

**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.

	<b>Warning</b>	This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
	<b>Caution</b>	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**

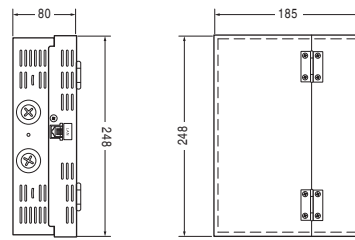
Part number	Part name	Quantity	Part number	Part name	Quantity
①	Small pan head bolt (M4 x 10)	4	②	Nut(M4)	4
③	Flat washer	4	④	Cable tie	2
⑤	Operation Manual	1	⑥	This leaflet	1
⑦	Ferrite core	1	⑧	Cable tie (for fixing a ferrite core)	1

**Specifications**

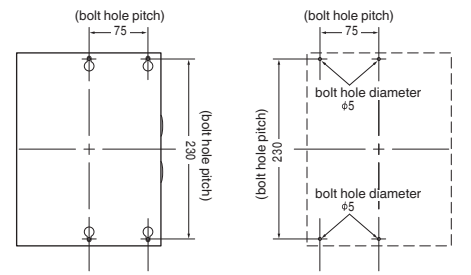
Rated voltage.....100 - 240 V~, single phase  
 Rated frequency ..... 50/60 Hz  
 Power consumption .....17 W max.  
 Operating temperature .....5 to 40° C  
 Operating humidity .....20 to 80%  
 (non-condensing)

**1 Cautions regarding the design of the control box**

**External dimensions**



**Control box machining diagram**

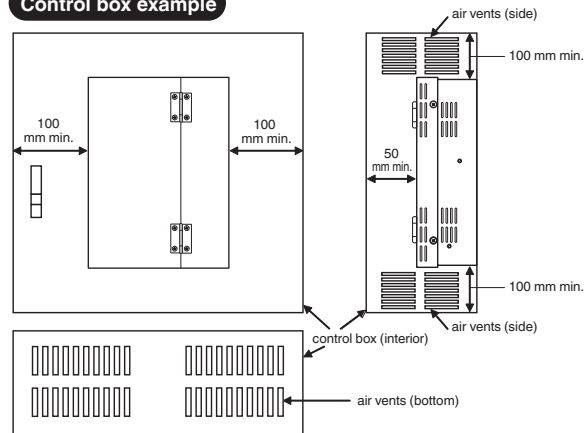


\* It is possible to install the unit upside down.

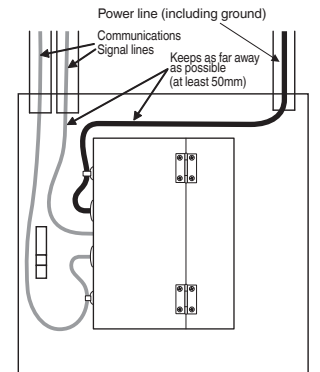
Take the following into consideration when designing the control box:

- 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.
- 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**

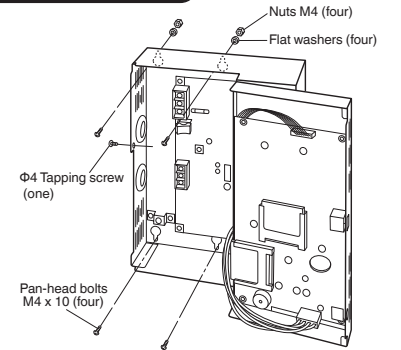


**2 Mounting**

**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.
- Remove the tapping screw at the side of the LAN connector and open the lid.
  - Mount the controller unit to the control box using the four supplied bolts, washers, and nuts.
  - Replace the lid, and secure it with the tapping screw.

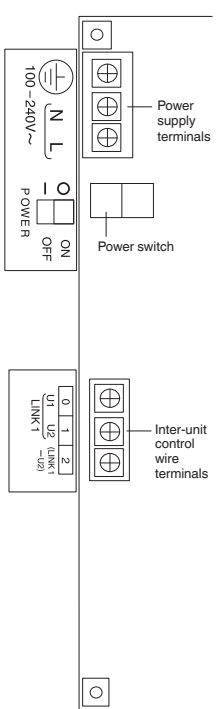
**Mounting diagram**



**3 Wiring**

Always shut off the power supply (breaker) before installing or uninstalling.

**Connection terminals**

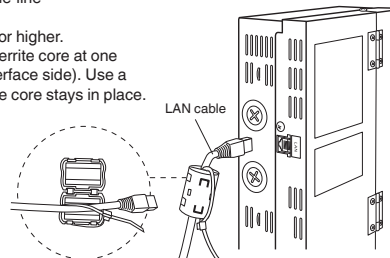
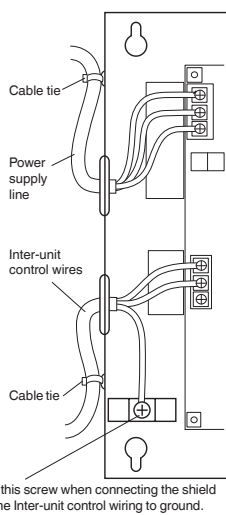


**(1) Power supply connection**

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.

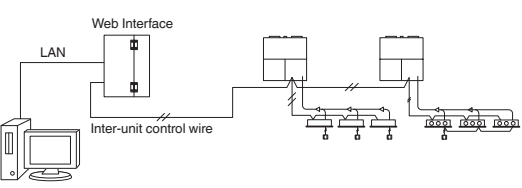
**(2) Signal connection**

- 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 mm<sup>2</sup> 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 Inter-unit 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-unit 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**

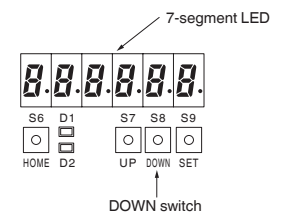
- Press and hold switch for more than 4 seconds. The 7-segment LED indication appears as below.

d - 5 A U E

Wait several minutes. The 7-segment LED indication appears as below.

P - o f f

- Turn the power switch off.



**5 Verify the system configuration, make necessary settings**

- Turn on power to all air conditioner units.
- Turn on power to the unit.
- Set the date and time on the unit and verify the system configuration.
- Verify the number of units connected.
- 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.