4.63	18.9	5.46	20.4	5.85	21.4	5.79
	40.0	13.4	3.90	15.8	4.78	15.8	4.78	15.8	4.78	16.7	4.79	17.8	4.84	19.2	4.94
	43.0	13.2	4.07	13.9	4.07	13.9	4.07	13.9	4.07	15.0	4.16	16.2	4.29	17.7	4.45
	46.0	11.9	3.49	12.2	3.49	12.2	3.49	12.2	3.49	13.4	3.65	14.8	3.84	16.4	4.05

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-10.0	12.4	1.11	14.9	1.31	16.3	1.44	16.3	1.44	18.4	1.63	20.6	1.82	22.8	2.00
	-5.0	12.4	1.10	14.9	1.31	16.3	1.44	16.3	1.44	18.4	1.63	20.6	1.83	22.8	2.01
	0.0	12.4	1.10	14.9	1.32	16.3	1.46	16.3	1.46	18.4	1.65	20.6	1.84	22.8	2.03
	5.0	12.4	1.12	14.9	1.34	16.3	1.48	16.3	1.48	18.4	1.68	20.6	1.88	22.8	2.06
	10.0	12.4	1.15	14.9	1.39	16.3	1.62	16.3	1.62	18.4	1.99	20.6	2.43	22.8	2.91
	15.0	12.4	1.40	14.9	1.81	16.3	2.24	16.3	2.24	18.4	2.71	20.6	3.22	22.8	3.76
	20.0	12.4	1.88	14.9	2.38	16.3	2.83	16.3	2.83	18.4	3.35	20.6	3.89	22.8	4.46
	25.0	12.4	2.30	14.9	2.86	16.3	3.32	16.3	3.32	18.4	3.88	20.6	4.49	22.8	5.14
	30.0	12.4	2.66	14.9	3.29	16.3	3.81	16.3	3.81	18.4	4.49	20.6	5.22	22.7	5.99
	35.0	12.4	3.07	14.9	3.82	16.3	4.47	16.3	4.47	18.4	5.26	20.2	5.83	21.1	5.75
	40.0	12.4	3.58	14.9	4.45	15.6	4.76	15.6	4.76	16.5	4.75	17.6	4.78	18.8	4.86
	43.0	12.2	3.81	13.7	4.03	13.7	4.03	13.7	4.03	14.7	4.10	15.9	4.21	17.3	4.36
	46.0	11.2	3.43	12.0	3.43	12.0	3.43	12.0	3.43	13.2	3.58	14.5	3.75	16.0	3.95

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-10.0	11.4	1.02	13.6	1.20	15.9	1.40	15.9	1.40	18.0	1.59	20.1	1.77	22.2	1.96
	-5.0	11.4	1.01	13.6	1.21	15.9	1.41	15.9	1.41	18.0	1.60	20.1	1.78	22.2	1.97
	0.0	11.4	1.01	13.6	1.22	15.9	1.42	15.9	1.42	18.0	1.61	20.1	1.80	22.2	1.98
	5.0	11.4	1.03	13.6	1.23	15.9	1.45	15.9	1.45	18.0	1.64	20.1	1.84	22.2	2.02
	10.0	11.4	1.06	13.6	1.28	15.9	1.54	15.9	1.54	18.0	1.89	20.1	2.30	22.2	2.75
	15.0	11.4	1.27	13.6	1.64	15.9	2.14	15.9	2.14	18.0	2.59	20.1	3.08	22.2	3.60
	20.0	11.4	1.71	13.6	2.16	15.9	2.73	15.9	2.73	18.0	3.22	20.1	3.75	22.2	4.29
	25.0	11.4	2.10	13.6	2.61	15.9	3.20	15.9	3.20	18.0	3.75	20.1	4.33	22.2	4.94
	30.0	11.4	2.43	13.6	3.00	15.9	3.68	15.9	3.68	18.0	4.32	20.1	5.02	22.2	5.77
	35.0	11.4	2.80	13.6	3.48	15.9	4.31	15.9	4.31	18.0	5.06	20.0	5.82	20.9	5.72
	40.0	11.4	3.26	13.6	4.05	15.5	4.75	15.5	4.75	16.3	4.71	17.3	4.73	18.5	4.78
	43.0	11.1	3.49	13.3	4.00	13.5	4.00	13.5	4.00	14.5	4.05	15.6	4.14	16.9	4.27
	46.0	10.4	3.38	11.2	3.38	11.8	3.38	11.8	3.38	12.9	3.51	14.2	3.66	15.6	3.85

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-10.0	10.3	0.93	12.4	1.10	14.5	1.28	15.5	1.37	17.6	1.55	19.6	1.73	21.7	1.91
	-5.0	10.3	0.92	12.4	1.10	14.5	1.28	15.5	1.37	17.6	1.56	19.6	1.74	21.7	1.92
	0.0	10.3	0.93	12.4	1.11	14.5	1.29	15.5	1.39	17.6	1.57	19.6	1.76	21.7	1.94
	5.0	10.3	0.94	12.4	1.12	14.5	1.31	15.5	1.41	17.6	1.60	19.6	1.79	21.7	1.97
	10.0	10.3	0.97	12.4	1.17	14.5	1.37	15.5	1.47	17.6	1.80	19.6	2.17	21.7	2.60
	15.0	10.3	1.15	12.4	1.47	14.5	1.84	15.5	2.04	17.6	2.47	19.6	2.94	21.7	3.43
	20.0	10.3	1.54	12.4	1.95	14.5	2.39	15.5	2.62	17.6	3.10	19.6	3.60	21.7	4.13
	25.0	10.3	1.91	12.4	2.36	14.5	2.84	15.5	3.09	17.6	3.62	19.6	4.17	21.7	4.75
	30.0	10.3	2.21	12.4	2.72	14.5	3.27	15.5	3.55	17.6	4.16	19.6	4.82	21.7	5.53
	35.0	10.3	2.54	12.4	3.14	14.5	3.79	15.5	4.15	17.6	4.87	19.6	5.66	20.6	5.69
	40.0	10.3	2.95	12.4	3.66	14.5	4.42	15.4	4.74	16.1	4.68	17.0	4.68	18.1	4.71
	43.0	10.1	3.16	12.2	3.87	12.9	3.96	13.3	3.96	14.2	4.00	15.3	4.07	16.5	4.18
	46.0	9.7	3.16	10.3	3.23	11.1	3.29	11.6	3.33	12.6	3.44	13.8	3.58	15.2	3.75

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-6LE2E5, U-6LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-10.0	9.3	0.84	11.2	1.00	13.0	1.15	14.0	1.23	15.8	1.39	17.7	1.56	19.5	1.72
	-5.0	9.3	0.84	11.2	0.99	13.0	1.15	14.0	1.24	15.8	1.40	17.7	1.57	19.5	1.73
	0.0	9.3	0.83	11.2	1.00	13.0	1.16	14.0	1.25	15.8	1.41	17.7	1.58	19.5	1.75
	5.0	9.3	0.84	11.2	1.01	13.0	1.18	14.0	1.26	15.8	1.43	17.7	1.61	19.5	1.78
	10.0	9.3	0.87	11.2	1.04	13.0	1.22	14.0	1.31	15.8	1.49	17.7	1.73	19.5	2.04
	15.0	9.3	0.98	11.2	1.24	13.0	1.53	14.0	1.68	15.8	2.03	17.7	2.40	19.5	2.80
	20.0	9.3	1.33	11.2	1.66	13.0	2.03	14.0	2.22	15.8	2.62	17.7	3.04	19.5	3.48
	25.0	9.3	1.67	11.2	2.05	13.0	2.46	14.0	2.67	15.8	3.11	17.7	3.56	19.5	4.04
	30.0	9.3	1.94	11.2	2.38	13.0	2.83	14.0	3.07	15.8	3.57	17.7	4.09	19.5	4.65
	35.0	9.3	2.22	11.2	2.73	13.0	3.27	14.0	3.56	15.8	4.14	17.7	4.78	19.5	5.45
	40.0	9.3	2.58	11.2	3.18	13.0	3.81	14.0	4.14	15.5	4.62	16.1	4.53	16.9	4.49
	43.0	9.1	2.77	10.9	3.40	12.5	3.90	12.7	3.87	13.4	3.84	14.2	3.84	15.2	3.88
	46.0	8.9	2.90	9.9	3.13	10.5	3.15	10.8	3.17	11.6	3.21	12.6	3.29	13.7	3.40

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-10.0	8.3	0.74	9.9	0.89	11.6	1.04	12.4	1.11	14.1	1.24	15.7	1.39	17.4	1.53
	-5.0	8.3	0.75	9.9	0.90	11.6	1.03	12.4	1.10	14.1	1.25	15.7	1.39	17.4	1.54
	0.0	8.3	0.74	9.9	0.89	11.6	1.03	12.4	1.11	14.1	1.25	15.7	1.40	17.4	1.55
	5.0	8.3	0.75	9.9	0.90	11.6	1.05	12.4	1.12	14.1	1.27	15.7	1.42	17.4	1.57
	10.0	8.3	0.77	9.9	0.92	11.6	1.08	12.4	1.15	14.1	1.31	15.7	1.47	17.4	1.63
	15.0	8.3	0.84	9.9	1.03	11.6	1.25	12.4	1.37	14.1	1.63	15.7	1.91	17.4	2.21
	20.0	8.3	1.13	9.9	1.40	11.6	1.69	12.4	1.84	14.1	2.16	15.7	2.50	17.4	2.86
	25.0	8.3	1.44	9.9	1.76	11.6	2.10	12.4	2.27	14.1	2.63	15.7	3.00	17.4	3.39
	30.0	8.3	1.69	9.9	2.05	11.6	2.43	12.4	2.63	14.1	3.03	15.7	3.45	17.4	3.89
	35.0	8.3	1.93	9.9	2.35	11.6	2.79	12.4	3.02	14.1	3.49	15.7	3.99	17.4	4.52
	40.0	8.3	2.23	9.9	2.72	11.6	3.24	12.4	3.51	14.1	4.07	15.4	4.49	16.0	4.37
	43.0	8.1	2.39	9.7	2.92	11.3	3.47	12.2	3.76	12.8	3.75	13.3	3.69	14.0	3.66
	46.0	7.9	2.54	9.5	3.07	10.0	3.06	10.2	3.05	10.8	3.04	11.5	3.06	12.3	3.10

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-10.0	7.2	0.65	8.7	0.78	10.1	0.91	10.9	0.97	12.3	1.10	13.7	1.21	15.2	1.34
	-5.0	7.2	0.66	8.7	0.79	10.1	0.91	10.9	0.96	12.3	1.09	13.7	1.22	15.2	1.35
	0.0	7.2	0.66	8.7	0.78	10.1	0.91	10.9	0.97	12.3	1.10	13.7	1.23	15.2	1.35
	5.0	7.2	0.66	8.7	0.79	10.1	0.91	10.9	0.98	12.3	1.11	13.7	1.24	15.2	1.37
	10.0	7.2	0.67	8.7	0.80	10.1	0.94	10.9	1.00	12.3	1.14	13.7	1.27	15.2	1.41
	15.0	7.2	0.72	8.7	0.87	10.1	1.01	10.9	1.10	12.3	1.28	13.7	1.49	15.2	1.70
	20.0	7.2	0.95	8.7	1.15	10.1	1.38	10.9	1.50	12.3	1.75	13.7	2.01	15.2	2.28
	25.0	7.2	1.22	8.7	1.48	10.1	1.75	10.9	1.89	12.3	2.18	13.7	2.48	15.2	2.79
	30.0	7.2	1.45	8.7	1.75	10.1	2.06	10.9	2.22	12.3	2.54	13.7	2.87	15.2	3.22
	35.0	7.2	1.66	8.7	2.00	10.1	2.35	10.9	2.53	12.3	2.91	13.7	3.29	15.2	3.70
	40.0	7.2	1.90	8.7	2.30	10.1	2.72	10.9	2.93	12.3	3.38	13.7	3.84	15.2	4.32
	43.0	7.1	2.04	8.5	2.47	9.9	2.92	10.6	3.15	12.1	3.62	12.6	3.63	13.1	3.53
	46.0	6.9	2.18	8.3	2.63	9.6	3.04	9.8	3.00	10.2	2.94	10.7	2.89	11.2	2.88

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-10.0	6.2	0.56	7.4	0.67	8.7	0.78	9.3	0.83	10.5	0.94	11.8	1.05	13.0	1.16
	-5.0	6.2	0.56	7.4	0.67	8.7	0.78	9.3	0.84	10.5	0.95	11.8	1.05	13.0	1.16
	0.0	6.2	0.57	7.4	0.68	8.7	0.78	9.3	0.83	10.5	0.94	11.8	1.05	13.0	1.16
	5.0	6.2	0.57	7.4	0.67	8.7	0.78	9.3	0.84	10.5	0.95	11.8	1.06	13.0	1.17
	10.0	6.2	0.57	7.4	0.69	8.7	0.80	9.3	0.86	10.5	0.97	11.8	1.08	13.0	1.20
	15.0	6.2	0.61	7.4	0.73	8.7	0.85	9.3	0.91	10.5	1.03	11.8	1.15	13.0	1.28
	20.0	6.2	0.78	7.4	0.94	8.7	1.10	9.3	1.19	10.5	1.37	11.8	1.56	13.0	1.76
	25.0	6.2	1.01	7.4	1.22	8.7	1.43	9.3	1.54	10.5	1.76	11.8	1.99	13.0	2.23
	30.0	6.2	1.22	7.4	1.46	8.7	1.71	9.3	1.83	10.5	2.09	11.8	2.35	13.0	2.61
	35.0	6.2	1.40	7.4	1.67	8.7	1.95	9.3	2.09	10.5	2.38	11.8	2.68	13.0	2.98
	40.0	6.2	1.60	7.4	1.91	8.7	2.24	9.3	2.41	10.5	2.75	11.8	3.10	13.0	3.46
	43.0	6.1	1.71	7.3	2.05	8.5	2.40	9.1	2.58	10.3	2.95	11.5	3.33	12.5	3.54
	46.0	6.0	1.83	7.1	2.20	8.3	2.57	8.9	2.76	9.7	2.92	10.0	2.82	10.4	2.75

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-6LE2E5, U-6LE2E8 (Cooling) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-10.0	5.2	0.47	6.2	0.56	7.2	0.65	7.8	0.70	8.8	0.79	9.8	0.88	10.9	0.97
	-5.0	5.2	0.47	6.2	0.56	7.2	0.66	7.8	0.70	8.8	0.79	9.8	0.89	10.9	0.98
	0.0	5.2	0.48	6.2	0.57	7.2	0.66	7.8	0.71	8.8	0.80	9.8	0.88	10.9	0.97
	5.0	5.2	0.48	6.2	0.58	7.2	0.66	7.8	0.70	8.8	0.79	9.8	0.88	10.9	0.98
	10.0	5.2	0.48	6.2	0.57	7.2	0.67	7.8	0.71	8.8	0.80	9.8	0.90	10.9	0.99
	15.0	5.2	0.50	6.2	0.60	7.2	0.70	7.8	0.74	8.8	0.84	9.8	0.94	10.9	1.03
	20.0	5.2	0.63	6.2	0.75	7.2	0.86	7.8	0.92	8.8	1.05	9.8	1.17	10.9	1.31
	25.0	5.2	0.83	6.2	0.98	7.2	1.13	7.8	1.21	8.8	1.38	9.8	1.54	10.9	1.71
	30.0	5.2	1.01	6.2	1.19	7.2	1.38	7.8	1.48	8.8	1.67	9.8	1.86	10.9	2.06
	35.0	5.2	1.16	6.2	1.37	7.2	1.58	7.8	1.69	8.8	1.91	9.8	2.13	10.9	2.36
	40.0	5.2	1.31	6.2	1.56	7.2	1.81	7.8	1.93	8.8	2.18	9.8	2.44	10.9	2.70
	43.0	5.1	1.40	6.1	1.66	7.1	1.93	7.6	2.07	8.6	2.34	9.6	2.62	10.6	2.90
	46.0	5.0	1.50	6.0	1.78	6.9	2.07	7.4	2.21	8.4	2.51	9.4	2.81	9.7	2.74

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-10.0	4.1	0.38	5.0	0.45	5.8	0.52	6.2	0.56	7.0	0.63	7.9	0.71	8.7	0.78
	-5.0	4.1	0.38	5.0	0.45	5.8	0.53	6.2	0.56	7.0	0.64	7.9	0.71	8.7	0.78
	0.0	4.1	0.38	5.0	0.46	5.8	0.53	6.2	0.57	7.0	0.64	7.9	0.72	8.7	0.79
	5.0	4.1	0.39	5.0	0.46	5.8	0.54	6.2	0.58	7.0	0.65	7.9	0.71	8.7	0.78
	10.0	4.1	0.40	5.0	0.46	5.8	0.53	6.2	0.57	7.0	0.64	7.9	0.72	8.7	0.79
	15.0	4.1	0.40	5.0	0.48	5.8	0.55	6.2	0.59	7.0	0.67	7.9	0.74	8.7	0.82
	20.0	4.1	0.51	5.0	0.58	5.8	0.66	6.2	0.70	7.0	0.77	7.9	0.85	8.7	0.94
	25.0	4.1	0.66	5.0	0.76	5.8	0.87	6.2	0.92	7.0	1.03	7.9	1.14	8.7	1.25
	30.0	4.1	0.81	5.0	0.94	5.8	1.08	6.2	1.14	7.0	1.28	7.9	1.42	8.7	1.56
	35.0	4.1	0.93	5.0	1.09	5.8	1.25	6.2	1.32	7.0	1.48	7.9	1.64	8.7	1.80
	40.0	4.1	1.05	5.0	1.23	5.8	1.41	6.2	1.50	7.0	1.68	7.9	1.87	8.7	2.05
	43.0	4.1	1.11	4.9	1.31	5.7	1.50	6.1	1.60	6.9	1.79	7.7	1.99	8.5	2.18
	46.0	4.0	1.19	4.8	1.40	5.6	1.61	6.0	1.71	6.7	1.92	7.5	2.13	8.3	2.34

Combination :Indoor/outdoor capacity ratio	Outdoor air temp. °CDB	Indoor air temp. : °CWB													
		14.0		16.0		18.0		19.0		21.0		23.0		25.0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-10.0	3.1	0.29	3.7	0.34	4.3	0.40	4.7	0.42	5.3	0.48	5.9	0.53	6.5	0.59
	-5.0	3.1	0.29	3.7	0.34	4.3	0.40	4.7	0.42	5.3	0.48	5.9	0.54	6.5	0.59
	0.0	3.1	0.29	3.7	0.35	4.3	0.40	4.7	0.43	5.3	0.48	5.9	0.54	6.5	0.59
	5.0	3.1	0.29	3.7	0.35	4.3	0.41	4.7	0.43	5.3	0.49	5.9	0.55	6.5	0.60
	10.0	3.1	0.30	3.7	0.36	4.3	0.41	4.7	0.44	5.3	0.50	5.9	0.54	6.5	0.60
	15.0	3.1	0.30	3.7	0.36	4.3	0.41	4.7	0.44	5.3	0.50	5.9	0.55	6.5	0.61
	20.0	3.1	0.37	3.7	0.42	4.3	0.47	4.7	0.50	5.3	0.55	5.9	0.61	6.5	0.66
	25.0	3.1	0.50	3.7	0.57	4.3	0.64	4.7	0.67	5.3	0.73	5.9	0.80	6.5	0.86
	30.0	3.1	0.62	3.7	0.71	4.3	0.80	4.7	0.84	5.3	0.93	5.9	1.02	6.5	1.10
	35.0	3.1	0.71	3.7	0.82	4.3	0.93	4.7	0.98	5.3	1.09	5.9	1.20	6.5	1.30
	40.0	3.1	0.80	3.7	0.93	4.3	1.05	4.7	1.11	5.3	1.24	5.9	1.36	6.5	1.48
	43.0	3.0	0.84	3.6	0.98	4.3	1.11	4.6	1.18	5.2	1.31	5.8	1.44	6.4	1.57
	46.0	3.0	0.90	3.6	1.04	4.2	1.18	4.5	1.25	5.1	1.39	5.7	1.53	6.2	1.67

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

8

1. Capacity of Outdoor Unit

1-6. U-6LE2E5, U-6LE2E8 (Heating)

Capacity Ratio 30-130%

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-19.8	-20.0	11.3	4.40	11.0	4.31	10.4	4.12	10.1	4.02	9.2	3.70	8.6	3.47	6.9	2.85
	-14.7	-15.0	13.1	4.77	12.8	4.67	12.1	4.45	11.8	4.34	10.7	3.99	10.0	3.74	8.0	3.07
	-9.6	-10.0	15.2	5.19	14.8	5.08	14.0	4.84	13.7	4.72	12.5	4.33	11.6	4.06	9.4	3.31
	-4.4	-5.0	17.4	5.60	17.2	5.57	16.3	5.30	15.9	5.16	14.5	4.71	13.6	4.40	11.0	3.56
	-1.8	-2.5	18.2	5.60	18.1	5.60	17.6	5.53	17.1	5.38	15.6	4.90	14.5	4.50	11.2	3.40
	0.8	0.0	19.1	5.60	18.9	5.60	18.4	5.51	17.7	5.28	15.8	4.62	14.5	4.20	11.2	3.19
	2.8	2.0	19.8	5.60	19.6	5.60	18.4	5.20	17.7	4.99	15.8	4.38	14.5	3.98	11.2	3.04
	6.0	5.0	20.4	5.36	19.7	5.16	18.4	4.78	17.7	4.59	15.8	4.05	14.5	3.69	11.2	2.81
	7.0	6.0	20.4	5.21	19.7	5.02	18.4	4.66	17.7	4.48	15.8	3.92	14.5	3.57	11.2	2.71
	8.6	7.5	20.4	4.95	19.7	4.76	18.4	4.39	17.7	4.22	15.8	3.69	14.5	3.36	11.2	2.56
	11.2	10.0	20.4	4.42	19.7	4.26	18.4	3.94	17.7	3.78	15.8	3.33	14.5	3.03	11.2	2.33
	16.4	15.0	20.4	3.63	19.7	3.50	18.4	3.26	17.7	3.14	15.8	2.79	14.5	2.56	11.2	2.00
	24.0	18.0	20.4	3.22	19.7	3.12	18.4	2.91	17.7	2.81	15.8	2.50	14.5	2.31	11.2	1.81

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
120%	-19.8	-20.0	11.3	4.36	11.0	4.27	10.4	4.08	10.1	3.98	9.2	3.66	8.5	3.44	6.8	2.82
	-14.7	-15.0	13.1	4.72	12.7	4.62	12.1	4.41	11.7	4.30	10.7	3.96	9.9	3.71	8.0	3.04
	-9.6	-10.0	15.2	5.14	14.8	5.03	14.0	4.80	13.6	4.67	12.4	4.29	11.6	4.02	9.4	3.28
	-4.4	-5.0	17.5	5.60	17.2	5.51	16.3	5.25	15.9	5.11	14.5	4.67	13.5	4.36	10.9	3.51
	-1.8	-2.5	18.3	5.60	18.2	5.60	17.6	5.48	17.1	5.33	15.4	4.76	14.1	4.33	10.9	3.29
	0.8	0.0	19.2	5.60	19.0	5.60	18.0	5.27	17.3	5.06	15.4	4.44	14.1	4.04	10.9	3.09
	2.8	2.0	19.9	5.58	19.3	5.38	18.0	4.98	17.3	4.78	15.4	4.21	14.1	3.84	10.9	2.94
	6.0	5.0	19.9	5.13	19.3	4.95	18.0	4.59	17.3	4.42	15.4	3.89	14.1	3.55	10.9	2.71
	7.0	6.0	19.9	4.99	19.3	4.81	18.0	4.45	17.3	4.27	15.4	3.75	14.1	3.41	10.9	2.61
	8.6	7.5	19.9	4.69	19.3	4.52	18.0	4.18	17.3	4.01	15.4	3.53	14.1	3.21	10.9	2.46
	11.2	10.0	19.9	4.19	19.3	4.04	18.0	3.75	17.3	3.60	15.4	3.18	14.1	2.91	10.9	2.25
	16.4	15.0	19.9	3.46	19.3	3.35	18.0	3.12	17.3	3.01	15.4	2.68	14.1	2.46	10.9	1.93
	24.0	18.0	19.9	3.06	19.3	2.96	18.0	2.77	17.3	2.68	15.4	2.39	14.1	2.21	10.9	1.75

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
110%	-19.8	-20.0	11.3	4.32	11.0	4.23	10.4	4.04	10.1	3.94	9.1	3.63	8.5	3.41	6.8	2.80
	-14.7	-15.0	13.0	4.68	12.7	4.58	12.0	4.37	11.7	4.26	10.6	3.92	9.9	3.67	8.0	3.01
	-9.6	-10.0	15.1	5.09	14.8	4.98	14.0	4.75	13.6	4.63	12.4	4.25	11.6	3.98	9.3	3.25
	-4.4	-5.0	17.6	5.59	17.2	5.46	16.3	5.19	15.8	5.06	14.5	4.62	13.5	4.31	10.6	3.38
	-1.8	-2.5	18.4	5.60	18.3	5.60	17.5	5.42	16.9	5.20	15.0	4.57	13.8	4.16	10.6	3.17
	0.8	0.0	19.3	5.60	18.8	5.45	17.5	5.04	16.9	4.84	15.0	4.26	13.8	3.89	10.6	2.98
	2.8	2.0	19.4	5.33	18.8	5.14	17.5	4.77	16.9	4.59	15.0	4.05	13.8	3.70	10.6	2.85
	6.0	5.0	19.4	4.91	18.8	4.74	17.5	4.40	16.9	4.23	15.0	3.72	13.8	3.40	10.6	2.61
	7.0	6.0	19.4	4.74	18.8	4.57	17.5	4.23	16.9	4.06	15.0	3.58	13.8	3.27	10.6	2.51
	8.6	7.5	19.4	4.44	18.8	4.28	17.5	3.97	16.9	3.81	15.0	3.36	13.8	3.07	10.6	2.37
	11.2	10.0	19.4	3.97	18.8	3.84	17.5	3.57	16.9	3.44	15.0	3.05	13.8	2.79	10.6	2.17
	16.4	15.0	19.4	3.29	18.8	3.19	17.5	2.98	16.9	2.88	15.0	2.57	13.8	2.37	10.6	1.87
	24.0	18.0	19.4	2.89	18.8	2.80	17.5	2.63	16.9	2.54	15.0	2.29	13.8	2.11	10.6	1.69

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	11.2	4.28	10.9	4.19	10.3	4.01	10.0	3.91	9.1	3.60	8.5	3.38	6.8	2.77
	-14.7	-15.0	13.0	4.63	12.7	4.53	12.0	4.33	11.7	4.22	10.6	3.88	9.9	3.64	7.9	2.99
	-9.6	-10.0	15.1	5.04	14.7	4.93	14.0	4.70	13.6	4.59	12.4	4.21	11.5	3.94	9.3	3.22
	-4.4	-5.0	17.6	5.54	17.2	5.41	16.3	5.14	15.8	5.01	14.4	4.57	13.4	4.27	10.4	3.26
	-1.8	-2.5	18.5	5.60	18.3	5.59	17.1	5.18	16.5	4.97	14.7	4.38	13.4	3.99	10.4	3.06
	0.8	0.0	18.9	5.39	18.3	5.20	17.1	4.82	16.5	4.64	14.7	4.10	13.4	3.74	10.4	2.88
	2.8	2.0	18.9	5.10	18.3	4.92	17.1	4.57	16.5	4.40	14.7	3.89	13.4	3.56	10.4	2.75
	6.0	5.0	18.9	4.67	18.3	4.51	17.1	4.19	16.5	4.03	14.7	3.56	13.4	3.25	10.4	2.50
	7.0	6.0	18.9	4.48	18.3	4.33	17.1	4.02	16.5	3.86	14.7	3.41	13.4	3.12	10.4	2.41
	8.6	7.5	18.9	4.19	18.3	4.04	17.1	3.76	16.5	3.62	14.7	3.20	13.4	2.94	10.4	2.28
	11.2	10.0	18.9	3.77	18.3	3.64	17.1	3.40	16.5	3.28	14.7	2.92	13.4	2.68	10.4	2.10
	16.4	15.0	18.9	3.14	18.3	3.04	17.1	2.85	16.5	2.75	14.7	2.46	13.4	2.27	10.4	1.79
	24.0	18.0	18.9	2.70	18.3	2.62	17.1	2.45	16.5	2.37	14.7	2.11	13.4	1.94	10.4	1.51

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

1. Capacity of Outdoor Unit

U-6LE2E5, U-6LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	11.1	4.13	10.8	4.04	10.2	3.86	9.9	3.77	9.0	3.47	8.3	3.26	6.6	2.68
	-14.7	-15.0	12.9	4.46	12.6	4.37	11.9	4.17	11.6	4.07	10.5	3.74	9.7	3.51	7.8	2.88
	-9.6	-10.0	15.0	4.86	14.7	4.76	13.9	4.53	13.5	4.42	12.2	4.06	11.4	3.80	9.1	3.10
	-4.4	-5.0	17.1	5.11	16.5	4.94	15.4	4.61	14.9	4.44	13.2	3.95	12.1	3.62	9.4	2.82
	-1.8	-2.5	17.1	4.77	16.5	4.62	15.4	4.31	14.9	4.16	13.2	3.70	12.1	3.40	9.4	2.65
	0.8	0.0	17.1	4.47	16.5	4.33	15.4	4.04	14.9	3.90	13.2	3.48	12.1	3.20	9.4	2.51
	2.8	2.0	17.1	4.23	16.5	4.09	15.4	3.82	14.9	3.69	13.2	3.30	12.1	3.04	9.4	2.40
	6.0	5.0	17.1	3.76	16.5	3.65	15.4	3.44	14.9	3.33	13.2	2.99	12.1	2.76	9.4	2.17
	7.0	6.0	17.1	3.69	16.5	3.57	15.4	3.34	14.9	3.22	13.2	2.88	12.1	2.65	9.4	2.09
	8.6	7.5	17.1	3.46	16.5	3.36	15.4	3.14	14.9	3.04	13.2	2.72	12.1	2.51	9.4	1.98
	11.2	10.0	17.1	3.16	16.5	3.06	15.4	2.87	14.9	2.78	13.2	2.50	12.1	2.31	9.4	1.84
	16.4	15.0	17.1	2.59	16.5	2.52	15.4	2.38	14.9	2.30	13.2	2.09	12.1	1.94	9.4	1.55
	24.0	18.0	17.1	2.14	16.5	2.08	15.4	1.97	14.9	1.91	13.2	1.73	12.1	1.60	9.4	1.28

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	11.1	4.01	10.8	3.92	10.1	3.75	9.8	3.66	8.9	3.38	8.2	3.17	6.5	2.61
	-14.7	-15.0	12.9	4.33	12.5	4.24	11.8	4.05	11.5	3.95	10.4	3.64	9.6	3.41	7.7	2.80
	-9.6	-10.0	15.1	4.72	14.7	4.62	13.7	4.33	13.2	4.19	11.7	3.75	10.8	3.46	8.3	2.72
	-4.4	-5.0	15.2	4.18	14.7	4.06	13.7	3.81	13.2	3.68	11.7	3.31	10.8	3.05	8.3	2.42
	-1.8	-2.5	15.2	3.93	14.7	3.82	13.7	3.59	13.2	3.47	11.7	3.12	10.8	2.88	8.3	2.29
	0.8	0.0	15.2	3.62	14.7	3.52	13.7	3.33	13.2	3.23	11.7	2.93	10.8	2.72	8.3	2.18
	2.8	2.0	15.2	3.39	14.7	3.30	13.7	3.12	13.2	3.03	11.7	2.75	10.8	2.56	8.3	2.06
	6.0	5.0	15.2	3.08	14.7	3.00	13.7	2.84	13.2	2.76	11.7	2.50	10.8	2.32	8.3	1.86
	7.0	6.0	15.2	3.02	14.7	2.93	13.7	2.76	13.2	2.68	11.7	2.42	10.8	2.24	8.3	1.80
	8.6	7.5	15.2	2.86	14.7	2.78	13.7	2.62	13.2	2.54	11.7	2.30	10.8	2.13	8.3	1.71
	11.2	10.0	15.2	2.61	14.7	2.54	13.7	2.40	13.2	2.33	11.7	2.12	10.8	1.97	8.3	1.59
	16.4	15.0	15.2	2.05	14.7	2.01	13.7	1.92	13.2	1.87	11.7	1.72	10.8	1.62	8.3	1.33
	24.0	18.0	15.2	1.63	14.7	1.60	13.7	1.53	13.2	1.49	11.7	1.37	10.8	1.29	8.3	1.06

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	-19.8	-20.0	11.1	3.95	10.8	3.87	10.2	3.70	9.9	3.61	8.9	3.33	8.2	3.13	6.5	2.58
	-14.7	-15.0	13.0	4.27	12.7	4.18	11.9	3.99	11.6	3.88	10.3	3.51	9.4	3.25	7.3	2.59
	-9.6	-10.0	13.3	3.85	12.8	3.74	12.0	3.53	11.6	3.42	10.3	3.10	9.4	2.87	7.3	2.30
	-4.4	-5.0	13.3	3.41	12.8	3.32	12.0	3.14	11.6	3.05	10.3	2.77	9.4	2.57	7.3	2.07
	-1.8	-2.5	13.3	3.18	12.8	3.11	12.0	2.95	11.6	2.88	10.3	2.63	9.4	2.45	7.3	1.97
	0.8	0.0	13.3	2.93	12.8	2.86	12.0	2.72	11.6	2.65	10.3	2.43	9.4	2.27	7.3	1.86
	2.8	2.0	13.3	2.75	12.8	2.68	12.0	2.55	11.6	2.49	10.3	2.28	9.4	2.13	7.3	1.74
	6.0	5.0	13.3	2.52	12.8	2.46	12.0	2.34	11.6	2.28	10.3	2.08	9.4	1.94	7.3	1.58
	7.0	6.0	13.3	2.46	12.8	2.40	12.0	2.27	11.6	2.21	10.3	2.01	9.4	1.88	7.3	1.53
	8.6	7.5	13.3	2.33	12.8	2.27	12.0	2.16	11.6	2.10	10.3	1.92	9.4	1.79	7.3	1.47
	11.2	10.0	13.3	2.10	12.8	2.06	12.0	1.97	11.6	1.92	10.3	1.77	9.4	1.66	7.3	1.37
	16.4	15.0	13.3	1.57	12.8	1.55	12.0	1.50	11.6	1.47	10.3	1.38	9.4	1.32	7.3	1.11
	24.0	18.0	13.3	1.30	12.8	1.26	12.0	1.19	11.6	1.15	10.3	1.07	9.4	1.02	7.3	0.87

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
60%	-19.8	-20.0	11.4	3.96	11.0	3.86	10.3	3.65	9.9	3.55	8.8	3.22	8.1	3.00	6.2	2.42
	-14.7	-15.0	11.4	3.48	11.0	3.39	10.3	3.22	9.9	3.13	8.8	2.85	8.1	2.66	6.2	2.16
	-9.6	-10.0	11.4	3.10	11.0	3.02	10.3	2.87	9.9	2.79	8.8	2.55	8.1	2.38	6.2	1.94
	-4.4	-5.0	11.4	2.76	11.0	2.70	10.3	2.58	9.9	2.52	8.8	2.31	8.1	2.16	6.2	1.75
	-1.8	-2.5	11.4	2.54	11.0	2.49	10.3	2.38	9.9	2.33	8.8	2.15	8.1	2.02	6.2	1.67
	0.8	0.0	11.4	2.34	11.0	2.30	10.3	2.20	9.9	2.14	8.8	1.98	8.1	1.87	6.2	1.55
	2.8	2.0	11.4	2.21	11.0	2.17	10.3	2.07	9.9	2.02	8.8	1.86	8.1	1.75	6.2	1.46
	6.0	5.0	11.4	2.03	11.0	1.99	10.3	1.90	9.9	1.85	8.8	1.71	8.1	1.60	6.2	1.32
	7.0	6.0	11.4	1.96	11.0	1.92	10.3	1.84	9.9	1.79	8.8	1.65	8.1	1.55	6.2	1.29
	8.6	7.5	11.4	1.84	11.0	1.81	10.3	1.74	9.9	1.70	8.8	1.57	8.1	1.48	6.2	1.24
	11.2	10.0	11.4	1.62	11.0	1.60	10.3	1.55	9.9	1.53	8.8	1.43	8.1	1.36	6.2	1.15
	16.4	15.0	11.4	1.16	11.0	1.15	10.3	1.14	9.9	1.13	8.8	1.08	8.1	1.04	6.2	0.91
	24.0	18.0	11.4	1.14	11.0	1.11	10.3	1.04	9.9	1.01	8.8	0.92	8.1	0.86	6.2	0.70

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

8

1. Capacity of Outdoor Unit

U-6LE2E5, U-6LE2E8 (Heating) **Capacity Ratio 30-130%**

TC: Total capacity (kW), PI: Power input (kW)

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
50%	-19.8	-20.0	9.5	3.08	9.2	3.01	8.6	2.87	8.3	2.80	7.3	2.57	6.7	2.40	5.2	1.97
	-14.7	-15.0	9.5	2.75	9.2	2.69	8.6	2.57	8.3	2.50	7.3	2.30	6.7	2.16	5.2	1.78
	-9.6	-10.0	9.5	2.50	9.2	2.44	8.6	2.33	8.3	2.27	7.3	2.08	6.7	1.95	5.2	1.60
	-4.4	-5.0	9.5	2.16	9.2	2.12	8.6	2.04	8.3	2.00	7.3	1.86	6.7	1.76	5.2	1.46
	-1.8	-2.5	9.5	1.99	9.2	1.96	8.6	1.88	8.3	1.84	7.3	1.72	6.7	1.63	5.2	1.37
	0.8	0.0	9.5	1.86	9.2	1.82	8.6	1.75	8.3	1.71	7.3	1.59	6.7	1.51	5.2	1.27
	2.8	2.0	9.5	1.76	9.2	1.72	8.6	1.66	8.3	1.62	7.3	1.50	6.7	1.42	5.2	1.19
	6.0	5.0	9.5	1.57	9.2	1.55	8.6	1.50	8.3	1.47	7.3	1.37	6.7	1.30	5.2	1.09
	7.0	6.0	9.5	1.50	9.2	1.48	8.6	1.44	8.3	1.41	7.3	1.32	6.7	1.26	5.2	1.06
	8.6	7.5	9.5	1.39	9.2	1.38	8.6	1.35	8.3	1.33	7.3	1.25	6.7	1.20	5.2	1.02
	11.2	10.0	9.5	1.20	9.2	1.20	8.6	1.18	8.3	1.17	7.3	1.13	6.7	1.08	5.2	0.95
	16.4	15.0	9.5	0.98	9.2	0.95	8.6	0.90	8.3	0.87	7.3	0.82	6.7	0.81	5.2	0.74
	24.0	18.0	9.5	0.98	9.2	0.95	8.6	0.90	8.3	0.87	7.3	0.79	6.7	0.74	5.2	0.61

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
40%	-19.8	-20.0	7.6	2.38	7.3	2.33	6.8	2.23	6.6	2.18	5.9	2.01	5.4	1.90	4.2	1.58
	-14.7	-15.0	7.6	2.14	7.3	2.10	6.8	2.01	6.6	1.96	5.9	1.81	5.4	1.71	4.2	1.42
	-9.6	-10.0	7.6	1.92	7.3	1.89	6.8	1.83	6.6	1.79	5.9	1.65	5.4	1.55	4.2	1.29
	-4.4	-5.0	7.6	1.64	7.3	1.62	6.8	1.57	6.6	1.54	5.9	1.45	5.4	1.38	4.2	1.17
	-1.8	-2.5	7.6	1.53	7.3	1.51	6.8	1.45	6.6	1.43	5.9	1.34	5.4	1.28	4.2	1.09
	0.8	0.0	7.6	1.42	7.3	1.40	6.8	1.35	6.6	1.33	5.9	1.24	5.4	1.18	4.2	1.01
	2.8	2.0	7.6	1.32	7.3	1.31	6.8	1.27	6.6	1.24	5.9	1.17	5.4	1.11	4.2	0.95
	6.0	5.0	7.6	1.15	7.3	1.15	6.8	1.13	6.6	1.11	5.9	1.06	5.4	1.02	4.2	0.88
	7.0	6.0	7.6	1.09	7.3	1.09	6.8	1.07	6.6	1.06	5.9	1.02	5.4	0.98	4.2	0.85
	8.6	7.5	7.6	1.00	7.3	1.00	6.8	0.99	6.6	0.99	5.9	0.96	5.4	0.93	4.2	0.82
	11.2	10.0	7.6	0.85	7.3	0.86	6.8	0.86	6.6	0.86	5.9	0.85	5.4	0.83	4.2	0.75
	16.4	15.0	7.6	0.82	7.3	0.79	6.8	0.75	6.6	0.73	5.9	0.67	5.4	0.63	4.2	0.58
	24.0	18.0	7.6	0.82	7.3	0.79	6.8	0.75	6.6	0.73	5.9	0.67	5.4	0.63	4.2	0.53

Combination :Indoor/outdoor capacity ratio	Outdoor air temp.		Indoor air temp. : °CDB													
			16.0		17.0		19.0		20.0		23.0		25.0		30.0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
30%	-19.8	-20.0	5.7	1.75	5.5	1.72	5.1	1.65	5.0	1.62	4.4	1.51	4.0	1.42	3.1	1.20
	-14.7	-15.0	5.7	1.59	5.5	1.56	5.1	1.50	5.0	1.46	4.4	1.36	4.0	1.29	3.1	1.09
	-9.6	-10.0	5.7	1.39	5.5	1.38	5.1	1.34	5.0	1.32	4.4	1.24	4.0	1.17	3.1	0.99
	-4.4	-5.0	5.7	1.20	5.5	1.18	5.1	1.14	5.0	1.13	4.4	1.07	4.0	1.02	3.1	0.89
	-1.8	-2.5	5.7	1.11	5.5	1.09	5.1	1.06	5.0	1.05	4.4	0.99	4.0	0.95	3.1	0.83
	0.8	0.0	5.7	1.02	5.5	1.01	5.1	0.98	5.0	0.97	4.4	0.92	4.0	0.88	3.1	0.77
	2.8	2.0	5.7	0.93	5.5	0.93	5.1	0.92	5.0	0.91	4.4	0.87	4.0	0.84	3.1	0.73
	6.0	5.0	5.7	0.79	5.5	0.80	5.1	0.80	5.0	0.80	4.4	0.78	4.0	0.76	3.1	0.68
	7.0	6.0	5.7	0.75	5.5	0.75	5.1	0.76	5.0	0.76	4.4	0.75	4.0	0.73	3.1	0.66
	8.6	7.5	5.7	0.68	5.5	0.69	5.1	0.70	5.0	0.70	4.4	0.70	4.0	0.69	3.1	0.63
	11.2	10.0	5.7	0.65	5.5	0.64	5.1	0.61	5.0	0.61	4.4	0.62	4.0	0.61	3.1	0.58
	16.4	15.0	5.7	0.65	5.5	0.64	5.1	0.61	5.0	0.59	4.4	0.55	4.0	0.51	3.1	0.44
	24.0	18.0	5.7	0.65	5.5	0.64	5.1	0.61	5.0	0.59	4.4	0.55	4.0	0.51	3.1	0.44

* Use the above table when choosing the model of outdoor unit.
See “1-7. Calculation of Actual Capacity of Indoor Unit” under the section 2.

2. Cooling Capacity of Indoor Unit

2-1. 4-Way Cassette (Type U2)

● S-22MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 14.5 m³/min																	
EVAPORATOR AIR INTAKE. TEMP		CONDENSER AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.4
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7	0.7
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	1.8
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.6
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.1	1.9
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.9
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.4
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9

8

2. Cooling Capacity of Indoor Unit

● S-28MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW	AIR FLOW RATE : 14.5 m³/min															
EVAPORATOR			CONDENSER															
AIR INTAKE. TEMP			AMBIENT TEMP. (°C)															
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9	0.9
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.4
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.5	2.3
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.7	1.6
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.2	2.1
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.8	2.7	2.4
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.8
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.3
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	1.8
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.4

2. Cooling Capacity of Indoor Unit

● S-36MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 14.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.3
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.7
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.3
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.8
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3	2.9
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.1	2.0
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.7	2.5
	31	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.2	3.1
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.4	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9	1.8
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.5	2.4	2.3
	31	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.1	3.0	2.9	2.8

2. Cooling Capacity of Indoor Unit

● S-45MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 15.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.1
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.8
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7	1.5
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.7
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.9	3.4
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8	3.6	3.5
	31	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.4	4.0	3.5
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2	2.1
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.6
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.2
	31	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.9	3.7
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.8
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5	2.3
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.2	3.1	2.9
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.6	3.5
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.6	1.5
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.2	2.1
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.9	2.8	2.6
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.4	3.3	3.2

2. Cooling Capacity of Indoor Unit

● S-56MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 16.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1
	23	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.8
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.7
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.1
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.7
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	3.9
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4	2.1
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.7
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6	3.3
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	3.9
	29	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.7	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.9
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.4
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.0
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.6
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.5	4.2
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	4.8	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.2
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	3.0	2.8
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.6	3.3
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.3	4.2	3.9
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.0	4.8	4.4
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.9
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.4
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.2	3.0
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.6
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6	4.4	4.3
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5	2.3	2.2
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.1	2.9	2.8
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.9	3.7	3.5	3.3
	31	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.3	4.1	4.0
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.0	1.8
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.8	2.6	2.4
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.3	3.2	3.0
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.1	4.0	3.8	3.6

2. Cooling Capacity of Indoor Unit

● S-60MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		6.0 kW AIR FLOW RATE : 21.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
15		TC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	21	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6
	23	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
16		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	21	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.2
	23	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	27	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
17		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.8
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.5
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.6	4.1
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
	29	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
18		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.4
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.2
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.0	4.3
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
	31	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
19		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.5
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.0
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.8
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.5
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.5	4.3
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.1	4.5
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.5
20		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	5.8	5.3	4.7
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.4
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.2
	27	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.3	4.1	3.9
	29	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.1	4.9	4.7
	31	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	5.3	4.7
21		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.0	5.5	4.9
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2	2.0
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.0	2.8
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.5
	29	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.7	4.5	4.3
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.5	5.3	4.9
22		TC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	6.6	6.2	5.7	5.1
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.8	2.6	2.4
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.3	3.1
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.3	4.1	3.9
	31	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.2	5.0	4.9	4.7
23		TC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.2	6.8	6.3	5.9	5.3
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.3	2.2	2.0
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.1	2.9	2.7
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.7	3.5
	31	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.8	4.6	4.5	4.3

2. Cooling Capacity of Indoor Unit

● S-73MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW	AIR FLOW RATE : 22.5 m³/min															
EVAPORATOR			CONDENSER															
AIR INTAKE. TEMP			AMBIENT TEMP. (°C)															
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.1
	23	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	4.7
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.7
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5
	25	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.9
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.3
	23	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.1
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	4.9
	27	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	29	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	2.8
	23	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.6
	25	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.4
	27	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6	5.2
	29	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	31	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.7	2.4
	23	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.5	3.3
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.1
	27	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.2	4.9
	29	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.0	5.5
	31	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.8
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.6
	27	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.0	4.8	4.4
	29	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	5.6	5.3
	31	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.4	5.7
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7	2.4
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.5	3.2
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.5	4.3	4.0
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.4	5.1	4.8
	31	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	6.2	6.0	5.7
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.1	2.8
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.1	3.9	3.6
	29	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.1	4.9	4.7	4.5
	31	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	5.9	5.7	5.5	5.3
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6	2.4
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.6	3.4	3.2
	29	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.6	4.5	4.3	4.0
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.4	5.3	5.1	4.8

2. Cooling Capacity of Indoor Unit

● S-90MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		9.0 kW AIR FLOW RATE : 23.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	21	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.1
	23	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	25	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	27	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
15		TC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
	21	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.9	4.7
	23	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.5
	25	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
	27	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
16		TC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
	21	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.2
	23	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.1
	25	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.4	5.9
	27	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
	29	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
17		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.3	6.2
	21	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.2	3.8
	23	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	4.6
	25	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	5.9	5.4
	27	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.8	6.2
	29	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.3	6.2
18		TC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.5	6.4
	21	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.8	3.3
	23	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.6	4.2
	25	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.5	5.0
	27	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.3	5.9
	29	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	7.2	6.4
	31	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.5	6.4
19		TC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.5	7.7	6.7
	21	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.3	2.9
	23	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.7
	25	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	5.0	4.6
	27	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.2	5.8	5.4
	29	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.0	6.7	6.3
	31	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.9	7.6	6.7
20		TC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	8.7	8.0	7.0
	23	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	3.7	3.3
	25	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.8	4.5	4.2
	27	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.7	5.4	5.0
	29	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.5	6.3	5.9
	31	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.4	7.1	6.7
21		TC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	9.7	9.0	8.2	7.3
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.3	2.9
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.4	4.1	3.7
	27	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.2	4.9	4.6
	29	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.3	6.1	5.8	5.4
	31	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.2	6.9	6.6	6.3
22		TC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.6	9.9	9.2	8.6	7.7
	25	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	3.9	3.7	3.4
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.7	4.5	4.2
	29	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	5.9	5.6	5.3	5.0
	31	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.7	6.5	6.2	5.9
23		TC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	10.9	10.2	9.5	8.9	8.0
	25	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.7	3.5	3.2	2.9
	27	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.5	4.3	4.1	3.8
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.4	5.1	4.9	4.6
	31	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.5	6.2	6.0	5.7	5.4

2. Cooling Capacity of Indoor Unit

● S-106MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		10.6 kW AIR FLOW RATE : 34.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	21	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.6
	23	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	25	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	27	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
15		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	21	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.1
	23	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	25	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
16		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	21	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4
	23	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	6.6
	25	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	27	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
17		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	21	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.3	4.8
	23	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.0
	25	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.8	7.2
	27	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	29	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
18		TC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	21	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.6	4.1
	23	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.8	5.4
	25	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	7.1	6.6
	27	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.3	7.6
	29	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	31	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
19		TC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
	21	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.0	3.5
	23	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.2	4.8
	25	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.8	6.4	6.0
	27	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.1	7.7	7.3
	29	SHC	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.3	8.9	7.9
	31	SHC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
20		TC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.3	9.4	8.3
	23	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	4.9	4.5	4.1
	25	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.1	5.8	5.4
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.4	7.0	6.6
	29	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.6	8.3	7.8
	31	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	9.9	9.4	8.3
21		TC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.4	10.6	9.7	8.6
	23	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.9	3.5
	25	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.5	5.1	4.7
	27	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.0	6.7	6.4	6.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.2	7.9	7.6	7.2
	31	SHC	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.5	9.2	8.8	8.5
22		TC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.5	11.7	10.9	10.1	9.0
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.8	4.5	4.1
	27	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.3	6.0	5.7	5.3
	29	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.5	7.2	7.0	6.6
	31	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.8	8.5	8.2	7.8
23		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	12.8	12.0	11.2	10.5	9.4
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.4	4.1	3.9	3.5
	27	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.9	5.6	5.3	5.1	4.7
	29	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.1	6.9	6.5	6.3	5.9
	31	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.4	8.1	7.8	7.5	7.2

8

2. Cooling Capacity of Indoor Unit

● S-140MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		14.0 kW AIR FLOW RATE : 36.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	21	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.1	8.0
	23	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	25	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	27	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
15		TC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
	21	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.7	7.2
	23	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.5
	25	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
16		TC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
	21	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.3	6.5
	23	SHC	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	7.9
	25	SHC	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.0	10.0	9.2
	27	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
	29	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
17		TC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.4	9.7
	21	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6	5.9
	23	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.0	7.2
	25	SHC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.3	8.6
	27	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.9	10.6	9.7
	29	SHC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.4	9.7
18		TC	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	12.9	11.6	10.0
	21	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	5.9	5.1
	23	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.2	6.5
	25	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.5	7.8
	27	SHC	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.4	9.8	9.2
	29	SHC	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.7	11.2	10.0
	31	SHC	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	12.9	11.6	10.0
19		TC	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.3	12.0	10.5
	21	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.5
	23	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.0	6.5	5.8
	25	SHC	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.3	7.8	7.2
	27	SHC	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.7	9.1	8.5
	29	SHC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.0	10.5	9.8
	31	SHC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.4	11.8	10.5
20		TC	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.7	13.6	12.5	10.9
	23	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.3	5.8	5.2
	25	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.6	7.1	6.5
	27	SHC	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.4	8.9	8.5	7.8
	29	SHC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.2	9.8	9.2
	31	SHC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.6	11.1	10.5
21		TC	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.1	14.0	12.8	11.4
	23	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.5	5.1	4.5
	25	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.3	6.8	6.4	5.8
	27	SHC	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.6	8.2	7.7	7.1
	29	SHC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	9.9	9.5	9.0	8.5
	31	SHC	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.2	10.8	10.4	9.8
22		TC	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.5	15.4	14.4	13.4	11.9
	25	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.9	6.5	6.1	5.7	5.2
	27	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.8	7.4	7.0	6.5
	29	SHC	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.6	9.2	8.8	8.4	7.8
	31	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.9	10.5	10.1	9.7	9.1
23		TC	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	16.9	15.8	14.8	13.8	12.5
	25	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.2	5.7	5.4	5.0	4.6
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.5	7.0	6.7	6.3	5.9
	29	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.8	8.4	8.0	7.7	7.2
	31	SHC	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.1	9.7	9.3	9.0	8.5

2. Cooling Capacity of Indoor Unit

● S-160MU2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		15.5 kW AIR FLOW RATE : 37.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
	21	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.5
	23	SHC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	9.7
	25	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
15		TC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	11.1	9.9
	21	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.8
	23	SHC	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.7	9.1
	25	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	9.9
	27	SHC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	11.1	9.9
16		TC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.2	10.3
	21	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.0
	23	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.3	9.3	8.5
	25	SHC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.7	9.8
	27	SHC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	10.3
	29	SHC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.2	10.3
17		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.3	12.6	10.7
	21	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	7.2	6.4
	23	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.9	8.6	7.7
	25	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.0	9.1
	27	SHC	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.6	11.4	10.5
	29	SHC	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.0	12.6	10.7
18		TC	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.3	12.9	11.1
	21	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.4	5.7
	23	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	7.8	7.0
	25	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	9.1	8.4
	27	SHC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.5	9.8
	29	SHC	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	11.9	11.1
	31	SHC	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.9	12.9	11.1
19		TC	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	14.7	13.3	11.6
	21	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.3	5.7	5.0
	23	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.6	7.1	6.3
	25	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.0	8.4	7.7
	27	SHC	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.4	9.8	9.0
	29	SHC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	11.7	11.2	10.4
	31	SHC	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.1	12.5	11.6
20		TC	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.3	15.0	13.8	12.1
	23	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.4	6.8	6.4	5.7
	25	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.2	7.7	7.0
	27	SHC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	9.6	9.0	8.4
	29	SHC	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.5	11.0	10.4	9.8
	31	SHC	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	12.9	12.3	11.8	11.1
21		TC	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	16.7	15.5	14.2	12.6
	23	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.6	6.1	5.6	5.0
	25	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.5	7.0	6.3
	27	SHC	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.7	9.3	8.8	8.3	7.7
	29	SHC	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	10.7	10.2	9.7	9.1
	31	SHC	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.0	11.6	11.0	10.4
22		TC	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.3	17.1	15.9	14.8	13.2
	25	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.6	7.2	6.7	6.2	5.7
	27	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.0	8.5	8.1	7.6	7.0
	29	SHC	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.4	9.9	9.4	9.0	8.4
	31	SHC	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.7	11.2	10.8	10.4	9.7
23		TC	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	18.7	17.5	16.4	15.3	13.8
	25	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.8	6.4	5.9	5.6	5.0
	27	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.2	7.7	7.3	6.9	6.4
	29	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.5	9.1	8.6	8.3	7.7
	31	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	10.9	10.5	10.0	9.6	9.1

8

2. Cooling Capacity of Indoor Unit

2-2. 4-Way Cassette 60×60 (Type Y2)

● S-15MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		1.5 kW AIR FLOW RATE : 8.9 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
15		TC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16		TC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	29	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
17		TC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	29	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
18		TC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	31	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
19		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	21	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	31	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
20		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	23	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.2
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
21		TC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	23	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
22		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3
	31	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
23		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.3
	25	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.3

8

2. Cooling Capacity of Indoor Unit

● S-22MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 9.1 m³/min																	
EVAPORATOR		CONDENSER																	
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.7
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.6
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.9
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.6

8

2. Cooling Capacity of Indoor Unit

● S-28MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW	AIR FLOW RATE : 9.3 m³/min															
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.4
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.6
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.3	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.3
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.4
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.2	2.1
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.2
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9

2. Cooling Capacity of Indoor Unit

● S-36MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 9.7 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.1
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.4
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.8
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.1
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.9
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.2
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.6
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9	1.8	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.4
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.2
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.7	1.5
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.6	2.5	2.4	2.3

2. Cooling Capacity of Indoor Unit

● S-45MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 10.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.8
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.2
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.0
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.7
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6	1.4
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.8
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.6	3.3
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.2	2.0
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.4
	29	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.0	2.7
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.1
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7	1.6	1.4
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.1	2.0	1.8
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.3	2.2
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	31	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.1	2.9
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.8	1.6
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.0
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.5	2.3
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.0	2.9	2.7
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8	1.7	1.5	1.4
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	1.9	1.8
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3	2.2
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.8	2.7	2.5

2. Cooling Capacity of Indoor Unit

● S-56MY2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 10.4 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.4
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1	2.8
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.2
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.6
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.2
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.8
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	1.9
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.3
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.7
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0	1.8
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.2
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.8	2.6
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.2	3.0
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6	3.4
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	3.8
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2	2.0
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.4
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6	3.4	3.2
	31	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.8	3.6
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.4	2.2
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.8	2.6
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.2	3.0
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.6	3.4
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.6	2.4
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.4	3.1	3.0	2.8
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8	3.5	3.4	3.2
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1	2.0	1.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.4	2.2
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.8	2.6
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.3	3.2	3.0

2. Cooling Capacity of Indoor Unit

2-3. 2-Way Cassette (Type L1)

● S-22ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 8.0 m³/min																	
EVAPORATOR		CONDENSER																	
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.7
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.9	0.8
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.1
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7

2. Cooling Capacity of Indoor Unit

● S-28ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW AIR FLOW RATE : 9.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.7
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1	1.0
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1	1.0
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.4
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.7
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.1	2.0
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.0	0.9
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.5
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8

8

2. Cooling Capacity of Indoor Unit

● S-36ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW	AIR FLOW RATE : 9.7 m³/min															
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.2
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5
	31	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.4	1.3
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	2.0
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.3
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.2	1.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.4
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.1
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.5
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7	1.6
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.2	1.1
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.4
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9	1.8
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.5	2.4	2.3	2.1

2. Cooling Capacity of Indoor Unit

● S-45ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 11.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.7	1.5
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	1.9
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.3
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7	1.5
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1	1.9
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5	2.3
	29	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0	2.7
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.4	3.1
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6	1.5	1.3
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.3	2.2
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	31	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.1	3.0
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.7	1.5
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.1	1.9
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5	2.3
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.0	2.9	2.7
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.7	1.6	1.5	1.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.1	2.0	1.9	1.7
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.4	2.3	2.1
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.8	2.7	2.5

8

2. Cooling Capacity of Indoor Unit

● S-56ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 11.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.1
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.6
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.5
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	2.9
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.8
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	1.9
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6	2.3
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.7
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.5
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	1.9	1.7
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.5
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	2.9
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.3
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.0	3.7
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.2	1.9
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.7	2.6	2.3
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.7
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.1
	31	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.5
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.1	1.9	1.7
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.3	2.1
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7	2.5
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.1	2.9
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.8	3.5	3.3
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.1	1.9
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.5	2.3
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1	2.9	2.7
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.3	3.1
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.9	1.7
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.5	2.3	2.1
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.9	2.7	2.5
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.3	3.1	2.9

2. Cooling Capacity of Indoor Unit

● S-73ML1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW AIR FLOW RATE : 19.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.1
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.6
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	3.7
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.5
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	2.9
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.8
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	1.9
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6	2.3
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.7
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.5
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	1.9	1.7
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.5
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	2.9
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.3
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.0	3.7
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.2	1.9
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.7	2.6	2.3
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.7
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.1
	31	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.5
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.1	1.9	1.7
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.3	2.1
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7	2.5
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.1	2.9
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.8	3.5	3.3
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.1	1.9
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.5	2.3
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1	2.9	2.7
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.3	3.1
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.9	1.7
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.5	2.3	2.1
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.9	2.7	2.5
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.3	3.1	2.9

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2. Cooling Capacity of Indoor Unit

2-4. Wall Mounted (Type K2)

● S-15MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		1.5 kW AIR FLOW RATE : 7.9 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
15		TC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16		TC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	29	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
17		TC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	29	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
18		TC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	21	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	31	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
19		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	21	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5
	23	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	31	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
20		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	23	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
21		TC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	23	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9
	29	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	31	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2
22		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	25	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
	29	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	31	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2
23		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.3
	25	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5
	27	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7
	29	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9
	31	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1

2. Cooling Capacity of Indoor Unit

● S-22MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 9.0 m³/min																	
EVAPORATOR		CONDENSER																	
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.9
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	0.9
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.8
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.7
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.2
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.8
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.3
	31	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.7
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1	1.1	1.0	1.0
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.4

8

2. Cooling Capacity of Indoor Unit

● S-28MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW AIR FLOW RATE : 9.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.1
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.4	1.3
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0	0.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.4
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.0
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.5
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.1
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1	1.0	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.4
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.0
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.3
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.5
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	1.9	1.8
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.1	1.0	0.9
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.2
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.4
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.7

2. Cooling Capacity of Indoor Unit

● S-36MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 10.9 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.2
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.3
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.4
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.0
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.7	1.6
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.1	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4	2.3	2.2
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3	1.2
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6	1.4
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9	1.7
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.4	2.2	2.2	2.0

8

2. Cooling Capacity of Indoor Unit

● S-45MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 14.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.8
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9	1.7
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.0
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.6
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.4
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.7
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.4	2.3	
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.5	3.3	
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.2	4.0	3.5
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6	1.5
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.0
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.4	3.2	3.1
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.9	3.8	3.6
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9	1.7
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.3
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	3.0	2.8
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.6	3.5	3.3
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7	1.6	1.5
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.2	2.0
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.7	2.5
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.3	3.2	3.1

2. Cooling Capacity of Indoor Unit

● S-56MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 16.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0
	23	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	3.0	2.7
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.3
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.2	3.7
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.5
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6
	27	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	3.9
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.7
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.3
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9
	29	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.8
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.4
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	3.0
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.6
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.2
	31	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	4.8	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.1
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.0	2.7
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.3
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.1	3.9
	31	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.9	4.7	4.4
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.9
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.4
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.4	3.2	3.0
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	4.0	3.8	3.6
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.6	4.3	4.2
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.3	2.2
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.9	2.7
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.5	3.3
	31	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.4	4.2	4.1	3.9
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.0	1.8
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.6	2.4
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.2	3.0
	31	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.9	3.8	3.6

2. Cooling Capacity of Indoor Unit

● S-73MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW AIR FLOW RATE : 19.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.1	3.9
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.5
	23	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.2
	25	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.9
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.1
	23	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.8
	25	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.9	4.5
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.0
	29	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.1	2.7
	23	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.8	3.4
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.5	4.1
	27	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.2	4.8
	29	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.2	6.0	5.2
	31	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.7	2.4
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4	3.1
	25	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.1	3.8
	27	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	4.8	4.5
	29	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6	5.3
	31	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.3	5.5
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.0	2.7
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.7	3.5
	27	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7	4.5	4.2
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.2	4.9
	31	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.1	5.9	5.6
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7	2.4
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.4	3.1
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.3	4.1	3.8
	29	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.8	4.5
	31	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.8	5.5	5.2
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.2	3.0	2.7
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.1	3.9	3.7	3.4
	29	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.6	4.4	4.1
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.3	5.1	4.9
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.8	2.6	2.4
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.5	3.3	3.1
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.2	4.0	3.8
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	5.1	4.9	4.7	4.5

2. Cooling Capacity of Indoor Unit

● S-106MK2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		10.6 kW AIR FLOW RATE : 21.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	21	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.5
	23	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.3
	25	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	27	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
15		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	21	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.0
	23	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.2	5.8
	25	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.6
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
16		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	21	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	4.6
	23	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.4
	25	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.2
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.7	7.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
17		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	21	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.2
	23	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.6	5.0
	25	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.4	5.8
	27	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.2	6.6
	29	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.0	7.3
18		TC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	21	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.4	3.8
	23	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.1	4.6
	25	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.9	5.4
	27	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	6.7	6.2
	29	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.5	7.0
	31	SHC	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.8	8.4	7.6
19		TC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
	21	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	3.9	3.4
	23	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.1	4.7	4.2
	25	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.9	5.5	5.0
	27	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.7	6.3	5.8
	29	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.5	7.1	6.6
	31	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.3	7.9	7.4
20		TC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.3	9.4	8.3
	23	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.7	4.3	3.8
	25	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.5	5.1	4.6
	27	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.2	5.9	5.4
	29	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.1	6.7	6.2
	31	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.5	7.0
21		TC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.4	10.6	9.7	8.6
	23	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.2	3.8	3.4
	25	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.0	4.6	4.2
	27	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.1	5.8	5.4	5.0
	29	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.0	6.6	6.2	5.8
	31	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.8	7.4	7.0	6.6
22		TC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.5	11.7	10.9	10.1	9.0
	25	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	4.9	4.6	4.3	3.8
	27	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.7	5.3	5.0	4.6
	29	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.5	6.2	5.8	5.4
	31	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.3	6.9	6.6	6.2
23		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	12.8	12.0	11.2	10.5	9.4
	25	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.4	4.1	3.8	3.4
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.2	4.9	4.6	4.2
	29	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.3	6.0	5.7	5.4	5.0
	31	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.1	6.8	6.5	6.2	5.8

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2. Cooling Capacity of Indoor Unit

2-5. Ceiling (Type T2)

● S-36MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.5
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.5
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.1	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.2
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.9	2.7
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	2.9
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.5
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	3.0
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	1.9	1.8
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.4	2.2
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.9	2.8	2.7

2. Cooling Capacity of Indoor Unit

● S-45MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 15.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.1
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.1
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.8
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.9	3.4
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	2.9
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.6	3.4
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	3.5
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7	1.6
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2	2.1
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.6
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.4	3.3	3.1
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.7
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0	1.8
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5	2.3
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	3.0	2.9
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6	3.6	3.4
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.7	1.6
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.5	2.3	2.2	2.1
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.9	2.7	2.6
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.4	3.3	3.1

2. Cooling Capacity of Indoor Unit

● S-56MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 15.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.6
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.2
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.0	3.7
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.4
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.9
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.1
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.6
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.7
	29	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.4
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1	2.9
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.4
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.2	3.9
	31	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.1
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.9	2.6
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.4	3.2
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.7
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.4	4.2
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.6	2.4
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.3	3.1	2.9
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.6	3.4
	31	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.4	4.2	3.9
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.3	2.1
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.5	3.3	3.2
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.0	3.8	3.7
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1	2.0	1.8
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.7	2.5	2.4
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.2	3.1	2.9
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.7	3.6	3.4

2. Cooling Capacity of Indoor Unit

● S-73MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW	AIR FLOW RATE : 21.0 m³/min															
EVAPORATOR			CONDENSER AMBIENT TEMP. (°C)															
AIR INTAKE. TEMP																		
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0
	23	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.6
	23	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4
	25	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.9
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.2
	23	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9
	25	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.7
	27	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.8	5.0
	29	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.2	2.8
	23	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.9	3.5
	25	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.7	4.3
	27	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1
	29	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.1	5.2
	31	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.5
	23	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.5	3.2
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.3	4.0
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.2	5.0	4.7
	29	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.0	5.8	5.5
	31	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.3	5.5
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.1	2.8
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.1	3.9	3.6
	27	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.6	4.3
	29	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.6	5.3	5.0
	31	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	6.1	5.7
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.7	2.4
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.5	3.2
	27	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.2	3.9
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.2	5.0	4.6
	31	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.2	5.9	5.7	5.4
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.3	3.1	2.8
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.3	4.0	3.8	3.6
	29	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.0	4.8	4.6	4.3
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.8	5.5	5.3	5.0
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.9	2.7	2.5
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.6	3.4	3.2
	29	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.5	4.3	4.2	3.9
	31	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.3	5.1	4.9	4.7

2. Cooling Capacity of Indoor Unit

● S-106MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		10.6 kW AIR FLOW RATE : 30.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	21	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.2
	23	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	25	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	27	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
15		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	21	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.6
	23	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.7
	25	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
16		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	21	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.0
	23	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1
	25	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.0
	27	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
17		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	21	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	4.5
	23	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.1	5.6
	25	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.2	6.7
	27	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5	8.3	7.3
	29	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
18		TC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	21	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5	4.0
	23	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.6	5.0
	25	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.6	6.1
	27	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.7	7.2
	29	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.7	7.6
	31	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
19		TC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
	21	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	23	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.0	4.5
	25	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.4	6.0	5.5
	27	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.5	7.1	6.6
	29	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.2	7.7
	31	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.6	9.1	7.9
20		TC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.3	9.4	8.3
	23	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.8	4.4	4.0
	25	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.8	5.5	5.1
	27	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	6.9	6.5	6.1
	29	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.9	7.6	7.2
	31	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.0	8.7	8.2
21		TC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.4	10.6	9.7	8.6
	23	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.8	3.4
	25	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.5	5.2	4.9	4.5
	27	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.6	6.3	5.9	5.5
	29	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.7	7.4	7.0	6.6
	31	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.7	8.4	8.1	7.6
22		TC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.5	11.7	10.9	10.1	9.0
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.4	4.0
	27	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.0	5.7	5.4	5.0
	29	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.1	6.8	6.5	6.1
	31	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.1	7.8	7.5	7.1
23		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	12.8	12.0	11.2	10.5	9.4
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.4	4.1	3.8	3.4
	27	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.4	5.1	4.9	4.5
	29	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.7	6.5	6.2	5.9	5.5
	31	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.8	7.5	7.2	7.0	6.6

2. Cooling Capacity of Indoor Unit

● S-140MT2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		14.0 kW AIR FLOW RATE : 32.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	21	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6
	23	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.9	8.7
	25	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	27	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
15		TC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
	21	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.4	6.9
	23	SHC	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.5	8.0
	25	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	9.7	8.9
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
16		TC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
	21	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.3
	23	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.4
	25	SHC	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.4	8.6
	27	SHC	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.6	10.6	9.3
	29	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
17		TC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.4	9.7
	21	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	5.7
	23	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.6	6.9
	25	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.8	8.0
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	9.9	9.2
	29	SHC	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.4	11.1	9.7
18		TC	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	12.9	11.6	10.0
	21	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	5.8	5.1
	23	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	6.9	6.3
	25	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.1	7.4
	27	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.2	8.6
	29	SHC	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.0	10.4	9.7
	31	SHC	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	11.6	10.0
19		TC	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.3	12.0	10.5
	21	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	5.2	4.6
	23	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.9	6.4	5.7
	25	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.1	7.5	6.8
	27	SHC	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.2	8.7	8.0
	29	SHC	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.4	9.8	9.1
	31	SHC	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.5	10.9	10.3
20		TC	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.7	13.6	12.5	10.9
	23	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.3	5.8	5.1
	25	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.4	6.9	6.3
	27	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.0	8.6	8.1	7.4
	29	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	9.7	9.2	8.5
	31	SHC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	10.9	10.3	9.7
21		TC	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.1	14.0	12.8	11.4
	23	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.1	5.6	5.1	4.6
	25	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.2	6.8	6.3	5.7
	27	SHC	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.4	7.9	7.4	6.9
	29	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.5	9.0	8.5	8.0
	31	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.7	10.2	9.7	9.1
22		TC	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.5	15.4	14.4	13.4	11.9
	25	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.5	6.1	5.7	5.2
	27	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.1	7.6	7.3	6.9	6.3
	29	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.2	8.8	8.4	8.0	7.4
	31	SHC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.4	9.9	9.5	9.2	8.5
23		TC	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	16.9	15.8	14.8	13.8	12.5
	25	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.3	5.9	5.5	5.1	4.6
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.4	7.0	6.6	6.2	5.8
	29	SHC	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.6	8.2	7.8	7.4	6.9
	31	SHC	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.7	9.3	8.9	8.5	8.0

8

2. Cooling Capacity of Indoor Unit

2-6. Low Silhouette Ducted (Type F2)

● S-15MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		1.5 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
15		TC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16		TC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	29	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
17		TC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	29	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
18		TC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	31	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
19		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	21	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	31	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
20		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3	1.2
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
21		TC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	23	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
22		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.8
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	31	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
23		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.3
	25	SHC	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.3
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.3

2. Cooling Capacity of Indoor Unit

● S-22MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.6
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.7
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.8	0.7
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	1.9
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.7
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.7
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.0

2. Cooling Capacity of Indoor Unit

● S-28MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4	2.1
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.7
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.6	2.3
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.1
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.3	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.7	2.4
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.0	0.9
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5	1.4
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.5	2.4

2. Cooling Capacity of Indoor Unit

● S-36MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.3
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.7
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.8
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
	29	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0	2.9
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.6	3.3	2.9
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.6
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.3	3.2	3.1
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.5	1.4	1.3
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9	1.8
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.5	2.3
	31	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0	3.0	2.9

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2. Cooling Capacity of Indoor Unit

● S-45MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 14.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.1
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.8
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.5
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.1
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.9	3.4
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.3
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.7	3.5	3.3
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.0	3.5
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.2	2.1
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.4	3.2	3.1
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.9	3.8	3.6
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9	1.8
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	3.0	2.8
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6	3.5	3.3
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.6	1.5
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.2	2.0
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.8	2.7	2.5
	31	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.4	3.3	3.2	3.1

2. Cooling Capacity of Indoor Unit

● S-56MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 16.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1	2.8
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.4
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	3.7
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.1
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.7
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	3.9
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.2
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.8
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.4
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.0
	29	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.9
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.1
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.7
	29	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6	4.2
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	4.8	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.2
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.8
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.4
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.3	4.0
	31	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.0	4.9	4.4
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.7	2.5
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.5	3.3	3.1
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.1	3.9	3.7
	31	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.7	4.5	4.3
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.4	2.2
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1	3.0	2.8
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.6	3.4
	31	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.3	4.2	4.0
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.1	1.9
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.8	2.7	2.5
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.4	3.3	3.1
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.2	4.0	3.9	3.7

2. Cooling Capacity of Indoor Unit

● S-60MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		6.0 kW AIR FLOW RATE : 21.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.8
15		TC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8
	23	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	3.8
16		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	21	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.3
	23	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	27	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.0
17		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
	21	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	2.9
	23	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.0	3.7
	25	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.8	4.1
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
	29	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.1
18		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.5
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.3
	25	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.1
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.0	4.3
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
	31	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.0	4.3
19		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.5
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	2.9
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.7
	27	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.7	4.5
	29	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.1	4.5
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.1	4.5
20		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	5.8	5.3	4.7
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.5
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.5	3.3
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.3	4.1
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.4	5.1	4.7
	31	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	5.8	5.3	4.7
21		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.0	5.5	4.9
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.1
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.1	2.9
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.1	3.9	3.7
	29	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.7	4.5
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.7	5.5	4.9
22		TC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	6.6	6.2	5.7	5.1
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.7	2.5
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7	3.5	3.3
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.5	4.3	4.1
	31	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.4	5.3	5.1	4.9
23		TC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.2	6.8	6.3	5.9	5.3
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.4	2.3	2.1
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.4	3.2	3.1	2.9
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.2	4.0	3.9	3.7
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	5.0	4.8	4.7	4.5

2. Cooling Capacity of Indoor Unit

● S-73MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW AIR FLOW RATE : 21.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.1	3.8
	23	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.6
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5
	23	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.2
	25	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	4.9
	27	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.0
	23	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	3.8
	25	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.6
	27	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.0
	29	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.9	2.6
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.3
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.5	4.1
	27	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.9
	29	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.1	5.2
	31	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.5	2.2
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.0
	25	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.1	3.8
	27	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	4.9	4.5
	29	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.9	5.7	5.3
	31	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.3	5.5
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.1	2.9	2.6
	25	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.7	3.4
	27	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.7	4.4	4.1
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.2	4.9
	31	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.3	6.0	5.7
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.5	2.2
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.2	2.9
	27	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.2	4.0	3.7
	29	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.8	4.5
	31	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	5.8	5.6	5.3
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.0	2.8	2.6
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.6	3.3
	29	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.6	4.4	4.1
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.4	5.2	4.9
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.4	2.2
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.5	3.3	3.2	2.9
	29	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.3	4.1	4.0	3.7
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	5.1	4.9	4.7	4.5

2. Cooling Capacity of Indoor Unit

● S-90MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		9.0 kW AIR FLOW RATE : 25.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	21	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1
	23	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	25	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	27	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
15		TC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
	21	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.7
	23	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.6
	25	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
	27	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	5.8
16		TC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
	21	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.2
	23	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.1
	25	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.0
	27	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
	29	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	6.0
17		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.3	6.2
	21	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.7
	23	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.1	4.6
	25	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.0	5.5
	27	SHC	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.0	6.2
	29	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.3	6.2
18		TC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.5	6.4
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6	3.2
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5	4.1
	25	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.5	5.0
	27	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.4	6.0
	29	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.4	6.4
	31	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.3	7.5	6.4
19		TC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.5	7.7	6.7
	21	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	23	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.0	3.6
	25	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	4.9	4.6
	27	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.2	5.9	5.5
	29	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.2	6.8	6.4
	31	SHC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.1	7.7	6.7
20		TC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	8.7	8.0	7.0
	23	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.8	3.5	3.2
	25	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.7	4.5	4.1
	27	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.7	5.4	5.0
	29	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6	6.3	5.9
	31	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.6	7.3	6.9
21		TC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	9.7	9.0	8.2	7.3
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.3	3.0	2.7
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.9	3.6
	27	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.2	4.9	4.5
	29	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.4	6.1	5.8	5.4
	31	SHC	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.3	7.0	6.7	6.4
22		TC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.6	9.9	9.2	8.6	7.7
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.7	3.5	3.2
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.9	4.6	4.4	4.1
	29	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.1	5.8	5.6	5.3	5.0
	31	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.8	6.5	6.3	6.0
23		TC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	10.9	10.2	9.5	8.9	8.0
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.2	3.0	2.7
	27	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.1	3.9	3.6
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.6	5.3	5.1	4.8	4.5
	31	SHC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.5	6.2	6.0	5.8	5.5

2. Cooling Capacity of Indoor Unit

● S-106MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		10.6 kW AIR FLOW RATE : 32.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	21	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	23	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	25	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
	27	SHC	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.9	6.6
15		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	21	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.5	6.1
	23	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	25	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.6	6.8
16		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	21	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.5
	23	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.3	7.3	6.7
	25	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	27	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	8.3	7.0
17		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	21	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.4	4.8
	23	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.7	6.1
	25	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.9	7.3
	27	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
	29	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.6	7.3
18		TC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	21	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.7	4.3
	23	SHC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	5.9	5.5
	25	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.2	6.7
	27	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.4	7.6
	29	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
	31	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	8.8	7.6
19		TC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
	21	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.4	4.1	3.6
	23	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.7	5.3	4.8
	25	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.9	6.5	6.1
	27	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.1	7.8	7.3
	29	SHC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.4	9.0	7.9
	31	SHC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.0	9.1	7.9
20		TC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.3	9.4	8.3
	23	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.7	4.3
	25	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.2	5.9	5.5
	27	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.5	7.1	6.7
	29	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.0	8.7	8.3	7.9
	31	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	9.9	9.4	8.3
21		TC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.4	10.6	9.7	8.6
	23	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.3	4.0	3.6
	25	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.9	5.6	5.2	4.8
	27	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.1	6.8	6.4	6.0
	29	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.3	8.0	7.7	7.3
	31	SHC	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.6	9.2	8.9	8.5
22		TC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.5	11.7	10.9	10.1	9.0
	25	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.2	4.9	4.6	4.3
	27	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.4	6.1	5.8	5.5
	29	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.6	7.3	7.1	6.7
	31	SHC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.1	8.8	8.5	8.3	7.9
23		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	12.8	12.0	11.2	10.5	9.4
	25	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.5	4.2	4.0	3.6
	27	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.0	5.7	5.5	5.2	4.8
	29	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.2	6.9	6.7	6.4	6.1
	31	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.4	8.2	7.9	7.6	7.3

8

2. Cooling Capacity of Indoor Unit

● S-140MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		14.0 kW AIR FLOW RATE : 34.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	21	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.9	7.8
	23	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	25	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
	27	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.1	8.8
15		TC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
	21	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.6	7.5	7.0
	23	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.9	8.9	8.3
	25	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.0	8.9
16		TC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
	21	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.1	6.4
	23	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5	8.4	7.7
	25	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	9.8	9.0
	27	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
	29	SHC	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.1	11.0	9.3
17		TC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.4	9.7
	21	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.4	5.7
	23	SHC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.8	7.0
	25	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.1	8.3
	27	SHC	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.4	9.6
	29	SHC	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.4	9.7
18		TC	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	12.9	11.6	10.0
	21	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.2	5.7	5.0
	23	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.6	7.0	6.3
	25	SHC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.9	8.3	7.6
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	9.6	8.9
	29	SHC	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.5	10.9	10.0
	31	SHC	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	12.9	11.6	10.0
19		TC	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.3	12.0	10.5
	21	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.5	5.0	4.4
	23	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.7
	25	SHC	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.1	7.6	7.0
	27	SHC	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.5	8.9	8.3
	29	SHC	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	10.8	10.2	9.6
	31	SHC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.1	11.6	10.5
20		TC	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.7	13.6	12.5	10.9
	23	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.5	6.1	5.6	5.0
	25	SHC	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.4	6.9	6.3
	27	SHC	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.2	8.7	8.3	7.6
	29	SHC	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.5	10.0	9.5	8.9
	31	SHC	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.8	11.3	10.9	10.2
21		TC	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.1	14.0	12.8	11.4
	23	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	5.4	4.9	4.4
	25	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.1	6.7	6.2	5.6
	27	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.4	8.0	7.5	6.9
	29	SHC	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	9.7	9.3	8.8	8.2
	31	SHC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.0	10.6	10.1	9.5
22		TC	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.5	15.4	14.4	13.4	11.9
	25	SHC	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.3	5.9	5.6	5.0
	27	SHC	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1	7.6	7.2	6.8	6.3
	29	SHC	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.4	8.9	8.5	8.2	7.6
	31	SHC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.3	9.8	9.4	8.9
23		TC	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	16.9	15.8	14.8	13.8	12.5
	25	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.0	5.6	5.2	4.8	4.4
	27	SHC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.3	6.8	6.5	6.1	5.7
	29	SHC	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.6	8.2	7.8	7.4	7.0
	31	SHC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	9.9	9.5	9.1	8.7	8.2

2. Cooling Capacity of Indoor Unit

● S-160MF2E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		15.5 kW AIR FLOW RATE : 36.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
	21	SHC	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.5	8.3
	23	SHC	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.9	9.7
	25	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
	27	SHC	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.1	9.7
15		TC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	11.1	9.9
	21	SHC	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1	7.5
	23	SHC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	8.9
	25	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.9	9.9
	27	SHC	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.3	11.1	9.9
16		TC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.2	10.3
	21	SHC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.7	6.8
	23	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.0	8.1
	25	SHC	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.6
	27	SHC	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.9	11.8	10.3
	29	SHC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.2	10.3
17		TC	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.3	12.6	10.7
	21	SHC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	6.9	6.1
	23	SHC	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.3	7.5
	25	SHC	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.0	9.7	8.8
	27	SHC	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.4	11.1	10.2
	29	SHC	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.8	12.5	10.7
18		TC	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.3	12.9	11.1
	21	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.3
	23	SHC	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1	7.5	6.7
	25	SHC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.5	8.9	8.1
	27	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.9	10.3	9.5
	29	SHC	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.3	11.7	10.9
	31	SHC	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.7	12.9	11.1
19		TC	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	14.7	13.3	11.6
	21	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.0	5.3	4.6
	23	SHC	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.4	6.7	6.0
	25	SHC	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	8.7	8.1	7.4
	27	SHC	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.1	9.5	8.8
	29	SHC	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.5	10.9	10.2
	31	SHC	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	12.9	12.3	11.5
20		TC	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.3	15.0	13.8	12.1
	23	SHC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.0	6.5	6.0	5.3
	25	SHC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	7.9	7.4	6.7
	27	SHC	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.8	9.3	8.8	8.1
	29	SHC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.2	10.7	10.1	9.5
	31	SHC	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.6	12.0	11.5	10.9
21		TC	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	16.7	15.5	14.2	12.6
	23	SHC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.2	5.8	5.2	4.6
	25	SHC	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.7	7.1	6.6	6.0
	27	SHC	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.0	8.5	8.0	7.4
	29	SHC	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.4	9.9	9.4	8.7
	31	SHC	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	11.8	11.3	10.8	10.1
22		TC	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.3	17.1	15.9	14.8	13.2
	25	SHC	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.3	6.8	6.3	5.9	5.3
	27	SHC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.2	7.7	7.3	6.7
	29	SHC	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.0	9.6	9.1	8.7	8.0
	31	SHC	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.4	11.0	10.5	10.0	9.4
23		TC	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	18.7	17.5	16.4	15.3	13.8
	25	SHC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.4	6.0	5.5	5.2	4.6
	27	SHC	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.8	7.4	6.9	6.6	6.0
	29	SHC	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.2	8.7	8.3	7.9	7.3
	31	SHC	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.6	10.1	9.7	9.3	8.8

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2. Cooling Capacity of Indoor Unit

2-7. Floor Standing (Type P1)

● S-22MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW	AIR FLOW RATE : 7.0 m³/min															
EVAPORATOR		CONDENSER AMBIENT TEMP. (°C)																
AIR INTAKE. TEMP																		
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.8
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8	0.7
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7	0.7	0.6
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.9
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.7
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	31	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.5
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.9
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.1
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.4

2. Cooling Capacity of Indoor Unit

● S-28MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW	AIR FLOW RATE : 7.0 m³/min															
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.1	1.0
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.5
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1	1.0
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.2
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2	1.1
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.6
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1	1.0
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.2
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.9	1.8
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.0	0.9
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.1
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6

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2. Cooling Capacity of Indoor Unit

● S-36MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 9.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.4
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.5
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.0
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.2
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.9
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.7	2.5
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2	1.0
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.0
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.4	1.3	1.2
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.3	2.2
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2	1.2	1.0
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.4
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8	1.7
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.2	2.0

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2. Cooling Capacity of Indoor Unit

● S-45MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 12.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.8
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.7
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	1.9
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.3
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.2
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.7
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.4
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.9
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5	2.3
	29	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.6	3.4	3.2
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.2
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8	1.7
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4	2.3	2.1
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.3	3.2	3.0
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7	1.6	1.4
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1	1.9
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5	2.3
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	2.9	2.8
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.2
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8	1.7
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.2	2.1
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.8	2.7	2.5

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2. Cooling Capacity of Indoor Unit

● S-56MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 15.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.0
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.2
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.7
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	3.8
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.1	1.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.4
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.0
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.5
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.2
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	3.8
	31	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.6	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1	1.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.4
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	2.9
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.5
	31	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.5	4.3	4.1
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.8	1.6
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.1
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.1	2.9	2.7
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.4	3.2
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.2	4.0	3.8
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2	2.0	1.8
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.6	2.4
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.1	2.9
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.7	3.5
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9	1.7	1.5
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.4	2.3	2.1
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	3.0	2.8	2.6
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.5	3.4	3.2

2. Cooling Capacity of Indoor Unit

● S-71MP1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.1 kW AIR FLOW RATE : 17.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
	21	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7
	23	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.3
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
15		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.5
	21	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3
	23	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.5
16		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	4.7
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.0
	23	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.6
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.3
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.3	4.7
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	4.7
17		TC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	4.9
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.7
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.3
	25	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9
	27	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.6
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
18		TC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	5.9	5.1
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.7	2.3
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.3	3.0
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.2
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.2	4.9
	31	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.9	5.1
19		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.7	6.1	5.3
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.3	2.0
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.6
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6	3.3
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.9
	29	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	4.9	4.6
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.8	5.5	5.2
20		TC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	6.9	6.3	5.5
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.6	2.3
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.3	2.9
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.6
	29	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.5	4.2
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.4	5.2	4.8
21		TC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.6	7.1	6.5	5.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.3	2.0
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.9	2.6
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.5	3.3
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.2	3.9
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.2	5.1	4.8	4.5
22		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	7.8	7.3	6.8	6.0
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6	2.3
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6	3.4	3.2	2.9
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.0	3.8	3.5
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.7	4.5	4.2
23		TC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.6	8.0	7.5	7.0	6.3
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6	2.4	2.2	2.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.2	3.0	2.9	2.6
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.7	3.5	3.2
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.5	4.3	4.1	3.9

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2. Cooling Capacity of Indoor Unit

2-8. Concealed Floor Standing (Type R1)

● S-22MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW	AIR FLOW RATE : 7.0 m³/min															
EVAPORATOR			CONDENSER AMBIENT TEMP. (°C)															
AIR INTAKE. TEMP																		
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.8
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.3
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.7
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.8
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.1
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.7
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.5
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.6
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.9	0.8
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.2	1.1
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.3

2. Cooling Capacity of Indoor Unit

● S-28MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW AIR FLOW RATE : 7.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.1	1.0
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.5
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1	1.0
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.2
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2	1.1
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.6
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1	1.0
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.2
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.9	1.8
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.0	0.9
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.1
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4
	31	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6

8

2. Cooling Capacity of Indoor Unit

● S-36MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 9.0 m³/min																	
EVAPORATOR		CONDENSER																	
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.4
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.2
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.5
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.0
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.2
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.9
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.8	2.7	2.5
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2	1.0
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.0
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.4	1.3	1.2
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.3	2.2
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2	1.2	1.0
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.4
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8	1.7
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.2	2.0

8

2. Cooling Capacity of Indoor Unit

● S-45MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 12.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.8
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.7
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	1.9
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.3
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.2
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.7
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.4	
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.4
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.9
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5	2.3
	29	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.6	3.4	3.2
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.2
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8	1.7
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4	2.3	2.1
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7	2.6
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.3	3.2	3.0
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7	1.6	1.4
	27	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1	1.9
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.6	2.5	2.3
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.1	2.9	2.8
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.2
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.8	1.7
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.2	2.1
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.8	2.7	2.5

8

2. Cooling Capacity of Indoor Unit

● S-56MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 15.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.1
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.0
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.2
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.7
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	3.8
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.1	1.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.4
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.0
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.5
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.0
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.1
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.7
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.2
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0	3.8
	31	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.6	4.2
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1	1.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.4
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	2.9
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.5
	31	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.5	4.3	4.1
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.8	1.6
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.1
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.1	2.9	2.7
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.4	3.2
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.2	4.0	3.8
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2	2.0	1.8
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.6	2.4
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.1	2.9
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.7	3.5
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9	1.7	1.5
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.4	2.3	2.1
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	3.0	2.8	2.6
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.5	3.4	3.2

2. Cooling Capacity of Indoor Unit

● S-71MR1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.1 kW AIR FLOW RATE : 17.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
	21	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7
	23	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.3
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4
15		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.5
	21	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3
	23	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.5
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.5
16		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	4.7
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.0
	23	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.6
	25	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.3
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.3	4.7
	29	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	4.7
17		TC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.8	4.9
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.7
	23	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.3
	25	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9
	27	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.6
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
18		TC	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	5.9	5.1
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.7	2.3
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.3	3.0
	25	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	3.9	3.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.2
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.2	4.9
	31	SHC	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	5.9	5.1
19		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.7	6.1	5.3
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.3	2.0
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.0	2.6
	25	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6	3.3
	27	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.5	4.2	3.9
	29	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	4.9	4.6
	31	SHC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.8	5.5	5.2
20		TC	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.5	6.9	6.3	5.5
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.6	2.3
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.3	2.9
	27	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.6
	29	SHC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.0	4.8	4.5	4.2
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.4	5.2	4.8
21		TC	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	7.6	7.1	6.5	5.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.3	2.0
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.9	2.6
	27	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.5	3.3
	29	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.4	4.2	3.9
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.2	5.1	4.8	4.5
22		TC	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	7.8	7.3	6.8	6.0
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6	2.3
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6	3.4	3.2	2.9
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.2	4.0	3.8	3.5
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.9	4.7	4.5	4.2
23		TC	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	8.6	8.0	7.5	7.0	6.3
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6	2.4	2.2	2.0
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.2	3.0	2.9	2.6
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.7	3.5	3.2
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.7	4.5	4.3	4.1	3.9

8

2. Cooling Capacity of Indoor Unit

2-9. 1-Way Cassette (Type D1)

● S-28MD1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW AIR FLOW RATE : 12.0 m³/min																	
EVAPORATOR		CONDENSER																	
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																	
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3
	23	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4	1.3
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.0
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.5	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	0.9
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.3	2.2
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.3
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2	1.1
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.5
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.4
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	0.9
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.3
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3	2.2	2.1

2. Cooling Capacity of Indoor Unit

● S-36MD1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 12.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.8
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.3
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	2.8
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.2	1.1
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	1.9
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.4
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.8
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.3
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.8
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.6
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3	1.3	1.1
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.7	1.5
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.1	2.1	1.9
	31	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.7	2.6	2.5	2.4

2. Cooling Capacity of Indoor Unit

● S-45MD1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 12.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.8	2.5
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.0
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.4	3.2	3.2	3.1	2.9
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.8
	23	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.2
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.1
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.2	2.0
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6	2.4
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.2
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.6	1.4
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.8
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.2
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.9	2.7
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.6	2.4
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.0	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.5	3.3
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5	1.4
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.1	2.0	1.8
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.4	2.2
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.8	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.4	3.2	3.1
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.0	1.9	1.8	1.6
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.0
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.6	2.4
	31	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.1	3.0	2.8
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.5	1.4
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	1.9	1.8
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.3	2.2
	31	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	3.0	2.9	2.8	2.6

2. Cooling Capacity of Indoor Unit

● S-56MD1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 13.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.5
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.9
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.4
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.2	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.3
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.2
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.0
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.5
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.2	2.9
	27	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.4
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.0	1.8
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.3
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.7
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.2
	29	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.6
	31	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.3	4.1
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.0
	25	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.5
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	2.9
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.8	3.7	3.4
	31	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.1	3.9
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.7	2.5	2.3
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.1	2.9	2.7
	29	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.6	3.4	3.2
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	4.0	3.8	3.6
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.2	2.0
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.7	2.5
	29	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.3	3.1	2.9
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	3.9	3.8	3.6	3.4
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1	2.0	1.8
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.6	2.4	2.3
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.9	2.7
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.5	3.3	3.2

8

2. Cooling Capacity of Indoor Unit

● S-73MD1E5

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		7.3 kW AIR FLOW RATE : 18.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	21	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.1	4.0
	23	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6
	25	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
	27	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6
15		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
	21	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.6
	23	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.3
	25	SHC	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.2	4.7
	27	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.2	4.7
16		TC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
	21	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.3
	23	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.0
	25	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.6
	27	SHC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	4.9
	29	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	4.9
17		TC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.9	5.0
	21	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.0
	23	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.6
	25	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	4.2
	27	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.3	4.9
	29	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	5.9	5.0
18		TC	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.1	5.2
	21	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.6
	23	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.6	3.3
	25	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	3.9
	27	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.9	4.5
	29	SHC	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.8	5.6	5.2
	31	SHC	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.1	5.2
19		TC	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.3	5.5
	21	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7	2.3
	23	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3	3.0
	25	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9	3.6
	27	SHC	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	4.6	4.2
	29	SHC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.2	4.9
	31	SHC	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.1	5.9	5.5
20		TC	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.1	6.5	5.7
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.2	3.0	2.6
	25	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.8	3.6	3.3
	27	SHC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.5	4.2	3.9
	29	SHC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.1	4.8	4.5
	31	SHC	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0	5.8	5.5	5.2
21		TC	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	7.9	7.3	6.7	5.9
	23	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.8	2.6	2.3
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.5	3.2	2.9
	27	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.1	3.9	3.6
	29	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.0	4.8	4.5	4.2
	31	SHC	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.7	5.4	5.2	4.9
22		TC	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.6	8.1	7.5	7.0	6.2
	25	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.9	2.6
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.0	3.8	3.6	3.3
	29	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8	4.6	4.4	4.2	3.9
	31	SHC	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.3	5.0	4.8	4.5
23		TC	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	8.8	8.2	7.7	7.2	6.5
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6	2.3
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.6	3.4	3.2	3.0
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.4	4.2	4.0	3.8	3.6
	31	SHC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.1	4.8	4.7	4.5	4.2

2. Cooling Capacity of Indoor Unit

2-10. Slim Low Static Ducted (Type M1)

● S-15MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		1.5 kW AIR FLOW RATE : 8.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	25	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	27	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
15		TC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
16		TC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	21	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
	29	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.0
17		TC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
	29	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.0
18		TC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	21	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
	31	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.1
19		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	21	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9
	25	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
	31	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.1
20		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	23	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.2
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.3	1.2
21		TC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
	23	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9
	27	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
	29	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.2
	31	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.2
22		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
	25	SHC	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	27	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1
	29	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3
	31	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.5	1.4	1.3
23		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.3
	25	SHC	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6
	27	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9
	29	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.2
	31	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.3

8

2. Cooling Capacity of Indoor Unit

● S-22MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.2 kW AIR FLOW RATE : 8.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
15		TC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
16		TC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.5
17		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.5
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.5
18		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	21	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.6
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.8	1.6
19		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	21	SHC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.8
	23	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.1
	25	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.6
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9	1.6
20		TC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
	23	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.7
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.0	1.7
21		TC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.0	1.8
	23	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.8
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.1
	27	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	29	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.7
	31	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.8
22		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.3	2.1	1.9
	25	SHC	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.0	1.0
	27	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3
	29	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5
	31	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8
23		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3	2.2	2.0
	25	SHC	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.9	0.9	0.8
	27	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.1
	29	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4
	31	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7

8

2. Cooling Capacity of Indoor Unit

● S-28MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		2.8 kW	AIR FLOW RATE : 8.5 m³/min															
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	21	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
	27	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
15		TC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.8
16		TC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
	29	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	1.9
17		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	21	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.3
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	1.9
18		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	21	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0
	29	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
	31	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3	2.0
19		TC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
	21	SHC	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.1	1.0
	23	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.6
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4	2.1
20		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7	2.5	2.2
	23	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.2	2.1
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.5	2.2
21		TC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.8	2.6	2.3
	23	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.1	1.0
	25	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3
	27	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6
	29	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2
22		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.9	2.7	2.4
	25	SHC	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.2
	27	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.5
	29	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8
	31	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.2	2.1
23		TC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0	2.8	2.5
	25	SHC	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.2	1.1	1.0
	27	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.3
	29	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.7	1.6
	31	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	2.1	2.0	1.9

2. Cooling Capacity of Indoor Unit

● S-36MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		3.6 kW AIR FLOW RATE : 9.0 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3
15		TC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.3
16		TC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.7
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.4
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.4
17		TC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6
	23	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	1.9
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2
	27	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.5
18		TC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
	21	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.4
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.2	2.1
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.4
	29	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.6
	31	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0	2.6
19		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.1	2.7
	21	SHC	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
	23	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.7	1.6
	25	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.5
	31	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.7
20		TC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5	3.2	2.8
	23	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.4
	25	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7
	27	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0
	29	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.5	2.4
	31	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0	2.8	2.7
21		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.6	3.3	2.9
	23	SHC	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3
	25	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6
	27	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.0	1.9
	29	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.3	2.2
	31	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8	2.7	2.5
22		TC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	3.7	3.4	3.1
	25	SHC	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.5	1.4
	27	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.7
	29	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.3	2.2	2.1
	31	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.6	2.5	2.4
23		TC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.3	4.1	3.8	3.6	3.2
	25	SHC	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.5	1.4	1.3
	27	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.8	1.7	1.6
	29	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.1	2.0	1.9
	31	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.5	2.4	2.3	2.2

2. Cooling Capacity of Indoor Unit

● S-45MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		4.5 kW AIR FLOW RATE : 10.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	21	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.8
15		TC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3
	23	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	2.9
16		TC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
	21	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9
	27	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.0
17		TC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.7	3.1
	21	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	1.9
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.3
	25	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.7
	27	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.0
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.1
18		TC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.2
	21	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9	1.7
	23	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.3	2.1
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.0	2.8
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2
	31	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	3.2
19		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	3.9	3.4
	21	SHC	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.8	1.6
	23	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.1	1.9
	25	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.5	2.3
	27	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.7
	29	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.2	3.0
	31	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.6	3.4
20		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.4	4.0	3.5
	23	SHC	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.1	1.9	1.7
	25	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.1
	27	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.7	2.5
	29	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.0	2.8
	31	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.6	3.4	3.2
21		TC	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.8	4.5	4.1	3.7
	23	SHC	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.7	1.6
	25	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	2.1	1.9
	27	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.6	2.5	2.3
	29	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	2.8	2.7
	31	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.4	3.2	3.0
22		TC	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.3	5.0	4.6	4.3	3.8
	25	SHC	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.0	1.9	1.7
	27	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.3	2.1
	29	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.8	2.7	2.5
	31	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.1	3.0	2.8
23		TC	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.4	5.1	4.8	4.4	4.0
	25	SHC	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	1.9	1.7	1.6
	27	SHC	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.3	2.2	2.1	1.9
	29	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.7	2.6	2.4	2.3
	31	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.1	3.0	2.8	2.7

8

2. Cooling Capacity of Indoor Unit

● S-56MM1E5A

Power supply :220-230-240V 1phase-50-60Hz TC : Total Cooling Capacity (kW), SHC : Sensible Heat Capacity (kW)

This data is when the indoor unit connects with U-6LE2E5.

RATING CAPACITY:		5.6 kW AIR FLOW RATE : 12.5 m³/min																
EVAPORATOR		CONDENSER																
AIR INTAKE. TEMP		AMBIENT TEMP. (°C)																
W.B.	D.B.		15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	46
14		TC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	21	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0
	23	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.5
15		TC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
	21	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8
	23	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.3
	25	SHC	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.6
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.6
16		TC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
	21	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.6
	23	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.0
	25	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.5
	27	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2	4.2	3.7
	29	SHC	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	3.7
17		TC	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.6	3.9
	21	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.4
	23	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.8
	25	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.6	3.3
	27	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	3.7
	29	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	3.9
18		TC	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	4.7	4.0
	21	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.4	2.1
	23	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.6
	25	SHC	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.0
	27	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.4
	29	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.2	3.9
	31	SHC	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.6	4.0
19		TC	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.3	4.8	4.2
	21	SHC	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.2	1.9
	23	SHC	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.8	2.6	2.4
	25	SHC	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.1	2.8
	27	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.5	3.2
	29	SHC	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.1	3.9	3.7
	31	SHC	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.4	4.1
20		TC	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.4	5.0	4.4
	23	SHC	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.6	2.4	2.2
	25	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.8	2.6
	27	SHC	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.4	3.3	3.0
	29	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.5
	31	SHC	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.3	4.2	3.9
21		TC	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.6	5.1	4.6
	23	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5	2.3	2.1	1.9
	25	SHC	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.9	2.8	2.6	2.4
	27	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.4	3.2	3.0	2.8
	29	SHC	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.7	3.4	3.3
	31	SHC	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.1	3.9	3.7
22		TC	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.2	5.7	5.3	4.8
	25	SHC	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.7	2.5	2.4	2.2
	27	SHC	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.1	2.9	2.8	2.6
	29	SHC	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.6	3.4	3.2	3.0
	31	SHC	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.0	3.8	3.7	3.5
23		TC	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.8	6.3	5.9	5.5	5.0
	25	SHC	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.4	2.3	2.1	1.9
	27	SHC	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.6	2.4
	29	SHC	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.1	3.0	2.8
	31	SHC	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.9	3.7	3.6	3.4	3.2

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1. Precautions on Renewal Design & Installation

1. General

VRF [*1] adopts the refrigerant R410A that has a higher pressure than conventional refrigerants, but it uses high-precision microcomputer control to enable operation at a "design pressure of 3.3 MPa", which is around the same as that before the refrigerant R410A was adopted. This means that you can use refrigerant tubing for R22 [*2]. Furthermore, if certain conditions are satisfied, you can reuse existing tubing by attaching one VRF Renewal Kit (CZ-SLK2) to each outdoor unit.
When performing the work, check the "DESIGN of VRF SYSTEM" section together with this section.

Operating Range (Outdoor unit)
Cooling : -10 ~ 43℃ (DB)
Heating : -20 ~ 18℃ (WB)

NOTE

*1. Systems for Mini VRF.
*2. Refrigerant tubing R22 has a maximum working pressure of 3.3 MPa and can be used for refrigerants such as R22 and R407C.

2. Basic Points for Using Existing Tubing

For existing tubing to be reused, the condition of the tubing needs to satisfy the basic points of "Safety" and "Cleanliness". First, confirm that the condition of the existing tubing satisfies the following check items.

■ **Safety**

- The existing unit shall be an air conditioner for use with R22/R407C/R410A refrigerant.
  The reuse of existing tubing and the like that has been used for an application other than air conditioning (refrigerating device, etc.) is prohibited because it is difficult to know the situation.
- The tubing shall not be dented, cracked, corroded, etc.
  Checking whether existing tubing is damaged, dented, and the like and the reliability of tubing strength is the responsibility of the installer performing the installation and is not guaranteed by us.
- The maximum working pressure of branches shall be 3.3 MPa or more. Furthermore, the branches shall be our genuine products.
  We do not guarantee the tubing strength of any branch that is not a genuine product of us.
- The thermal insulation material shall not be decayed and peeling off.
  If there is no thermal insulation installed on the liquid tubing, thermal insulation needs to be installed.

■ **Cleanliness**

- Check one of the refrigerant oil is used in the existing unit as shown below.

  Mineral oil: SUNISO, FLEOLE S, MS
  Synthetic oil: Type of alkyl benzene (HAB, barrel-freeze), type of ester (only PVE)

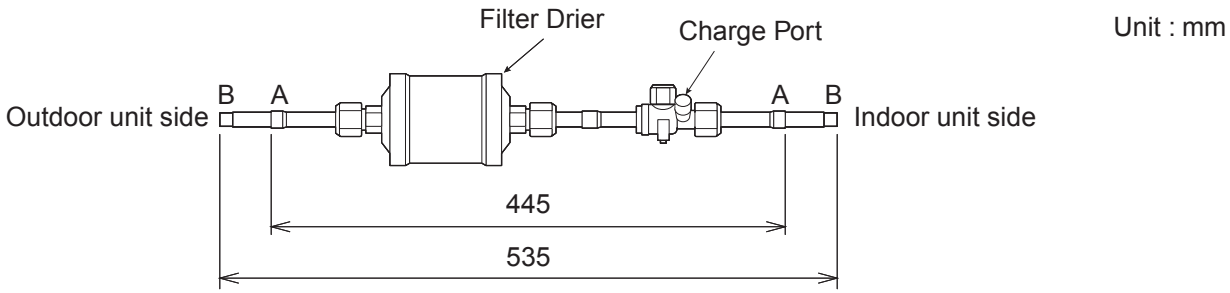
  NOTE: In case that the existing unit is the type of GHP, in addition, PAG oil (HP-55/7/9, PR, etc.) is used, pipe cleaning is necessary. If the unit is continuously used without cleaning, winding insulation failure occurs. In the case of using SUNISO or the type of ether (FV xxxx S Series) for the GHP outdoor unit, it is not necessary to clean the unit. In this case, be sure to check the type of refrigerant oil in the existing unit.
- The existing tubing shall be connected to the indoor unit and outdoor unit and be air tight.
  Using tubing that is dirty inside as is may cause a failure of the new equipment.
- When using the existing unit, there is no trouble caused by foreign materials such as rare short circuited, moisture choke or oxidized scale inside the tubes. If any trouble occurs, appropriate measures shall be carried out on a timely basis.

1. Precautions on Renewal Design & Installation

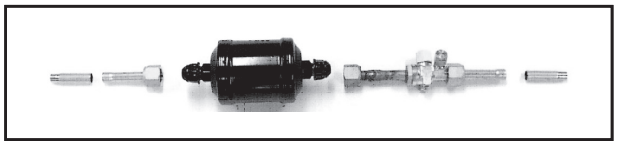
3. VRF Renewal Kit with High-pressure SW Kit and Sight Glass

The following shows an overview of the VRF Renewal Kit (CZ-SLK2) that is required when existing tubing is reused. If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass in accordance with the figure below. It will be used for checking the amount of additional refrigerant charge (calculating the amount in Judgment 4).

■ **VRF Renewal Kit: CZ-SLK2**



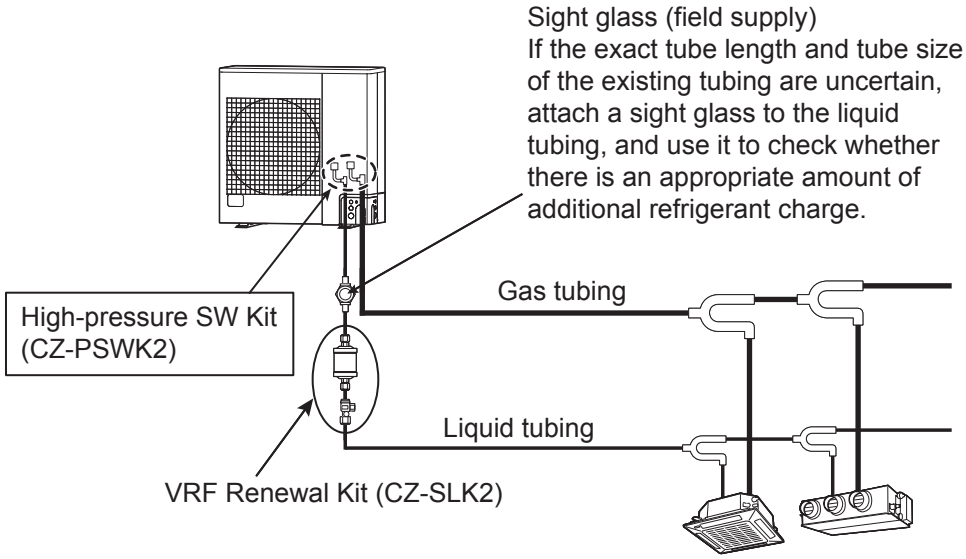
Connecting tube dimensions
A : ø12.7
B : ø9.52



NOTE

If the tube size does not match that of the existing tubing, use a reducer (field supply) to adjust the tube diameter.

■ **Attaching the VRF Renewal Kit, sight glass and High-pressure SW kit**

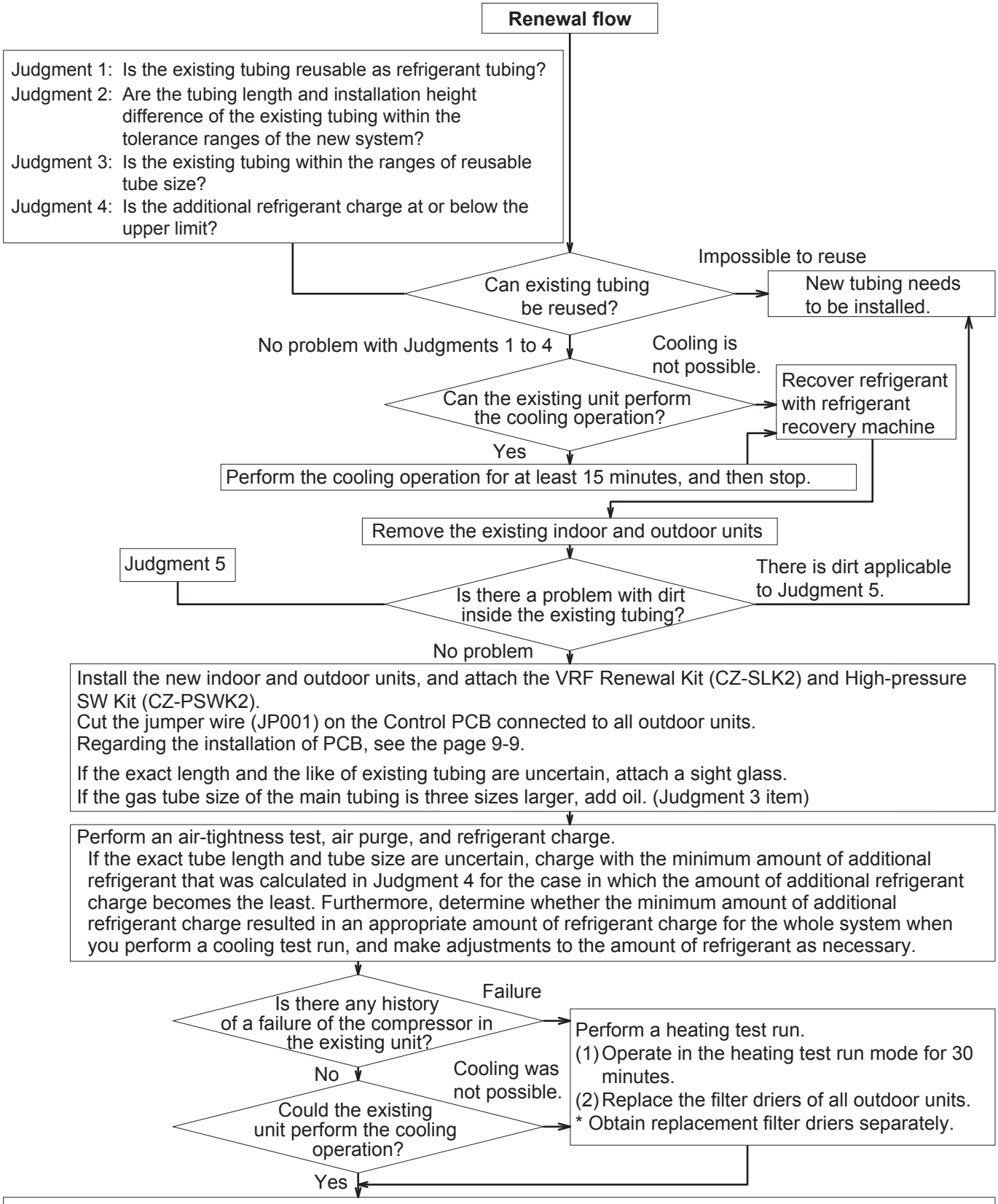


- VRF Renewal Kit (CZ-SLK2) shall be attached to the liquid tubing of all outdoor units.
- High-pressure SW Kit (CZ-PSWK2) shall be attached to both liquid and gas tubing of all outdoor units.
- There is no need to remove the VRF Renewal Kit (CZ-SLK2) after a test run is performed because normal operation is possible while it is attached.
- When attaching the VRF Renewal Kit (CZ-SLK2), care shall be taken with regards to the installation location and orientation of the filter drier and ball valve. If a mistake is made, the refrigerant in the system needs to be recovered when the filter drier is replaced, which will make maintenance difficult.
- Thermal insulation material (field supply: heat resistance of 80°C or higher and thickness of 10 mm or greater) shall be applied to the VRF Renewal Kit (CZ-SLK2).
- The filter drier of the VRF Renewal Kit (CZ-SLK2) may need to be replaced depending on the condition of the existing unit. Use a Danfoss DMB 164 as the replacement filter drier.

1. Precautions on Renewal Design & Installation

4. Procedure for Renewal

After checking "2. Basic Points for Using Existing Tubing", perform the work in accordance with the renewal flow below. When performing the work, also check the "DESIGN of VRF SYSTEM" section.

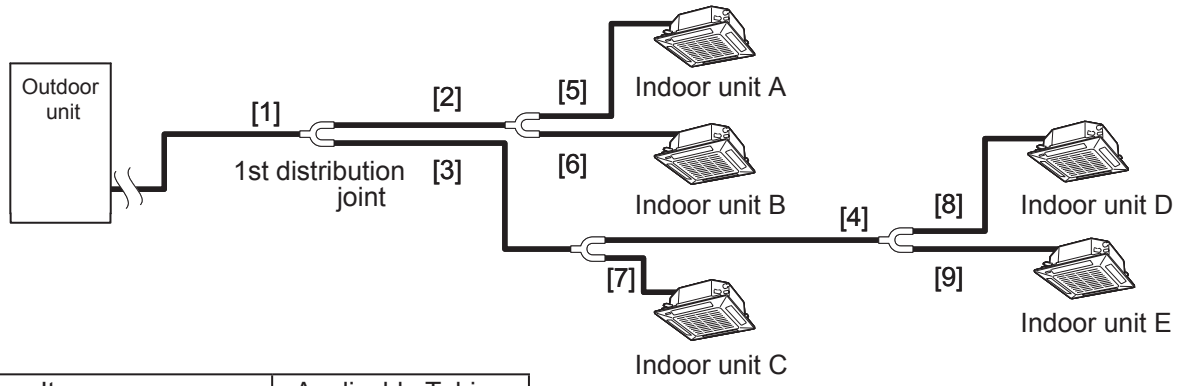


1. Precautions on Renewal Design & Installation

5. Judging Whether Possible to Reuse Existing Tubing: Judgments 1 to 5

It is necessary to check whether the existing tubing satisfies the following Judgments 1 to 5 while referring to the figure below. If the existing tubing does not satisfy the following conditions, new tubing needs to be installed.

Sample Image of Tubing of Existing Unit



Item	Applicable Tubing
Main tubing *1	[1]
Main tubing after distribution *1	[2][3][4]
Indoor unit connection tube	[5][6][7][8][9]

*1: If “main tubing after distribution” is the same size as “main tubing”, it shall be considered to be “main tubing”. For example, if the tube size of [3] is the same as the tube size of [1], “main tubing” is [1] + [3].

■ **Judgment 1**

Is the refrigerant tubing reusable?

Check whether the existing refrigerant tubing is reusable (the refrigerant tubing is for R22 or has the same or a higher design pressure than refrigerant tubing for R22). Wall thickness shall comply with the applicable legislation. Table 9-1 shows the minimal wall thickness of reusable refrigerant tubing. Also check the maximum working pressure for branches separately.

Table 9-1 Usable Refrigerant Tubing (Seamless phosphorous deoxidized copper tube for refrigeration)

Material	Material Temper - O					Material Temper - 1/2H, H		
Outer dia. (mm)	6.35	9.52	12.7	15.88	19.05	19.05	22.22	25.4
Thickness (mm)	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00

■ **Judgment 2**

Are the tubing length and installation height difference of the existing tubing within the tolerance ranges of the new system?

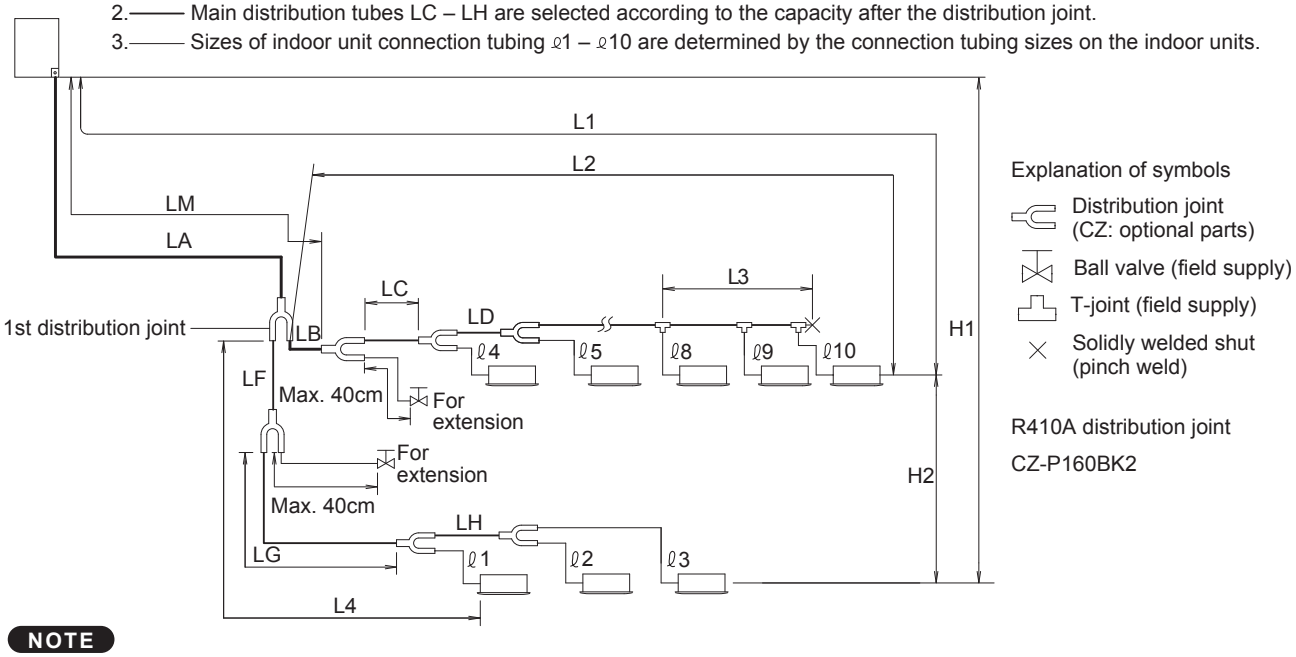
The refrigerant tubing length and installation height difference must be within the tolerance ranges of Renewal Tubing Length descibed on page 9-6.

1. Precautions on Renewal Design & Installation

Renewal Tubing Length

Select the installation location so that the length and size of refrigerant tubing are within the allowable range shown in the figure below.

1.—— Main tubing length (maximum tubing size) LM = LA + LB …
2.—— Main distribution tubes LC – LH are selected according to the capacity after the distribution joint.
3.—— Sizes of indoor unit connection tubing ℓ1 – ℓ10 are determined by the connection tubing sizes on the indoor units.



NOTE

* Be sure to use special R410A distribution joints (CZ: optional parts) for tubing branches.

Table 9-2 : Ranges that Apply to Refrigerant Tubing Lengths and to Differences in Installation Heights Unit: m

Item	Mark	Contents		Length
Allowable tubing length	L1	Max. tubing length	Actual length	≤ 150
			Equivalent length	≤ 175
	ΔL (L2 – L4)	Difference between max. length and min. length from the 1st distribution joint		≤ 50*1
	LM	Max. length of main tubing (at maximum size) * Even after 1st distribution joint, LM is allowed if at maximum tubing length.		—
	ℓ1, ℓ2~ ℓ10	Max. length of each distribution tube		≤ 50*2
	L1 + ℓ1 + ℓ2~ ℓ9 + LF + LG + LH	Total max. tubing length including length of each distribution tube (only liquid tubing)		≤ 180
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit		≤ 50
		When outdoor unit is installed lower than indoor unit		≤ 40
	H2	Max. difference between indoor units		≤ 15
Allowable length of joint tubing	L3	T-joint tubing (field-supply); Max. tubing length between the first T-joint and solidly welded-shut end point		≤ 2

L = Length H = Height

NOTE

*1: If the tubing length exceeds 40 m, some parts of both the liquid and gas tubes should be increased by 1 rank.
There is the possibility that these sizes of tubes will be 1 rank larger than main tubes.
Refer to the Technical Data for the details.

*2: If any of the tubing length exceeds 30m, increase the size of both the liquid and gas tubes by 1 rank.
If the size is larger than the main tubing size, it is not necessary to further increase the size.

* If the total amount of refrigerant for the system exceeds 14.4 kg, change the length of the tubing to reduce the amount of refrigerant.

1. Precautions on Renewal Design & Installation

■ Judgment 3

Is the existing tubing within the reusable tube size ranges?

Check whether the tube sizes of the existing refrigerant tubing are within the usable ranges.
Tables 9-3 to 9-5 show the usable tube size ranges for each of the main tubing, main tubing after distribution, and indoor unit connection tubing.
The existing tube sizes must be checked to determine whether they are within the ranges in these tables.

Table 9-3 Usable Tube Size Ranges for Main Tubing [1]

OutdoorUnit HP	Gas tubing (mm)							Liquid tubing (mm)			
	12.7	15.88	19.05	22.22	25.4	28.58	31.75	6.35	9.52	12.7	15.88
4 , 5		◎	○	○					◎	○	○
6		◎	○	○	○				◎	○	○

*1. Marking with ◎ shows the standard size. Marking with ○ shows available for the sizes.
*2. If the maximum tubing length (L1) exceeds 90m (equivalent length), it is impossible to use the tube marked with ◎ in the Main Tubing Size Table (as well as gas and liquid tubes).
*3. Even in case of excluding *2, if the main tube (LM) exceeds maximum length of 50m, only the gas tube marked with ◎ cannot be used within 50m in length for the main tube. Liquid tube is available for use.

Table 9-4 Usable Tube Size Ranges for Main Tubing after Distribution [2][3][4]

Total volume after the branch The parenthesis shows the equivalent horsepower.		Gas tubing (mm)							Liquid tubing (mm)			
over	below	12.7	15.88	19.05	22.22	25.4	28.58	31.75	6.35	9.52	12.7	15.88
—	7.1(2.5)	◎	○	○						◎	○	○
7.1(2.5)	16.0(6)		◎	○	○					◎	○	○
16.0(6)	—		◎	○	○	○				◎	○	○

*1. Marking with ◎ shows the standard size. Marking with ○ shows available for the sizes.
*2. Be careful the main tubing size after distribution shall not exceed the main tubing size.
*3. If the total volume of connected indoor units after distribution exceeds the total volume of outdoor units, select the main tubing size in consideration of the total volume of outdoor units.

Table 9-5 Usable Tube Size Ranges for Indoor Unit Connection Tubing [5][6][7][8][9]

Type Indoor unit	Gas tubing (mm)							Liquid tubing (mm)						
	12.7	15.88	19.05	22.22	25.4	28.58	31.75	6.35	9.52	12.7	15.88	19.05	22.22	25.4
15	◎							◎	○					
22	◎							◎	○					
28	◎							◎	○					
36	◎							◎	○					
45	◎	○						◎	○					
56	◎	○						◎	○					
60		◎						△	◎					
71/73		◎						△	◎					
90		◎	○					△	◎					
106		◎	○						◎					
140		◎	○						◎					
160		◎	○						◎					

*1. Marking with ◎ shows the standard size. Marking with ○ shows available for the sizes.
*2. The tube marked with △ in the Indoor Unit Connecting Tubing Size Table can be used when the following conditions are all satisfied.
1. Luck of capacity or refrigerant flow noise does not occur in the existing indoor unit.
2. The existing indoor unit is the type of 6300-7500kcal/h.
3. The length of tube ϕ6.35 is within 10m.
4. The elevation difference between indoor units (H2) is within 4m.

1. Precautions on Renewal Design & Installation

■ **Judgment 4**

Is the additional refrigerant charge at or below the upper limit?

Check that the amount of additional refrigerant charge for the existing refrigerant tubing is at or below the upper limit that is determined from the capacity of outdoor unit.

Calculate the amount of additional refrigerant charge from the liquid tubing size and total tubing length using the same criteria as for standard units.

Table 9-6 shows the calculation formula for the amount of additional refrigerant charge.

Check the existing liquid tubing size and total tubing length of each size, and calculate the amount of additional refrigerant charge from that result.

Also, check that the calculation result is at or below the upper limit for the amount of additional refrigerant charge determined by the capacity of outdoor unit that is shown in Table 9-7.

- **If the exact tube length and tube size of the existing tubing are uncertain:**
  If the exact tube length and tube size of the existing tubing are uncertain, assume the case in which the amount of additional refrigerant charge becomes the most (liquid tube = thick and tube length = long) and conversely, the case in which the amount of additional refrigerant charge becomes the least (liquid tube = thin and tube length = short), and calculate the amount of additional refrigerant charge for each case. When you determine the amount of refrigerant, the result calculated for the maximum amount of additional refrigerant charge must be at or below the upper limit.
  Furthermore, make sure you calculate the minimum amount of additional refrigerant for the case in which the amount of additional refrigerant charge becomes the least because it will be required when the actual renewal work is performed.

Table 9-6 Calculation of Amount of Additional Refrigerant Charge

Liquid Tube Size (mm)	Total Tube Length (m)		Amount of Additional Refrigerant Charge (g/m)		Sub-total (g)		Total (kg)
ϕ 6.35		x	26	=		}	
ϕ 9.52		x	56	=			
ϕ 12.7		x	128	=			

Table 9-7 Capacity of Outdoor Unit and Upper Limit for Amount of Additional Refrigerant Charge

Capacity of Outdoor Units	Upper Limit for Amount of Additional Refrigerant Charge
4, 5, 6HP	6.7 kg

1. Precautions on Renewal Design & Installation

■ Judgment 5

Is there a problem with dirt inside the existing tubing?

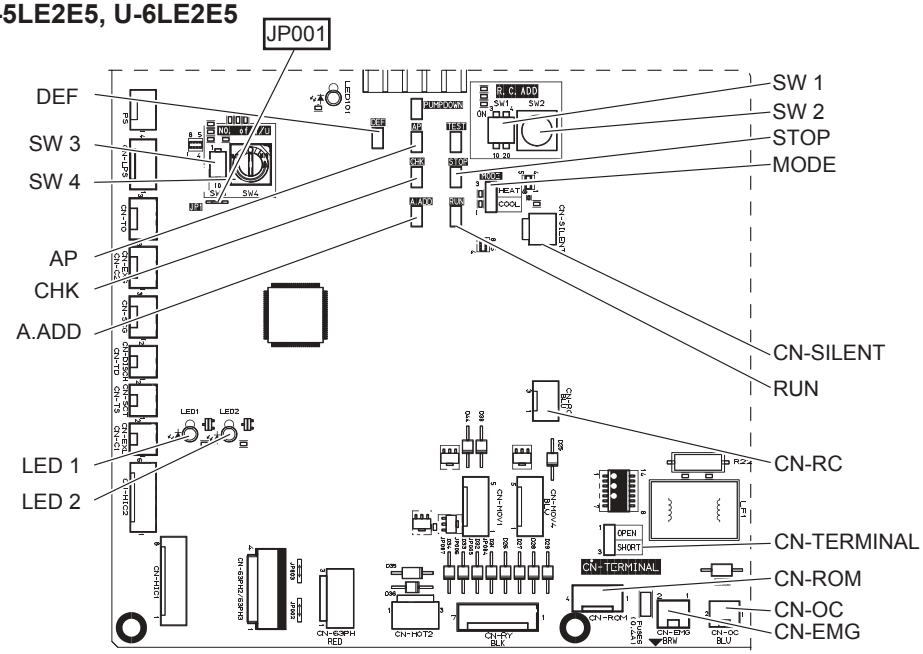
After the existing units are removed, new tubing needs to be installed if the existing tubing is in any of the following situations.

- There is apparently a large amount of discolored oil remaining inside the existing tubing.
  See the item "4. Oil color standards for renewal" in the chapter 2 "Reference".
- There is apparently a large amount of residue or wear debris remaining inside the existing tubing.
  Oil collected with a finger feels gritty or looks glittery.

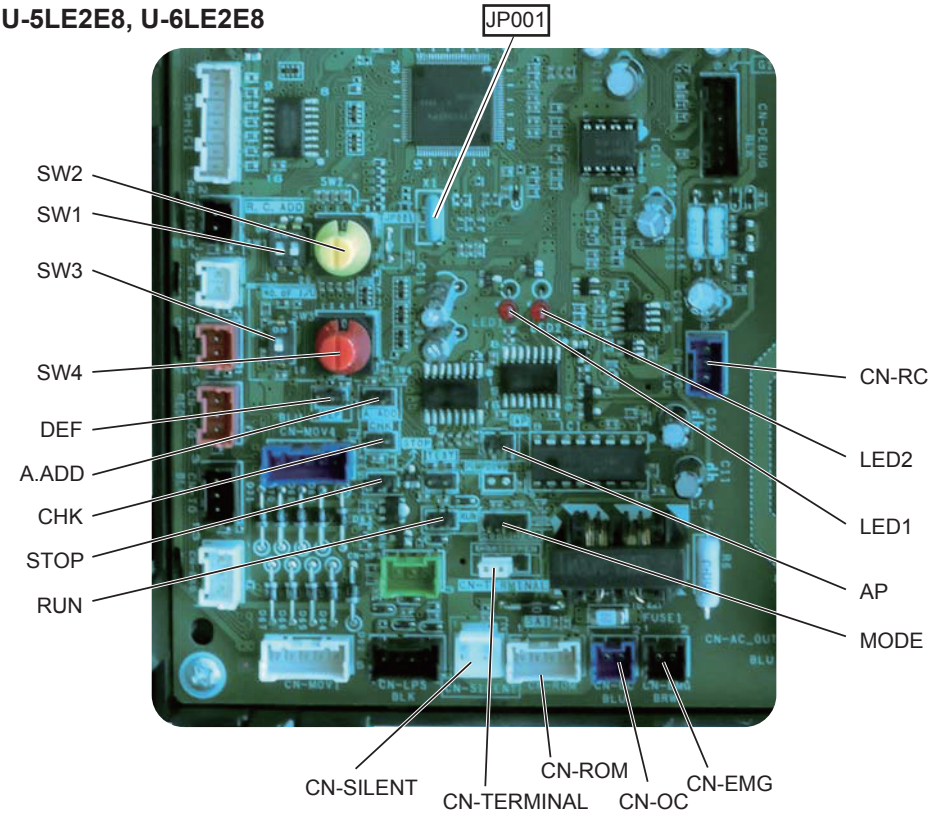
Control PCB of outdoor unit

When reusing the existing tubes, it is necessary to cut out the jumper wire JP001.
See page 9-4 under the section “4. Procedure for Renewal”.

U-4LE2E5, U-5LE2E5, U-6LE2E5



U-4LE2E8, U-5LE2E8, U-6LE2E8



1. Precautions on Renewal Design & Installation

6. Heating Test Run and Cooling Test Run

a) Heating Test Run

If refrigerant recovery could not be implemented by performing the cooling operation with the existing unit or if there is history of a failure of the compressor in the existing unit, perform the tubing cleaning operation with a heating test run.

Furthermore, it is necessary to replace the filter drier of the VRF Renewal Kit (CZ-SLK2) after you perform the tubing cleaning operation.

Obtain and prepare a replacement filter drier in advance.

Step 1 : Perform a heating test run for 30 minutes.

- If a heating test run cannot be performed because there is an insufficient amount of refrigerant, add the required minimum amount of refrigerant.

Step 2 : Stop the outdoor units manually.

Step 3 : Need to replace all filter driers of the VRF Renewal Kit (CZ-SLK2).

The tubing cleaning operation with the heating test run is now complete.

b) Cooling Test Run

If the exact tube length and tube size of the existing tubing are uncertain, the current condition should be one in which the additional charging of the minimum amount of refrigerant calculated in Judgment 4 has been performed. Under the condition, perform a cooling test run, adjust the appropriate amount of system refrigerant while checking the condition of flowing refrigerant with the sight glass.

Step 1 : Start the cooling test run, and wait until the operating condition of the system stabilizes.

Step 2 : After operation stabilizes, visually observe the flowing refrigerant through the sight glass attached to the liquid tubing. If flashing becomes visible, add refrigerant by degrees until flashing disappears.

- Add refrigerant in increments of approximately 1 kg.
- Check flashing after adding refrigerant when operation has stabilized after approximately 10 minutes has elapsed.
- The amount of additional refrigerant must not exceed the maximum amount of additional refrigerant calculated in Judgment 4.

Step 3 : For when maintenance is performed, fill in the total amount of additional refrigerant charge on the label inside the outdoor unit.

The adjustment of the system refrigerant charge amount with the cooling test run is now complete.

2. Reference

1. Purposes for Attaching VRF Renewal Kit (CZ-SLK2)

The VRF Renewal Kit: CZ-SLK2 has functions for collecting small wear debris and residue that pass through the strainer and absorbing moisture.
When existing tubing is reused, the VRF Renewal Kit can be used in addition to the strainer attached to the outdoor unit to collect the wear debris and residue that remains inside the existing tubing in order to prevent them entering inside the outdoor unit.
Furthermore, perform the tubing cleaning operation with a heating test run if there is the possibility of residue remaining inside the existing tubing (heating test run in flow for judging whether to reuse existing tubing).
However, if the tubing cleaning operation is performed, the filter drier of the VRF Renewal Kit must be replaced after the cleaning operation is performed.
Furthermore, it has been verified that a small amount of residue and the like is not a problem if a VRF Renewal Kit is attached, but if there is apparently a large amount of discolored oil or residue, the existing tubing cannot be used because there is danger of the strainer and VRF Renewal Kit becoming clogged (Judgment 5 in flow for judging whether to reuse existing tubing).

2. Type of oil

VRF series are filled with oil at the time of shipment.

The type of oil differs depending on the application and refrigerant to be used.
Furthermore, the recent diversification of compressor types as well as the severe conditions of use mean that the additives may differ even if the type is the same.
When reusing existing tubing, the old oil remaining inside the tubing will mix with the oil for the new unit, so perform an evaluation test by mixing an oil for R22 shown below to check that there is no problem.

• Check one of the refrigerant oil is used in the existing unit as shown below.

Mineral oil: SUNISO, FLEOLE S, MS
Synthetic oil: Type of alkyl benzene (HAB, barrel-freeze), type of ester (only PVE)

NOTE: In case that the existing unit is the type of GHP, in addition, PAG oil (HP-55/7/9, PR, etc.) is used, pipe cleaning is necessary. If the unit is continuously used without cleaning, winding insulation failure occurs. In the case of using SUNISO or the type of ether (FV xxxx S Series) for the GHP outdoor unit, it is not necessary to clean the unit. In this case, be sure to check the type of refrigerant oil in the existing unit.

3. Oil discoloration

There are two causes of oil discoloration.

1. Oxide scale or minute wear debris floating in the oil results in the oil appearing discolored.
   The quality of the oil itself has not changed, so the oil can be sufficiently cleaned with the VRF Renewal Kit if there is just a little bit of dirt.
   However, if the oil contains a large amount of wear debris and feels gritty when touched with a fingertip or there is apparently a large amount of residue, the existing piping cannot be used.

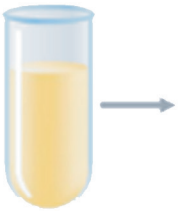
2. The oil is exposed to high temperatures for long periods of time resulting in the oil itself becoming discolored.
   Lubrication of the compressor has deteriorated because the lubrication performance of the oil itself has been greatly reduced. Therefore, the existing tubing cannot be used.
   However, it has been verified that there is no adverse effect on the lubrication performance of the new system when there is only a small amount of oil that is discolored as described above.

Remark :
Residual chlorine that causes metal to corrode may sometimes be included in the old oil.
As a countermeasure, add additives for catching the chlorine content into the oil in the VRF series so that no problem occurs.

2. Reference

4. Oil color standards for renewal

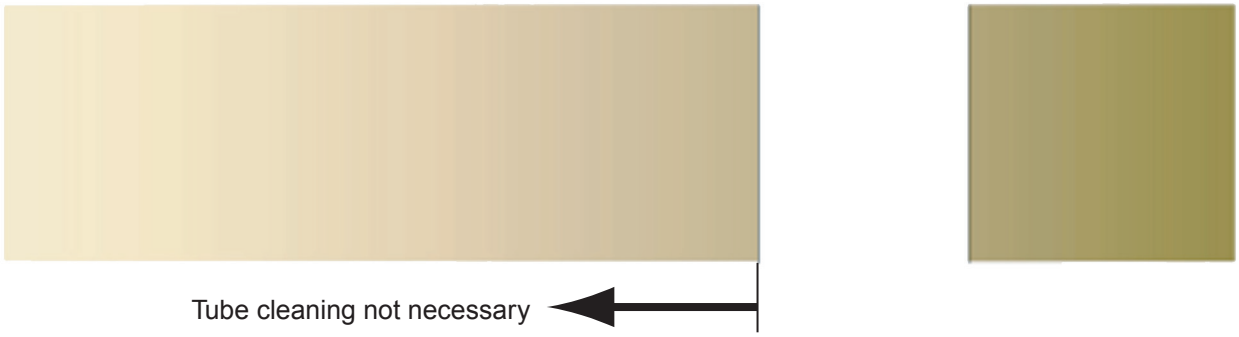
In a test tube with a diameter of approximately 2 cm, collect a sample of 3 to 5 cm of oil for renewal, and then check the oil comparing with the pattern of colors below.



Applicable Oil

Mineral oil : Suniso, Freol S and MS

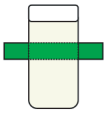
Synthetic fluid : Alkyl benzene-type (HAB, Barrel-freeze), ester-type, ether-type (PVE only)



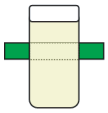
Tube cleaning not necessary

If moisture is mixed with the oil, an increase in friction (abnormal friction) or rusting may result in damage to the system.
If moisture is mixed with the oil and the oil is whitish, it is necessary to clean the tubing or install a new tubing.

New Oil



Oil Containing Moisture



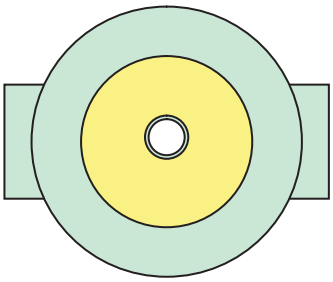
New oil is transparent. If moisture mixes with the oil, the oil emulsifies and the level of transparency is reduced, so it becomes difficult to see through to the other side of the test tube.

5. Standards for judging refrigerant with sight glass

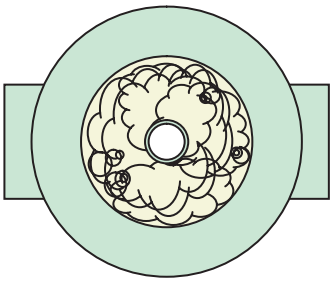
If the exact tube length and tube size of existing tubing are uncertain, you can check with the sight glass whether there is an appropriate amount of additional refrigerant charge.
Check the condition after operation has stabilized during the cooling test run.

Outdoor unit stopped ⟷ Outdoor unit activated

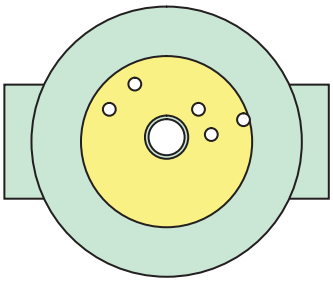
Refrigerant not activated :
As the refrigerant is transparent, the bottom of the sight glass is visible.



Flashing :
The amount of refrigerant is not satisfied with the standard level. The refrigerant forms bubbles and seems whitish overall.
Add refrigerant until the appropriate level is reached.



A few bubbles occur :
There seems to be nothing inside the sight glass because the refrigerant is transparent and full. When the operating condition changes, a few bubbles occur.
No additional refrigerant charge required.



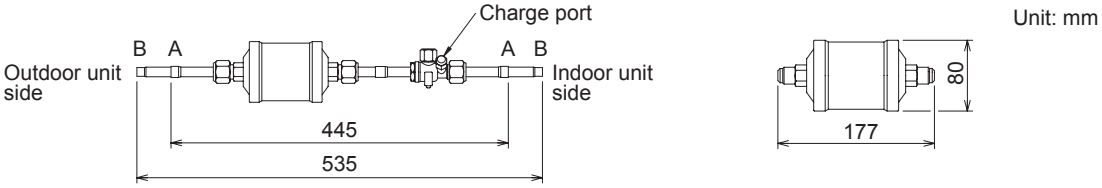
3. INSTALLATION INSTRUCTIONS (VRF Renewal Kit)

Check the parts of the VRF Renewal Kit (CZ-SLK2) you purchased.

Name	Shape	Quantity	Name	Shape	Quantity
(1) Filter drier		1	(3) Tube 1 (for ø12.7)		2
(2) Valve		1	(4) Tube 2 (for ø9.52)		2

1. How to attach the VRF Renewal Kit (CZ-SLK2)

1-1. Connect each part in accordance with the figure below.



A	B
ø12.7	ø9.52

Connection part dimensions (shows tube inside diameters)

- Attach the valve to the indoor unit side as viewed from the filter drier.
- If the tube size does not match the existing tube size, use a reducer (obtain locally) to adjust the tube diameter.

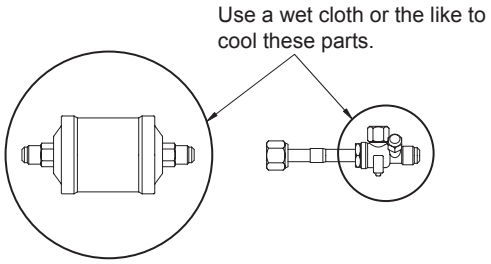
1-2. Attach the VRF Renewal Kit to each outdoor unit.

1-3. Cut the existing tubing on site with a pipe cutter or the like and attach the VRF Renewal Kit according to the rough indication of the dimensions for attaching the VRF Renewal Kit shown in the figure above.

2. Tightening flare nuts and brazing

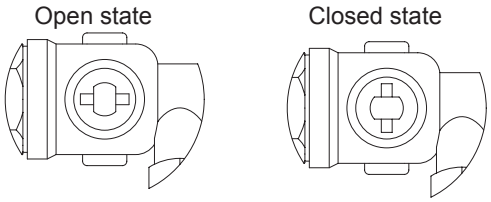
- Use a tightening torque of 55±6 N·m for the flare nuts.
- Be sure to use a wet cloth or the like to cool the valve main part and filter drier when you perform the brazing process.

Also, be sure to replace the air inside the tube with nitrogen to prevent the formation of an oxide film when you perform the brazing process.
There is a risk of system mulfunction through clogging of the strainer or refrigerant circuit when the brazing is performed without nitrogen gas replacement in the tube.



3. Opening and closing the valve

The valve is opened at the time of shipment from the factory.



4. Leak testing

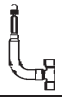
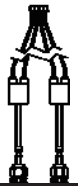
Perform a leak test for the brazing parts and flare connections parts.
For the leak test, refer to " Installation Instructions" supplied with the outdoor unit.

5. Attaching thermal insulation material

Make sure the thermal insulation (obtain locally) covers the entire kit.
Use thermal insulation material with a heat resistance of at least 80°C and thickness of at least 10 mm.

4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

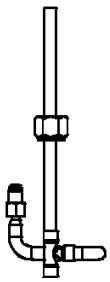
Check the parts of the High-pressure SW Kit (CZ-PSWK2).

No.	Part name	Figure	Q' ty
①	Connection tubing (Φ9.52)		1
②	Connection tubing (Φ12.7)		1
③	Connection tubing (Φ15.88)		1
④	Connection tubing (Φ19.05)		1
⑤	Connection tubing (Φ22.22)		1
⑥	Connection tubing (Φ25.4)		1
⑦	Connection tubing (Φ28.58)		1
⑧	High pressure switch (HPS label attached to liquid tube side)		1
⑨	Clamper T30R(140mm)		7
⑩	Clamper T50R(200mm)		1
⑪	Insulation(Φ10)		1

Of the 11 parts listed above, the parts No. 1, No. 4 and No. 8 are only used for this Technical Data.

1. Process of Tube and Connection Tubing

- Before flaring procedure, remove the flare nut of the liquid tubing valve and the gas tubing valve and assemble Part① and Part④ as shown in the figure.
- Use the flare tools for flaring procedure securely.



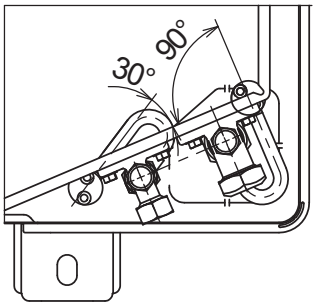
2. Connection Tubing

- To fasten the flare nuts, use 2 adjustable wrenches or spanners. Tightening torque should be 16±2 N·m. If the flare nuts are over-tightened, the flare may be damaged.
- Precautions for brazing

  When brazing, do nitrogen replacement inside the tube to prevent the oxide layer.

  Use a wet cloth to make the valve cool when brazing.

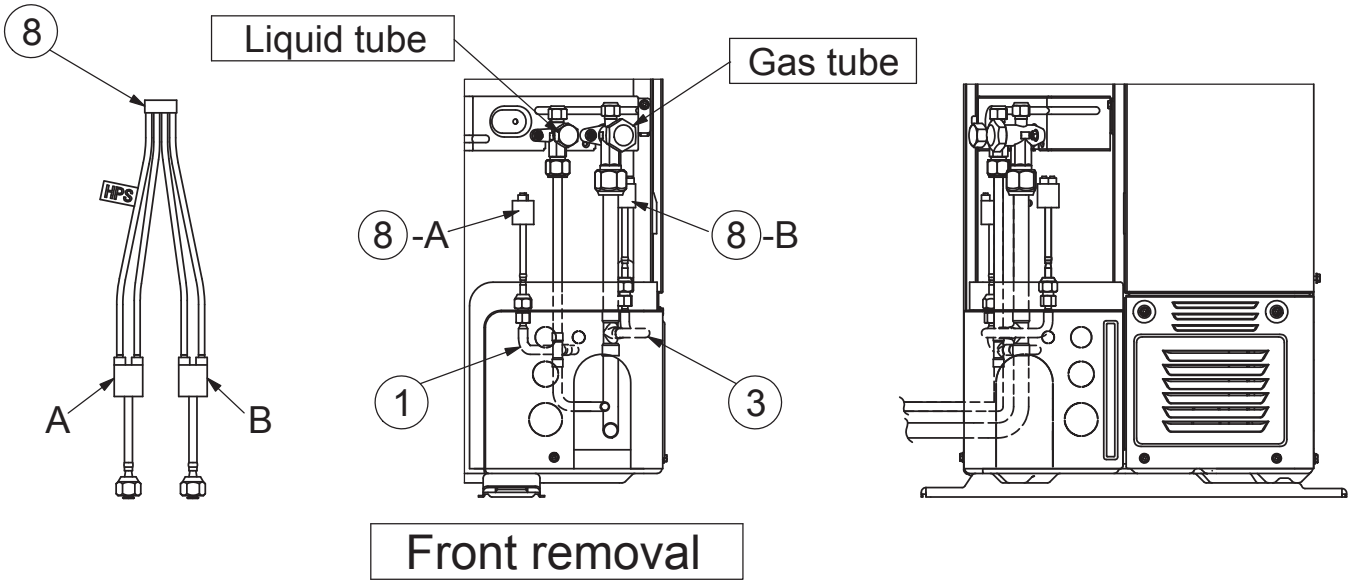
4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

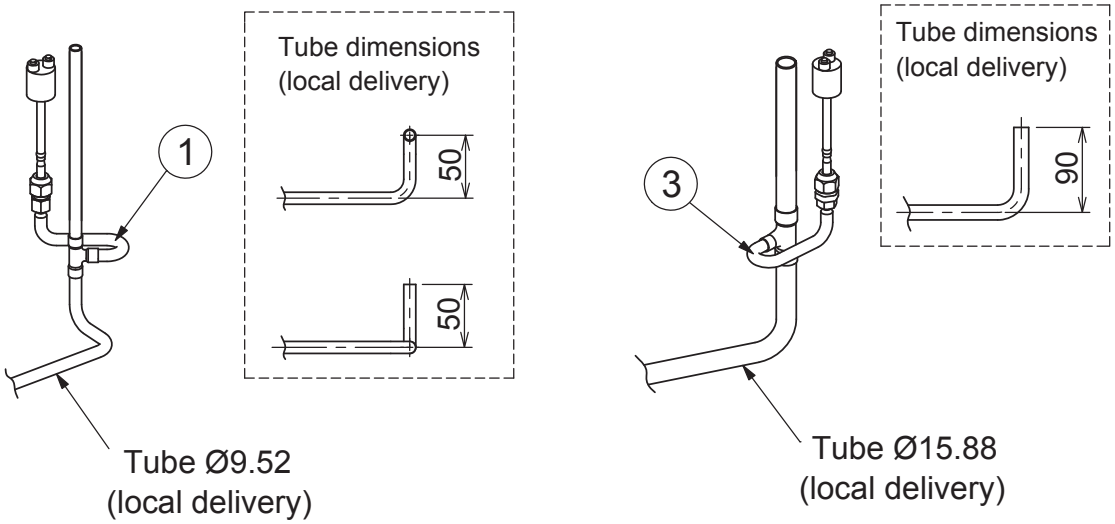


Install Part ① so that the plateside and the tube, as shown in the figure, can be fixed 30° angle.

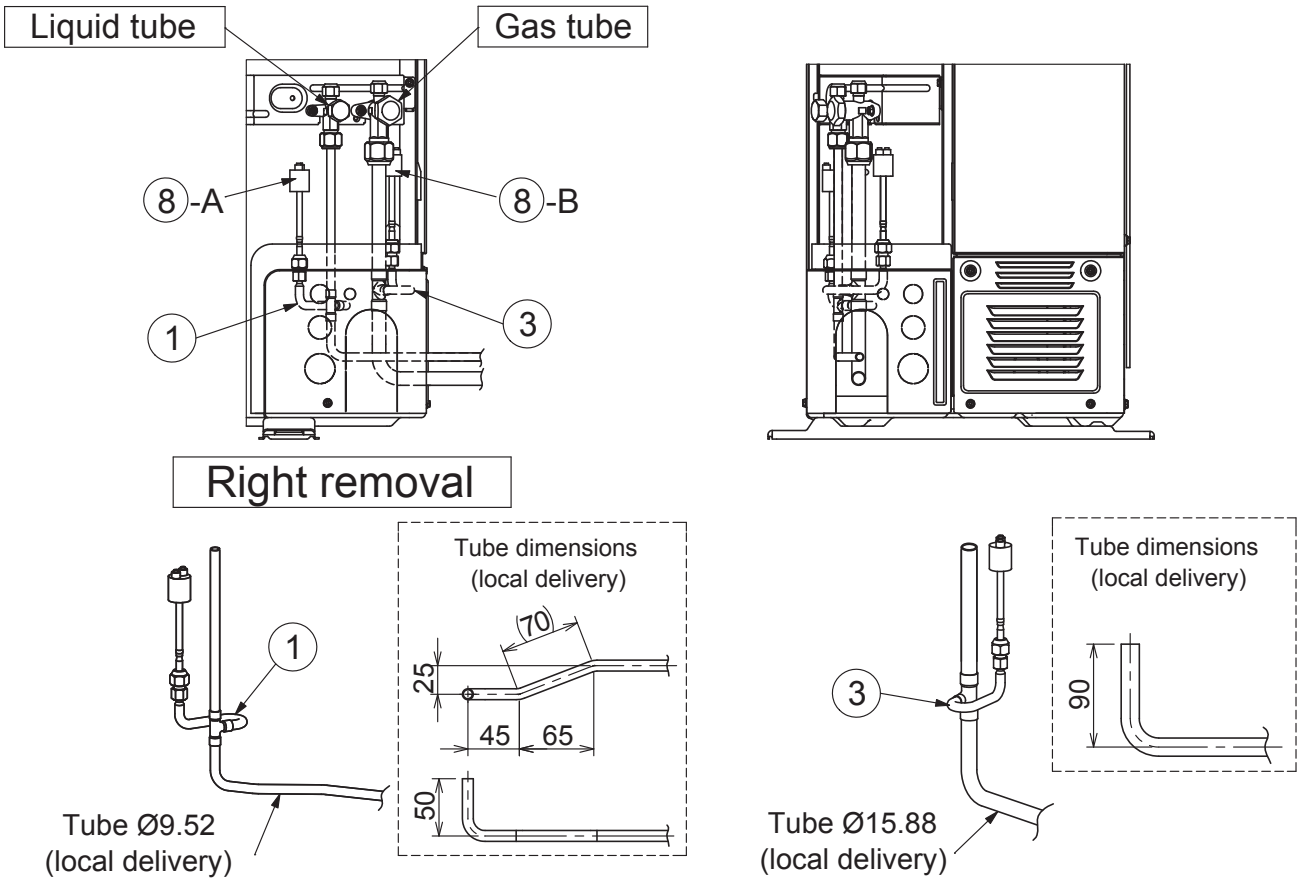
Install Part ③ so that the plateside and the tube, as shown in the figure, can be fixed vertically.

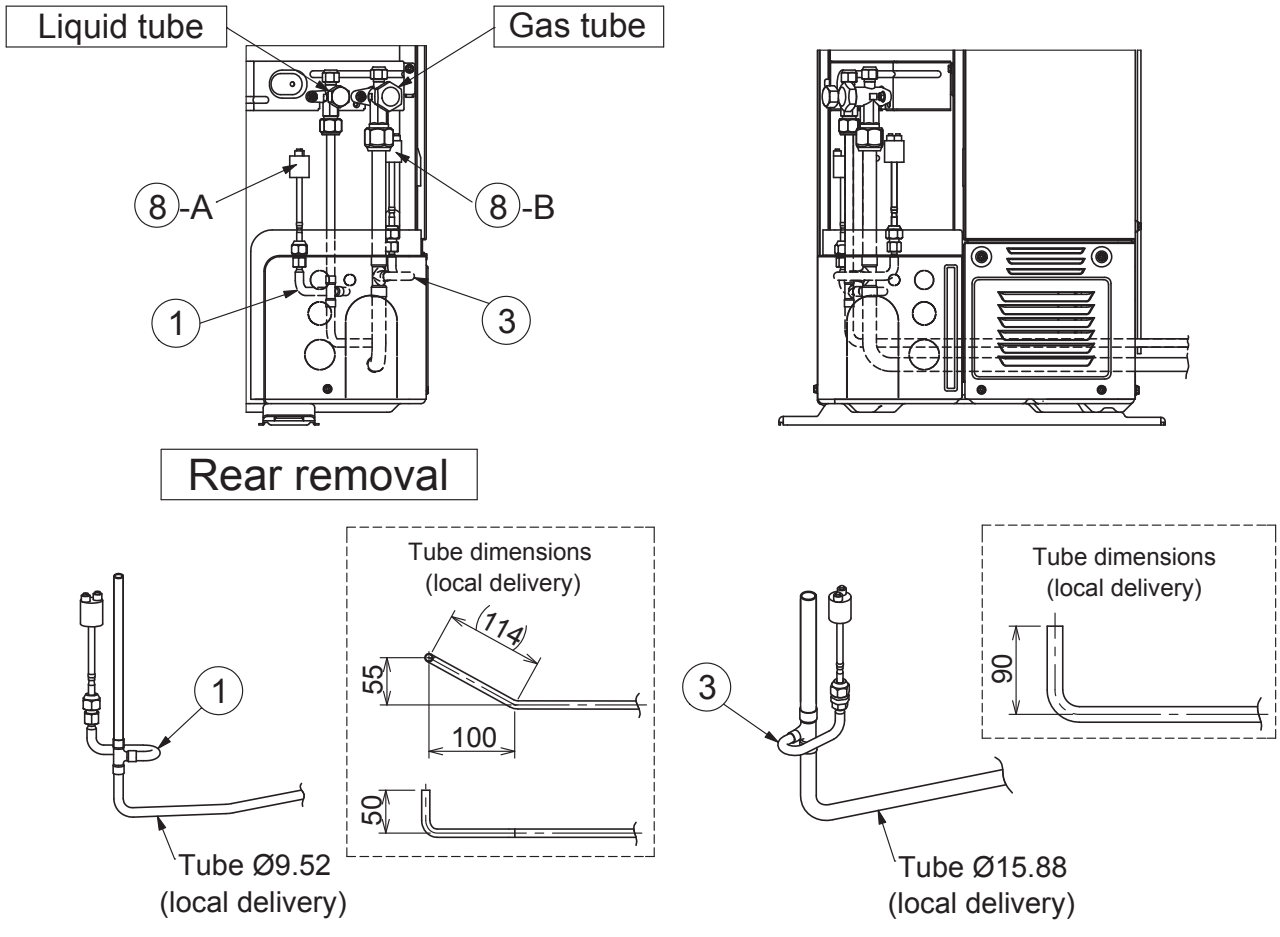
Refrigerant tube	Connection	Accessories
Liquid tube	Flaring	Part ① + Part ⑧ (HPS label attached)
Gas tube	Flaring	Part ③ + Part ⑧



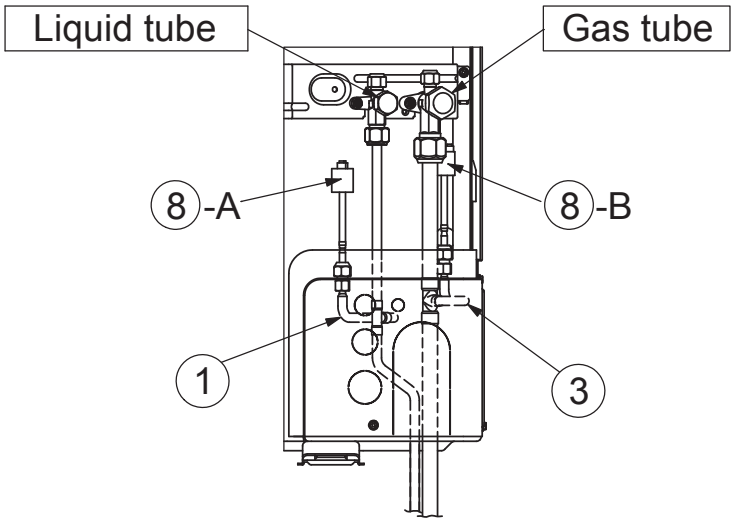


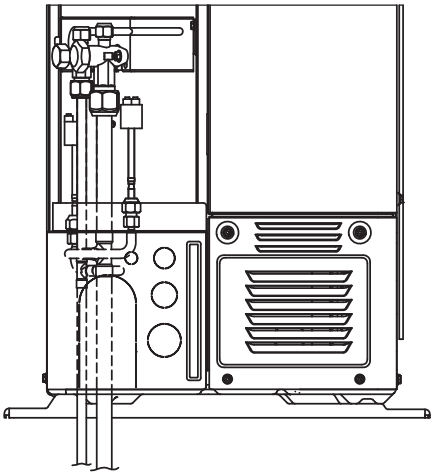
4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)



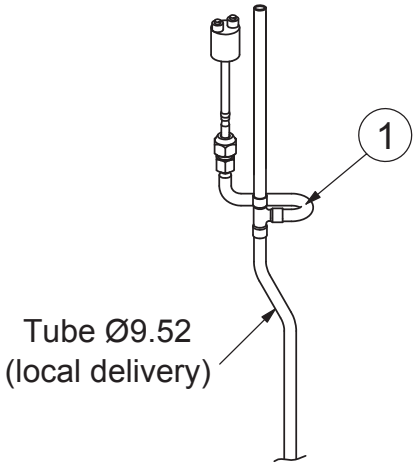


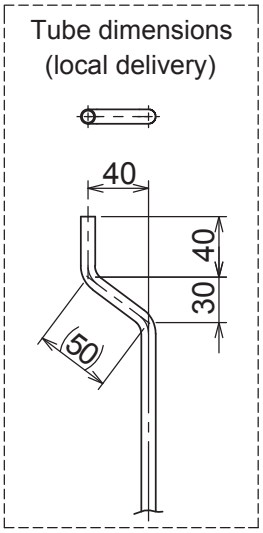
4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

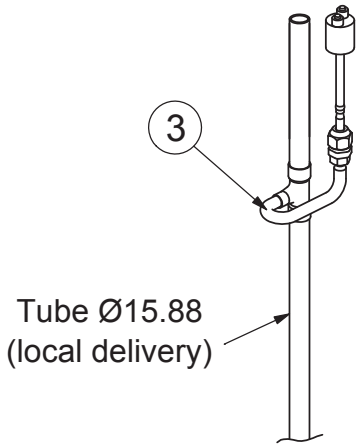




Lower removal







4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

3. Wiring Connection

Connect the wire for High Pressure switch using Part⑧. Refer to next page for details.

4. Airtight Test

Refer to the installation instructions supplied with the outdoor unit. Make sure the airtight test pressure should be increased to 3.3MPaG by the nitrogen and check there is no leakage.

5. Checking Operation for High Pressure Switch of Kit Part

With the condition of airtight test pressure of 3.3MPaG by the nitrogen, turn the power ON in all systems. Press the remote control operation button. If the Alarm P04 is displayed, High Pressure switch functions normally.

6. Tube Vacuuming and Additional Refrigerant Charge

Refer to the installation instructions supplied with the outdoor unit.

7. Insulating the Refrigerant Tubing

Refer to the installation instructions supplied with the outdoor unit and insulate and tape over the tubing.

8. Checking Operation for High Pressure Switch in the Unit

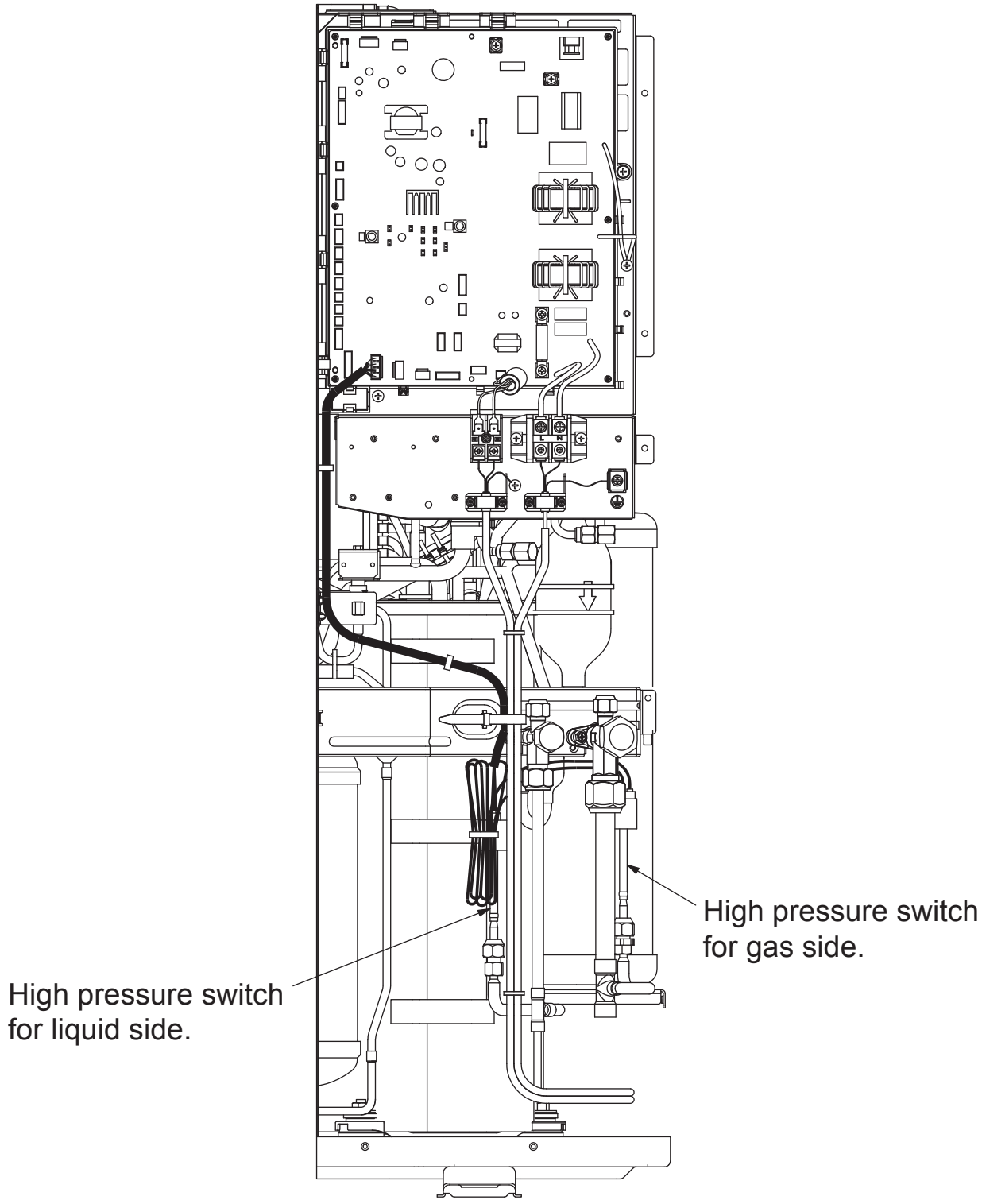
Operate the unit in the test heating mode and fully open the gas valve after 5-minute drive. If the unit operates for a while and the compressor is stopped, High Pressure switch is functioning normally.

4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

9. WIRING PROCESS OF HIGH PRESSURE SWITCH KIT

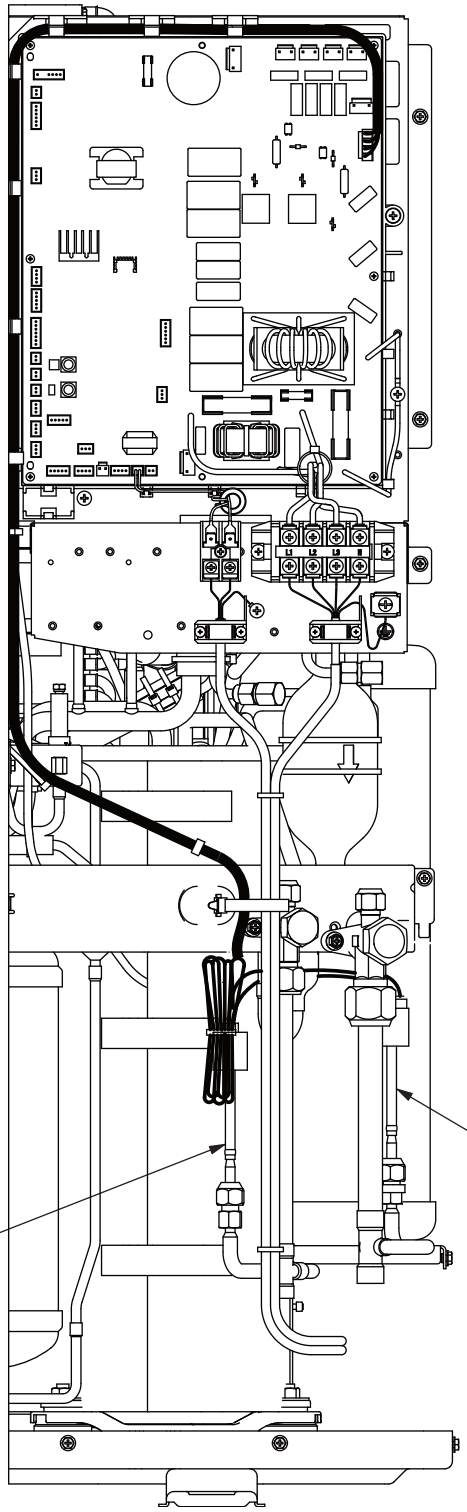
9-1. Inside Wiring

U-4LE2E5, U-5LE2E5, U-6LE2E5



4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

U-4LE2E8, U-5LE2E8, U-6LE2E8

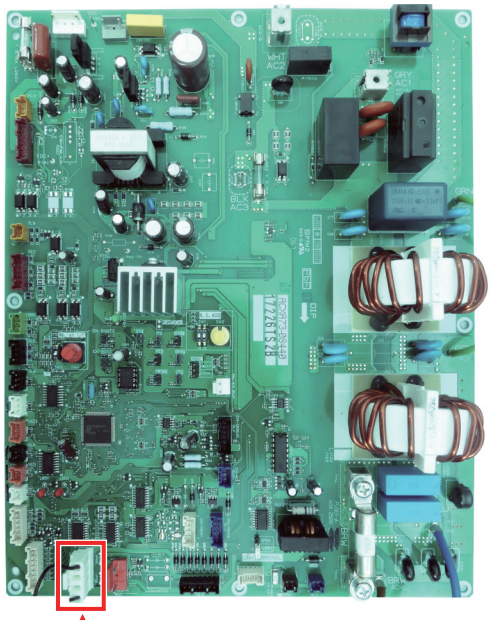


High pressure switch
for gas side.

High pressure switch
for liquid side.

4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

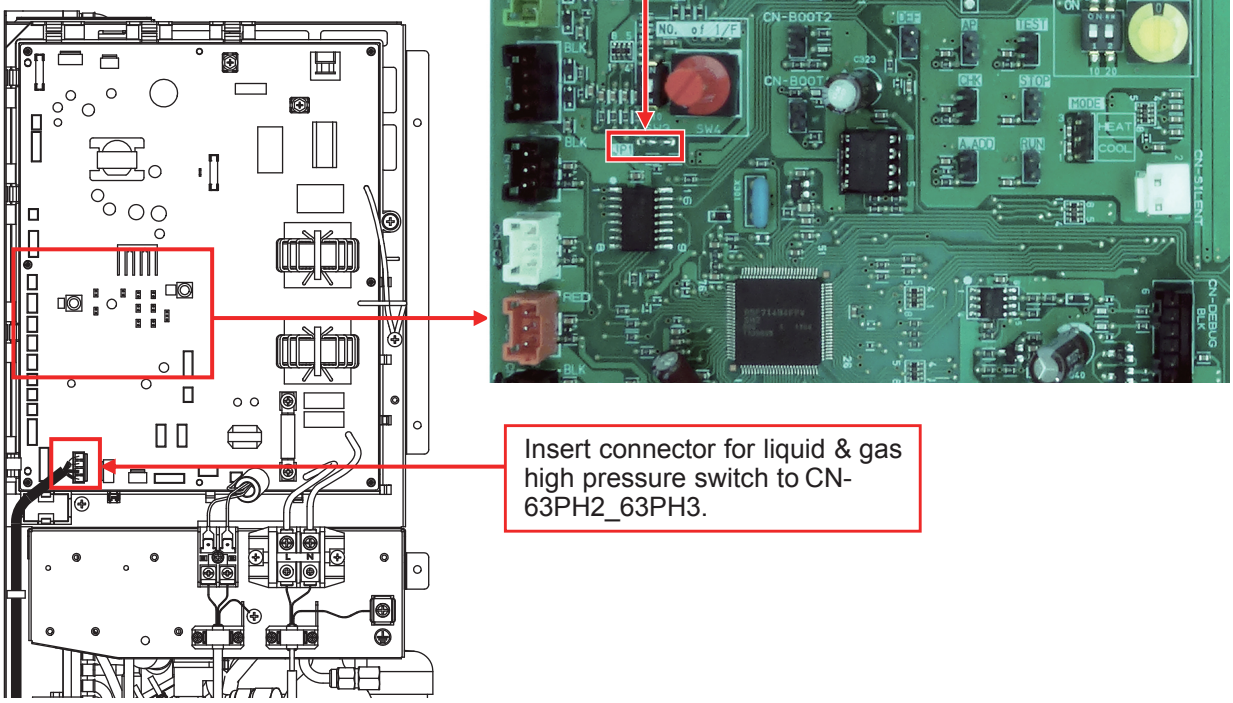
9-2. C-BOX Inside Wiring
U-4LE2E5, U-5LE2E5, U-6LE2E5



Disconnect CN-63PH2_63PH3 connector.

NOTE: Always turn off the power before working on the given circuit to avoid electrical shock or damage to the electrical wiring or devices and then cut off JP001.

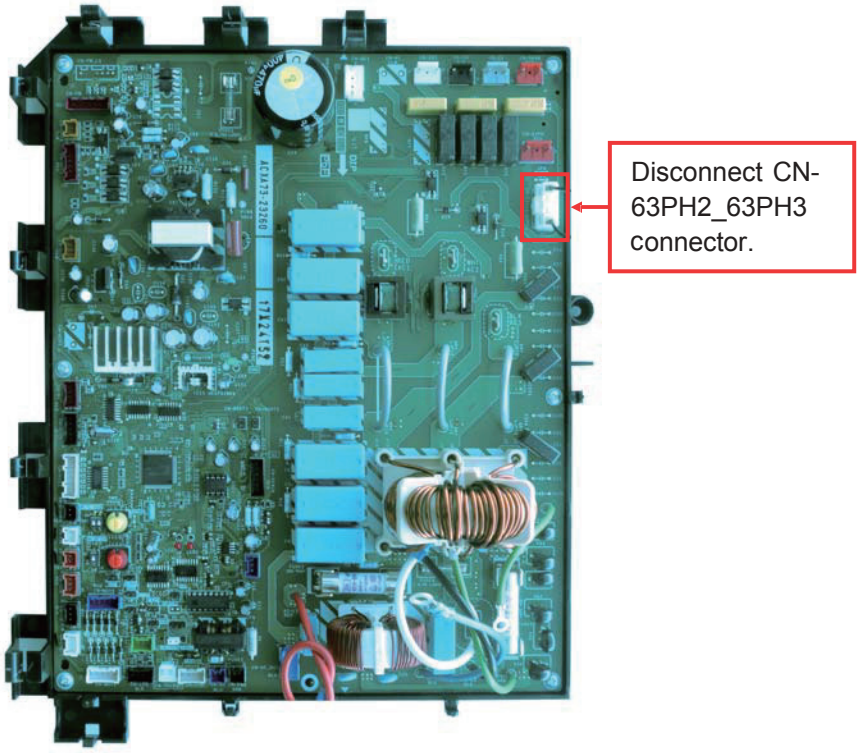
Cut off JP001.



Insert connector for liquid & gas high pressure switch to CN-63PH2_63PH3.

4. INSTALLATION INSTRUCTIONS (High-pressure SW Kit)

U-4LE2E8, U-5LE2E8, U-6LE2E8



NOTE: Always turn off the power before working on the given circuit to avoid electrical shock or damage to the electrical wiring or devices and then cut off JP001.

