<ORIGINAL>

MITSUBISHI ELECTRIC

CITY MULTI

Air-Conditioners For Building Application
OUTDOOR UNIT
PANEL HEATER
PAC-PH01EHY-E, PAC-PH02EHY-E, PAC-PH03EHY-E

INSTALLATION MANUAL

For safe and correct use, please read this installation manual thoroughly before installing the air-conditioner unit.

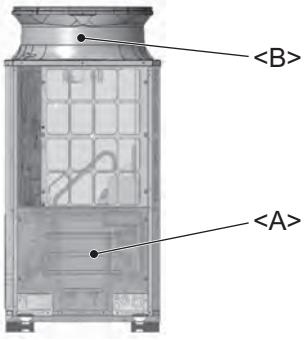
GB

6. Installation Procedures

6	6.0

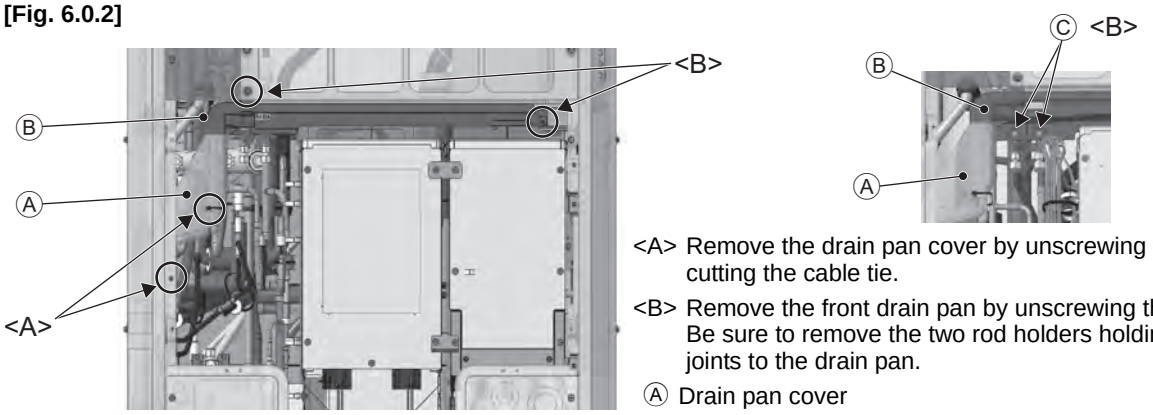
S-module

[Fig. 6.0.1]



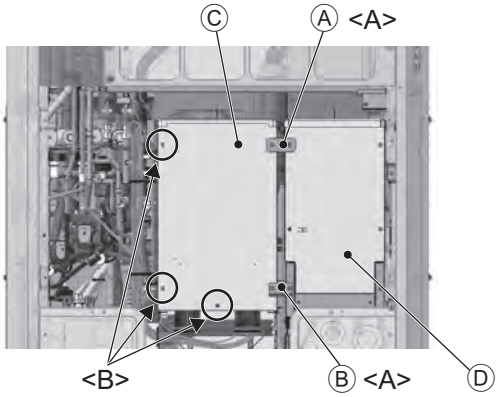
<A> Remove the front panel from the unit by unscrewing the eight screws.
<B> Remove the fan guard by unscrewing the six screws.
* Remove the snow protection hood (optional parts), if any.

[Fig. 6.0.2]



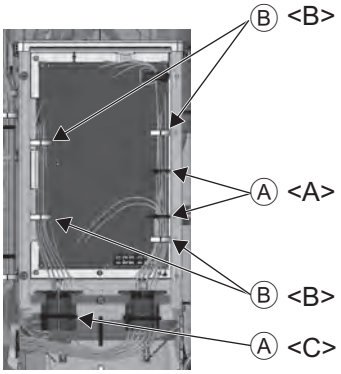
<A> Remove the drain pan cover by unscrewing the screws and cutting the cable tie.
<B> Remove the front drain pan by unscrewing the two screws. Be sure to remove the two rod holders holding the check joints to the drain pan.
Ⓐ Drain pan cover
Ⓑ Drain pan
Ⓒ Rod holder

[Fig. 6.0.3]



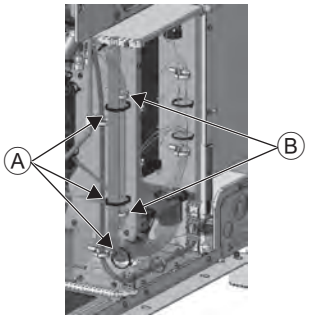
<A> Remove the top attachment and the bottom attachment connecting the main control box and inverter control box by unscrewing the two screws.
<B> Remove the cover from main control box by unscrewing the three screws.
Ⓐ Top attachment
Ⓑ Bottom attachment
Ⓒ Main control box
Ⓓ Inverter control box

[Fig. 6.0.4]



<A> Cut the two cable ties holding the weak electrical wiring inside the main control box in place.
<B> Loosen the four cable straps holding the weak and strong electrical wirings.
<C> Cut the two cable ties holding the rubber bush at the bottom of the main control box.
Ⓐ Cable tie
Ⓑ Cable strap

[Fig. 6.0.5]

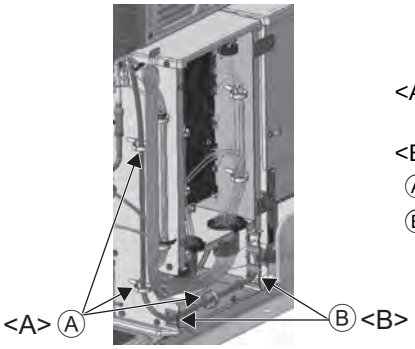


Cut the three cable ties and loosen the two cable straps holding the weak electrical wiring outside the main control box.

Ⓐ Cable tie

Ⓑ Cable strap

[Fig. 6.0.6]



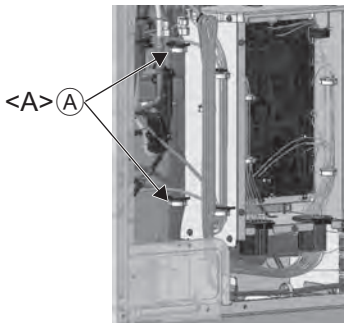
<A> Loosen the three cable straps holding the motor wiring outside and the bottom of the main control box.

<B> Remove the wiring from the two wire saddles.

Ⓐ Cable strap

Ⓑ Wire saddle

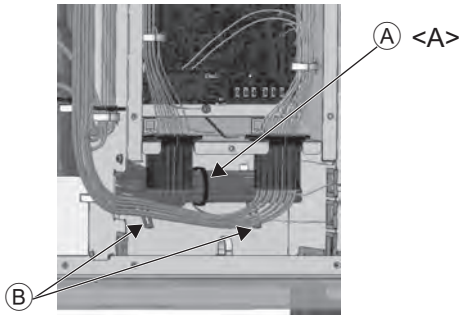
[Fig. 6.0.7]



<A> Loosen the two cable straps holding the strong electrical wiring outside and the bottom of the main control box.

Ⓐ Cable strap

[Fig. 6.0.8]

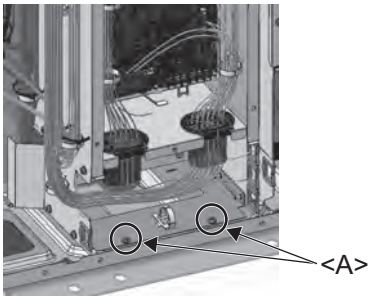


<A> Cut the cable tie and loosen the two welding clamps holding the strong electrical wiring at the bottom of the main control box.

Ⓐ Cable tie

Ⓑ Welding clamp

[Fig. 6.0.9]



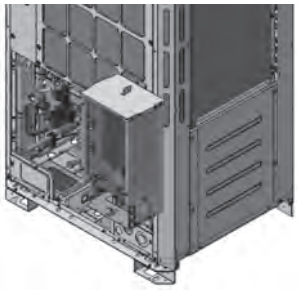
<A> Unscrew the two screws holding the main control box.

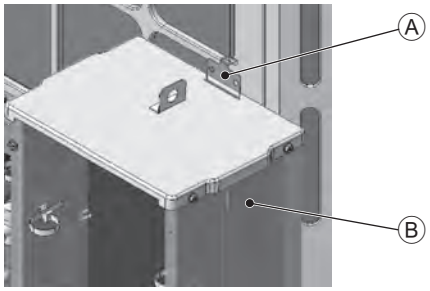
[Fig. 6.0.10]

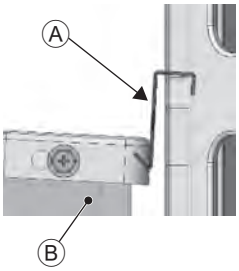
<A> Make sure that no undue force is applied to the wirings from which cable straps were removed. Attach the bottom attachment that was removed from the fin guard, and then hook the main control box on the attachment.

Ⓐ Bottom attachment

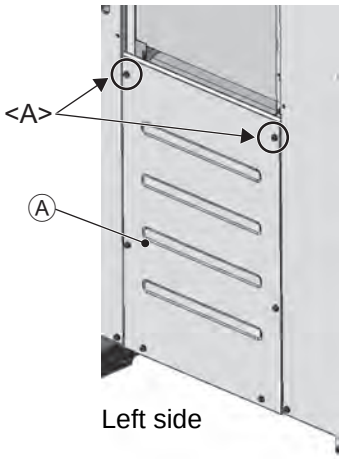
Ⓑ Main control box

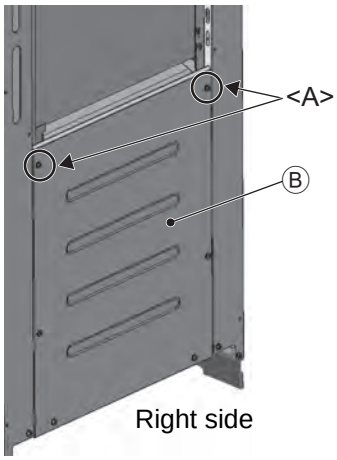






[Fig. 6.0.11]



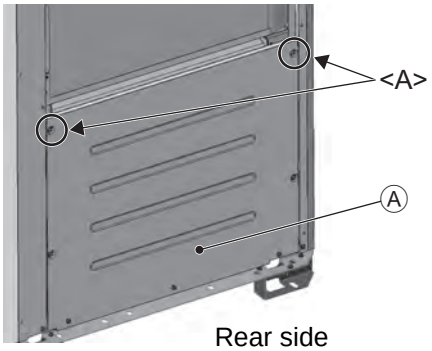


<A> Unscrew the two screws each on the right and left panels.

Ⓐ Left panel

Ⓑ Right panel

[Fig. 6.0.12]



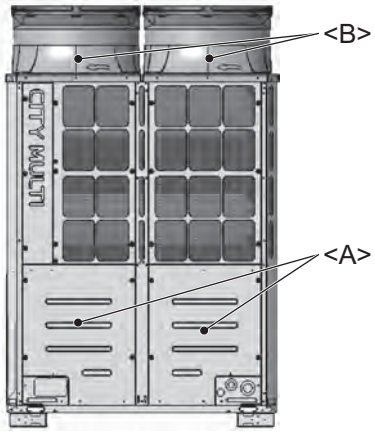
<A> Unscrew the two screws on the rear panel.

Ⓐ Rear panel

6 6.1

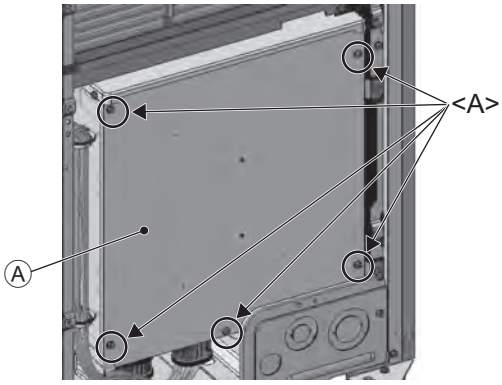
L-module

[Fig. 6.1.1]



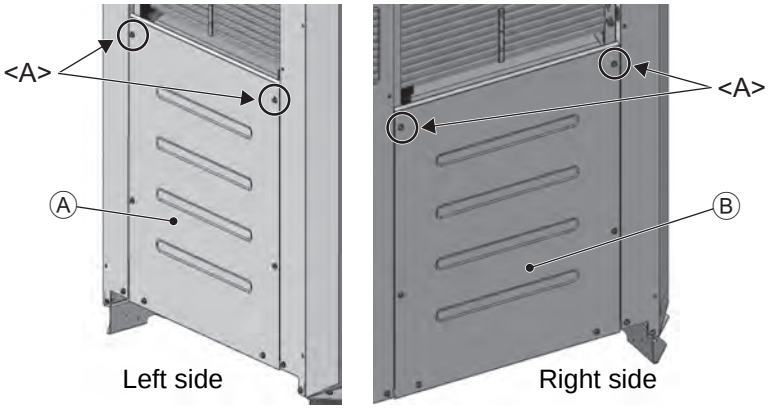
<A> Remove the front panel from the unit by unscrewing the 14 screws.
<B> Remove the fan guard by unscrewing the 12 screws.
* Remove the snow protection hood (optional parts), if any.

[Fig. 6.1.2]



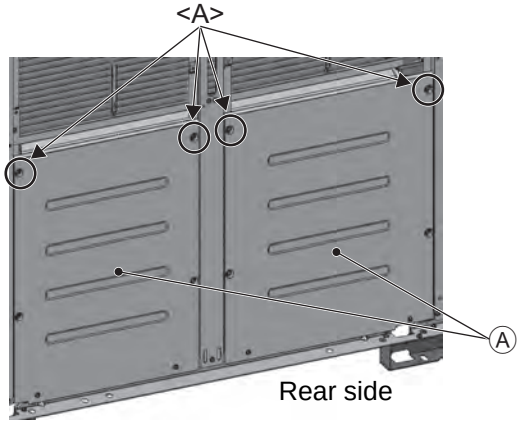
<A> Remove the control box front cover by unscrewing the five screws.
Ⓐ Control box front cover

[Fig. 6.1.3]



<A> Unscrew the two screws each on the right and left panels.
Ⓐ Left panel
Ⓑ Right panel

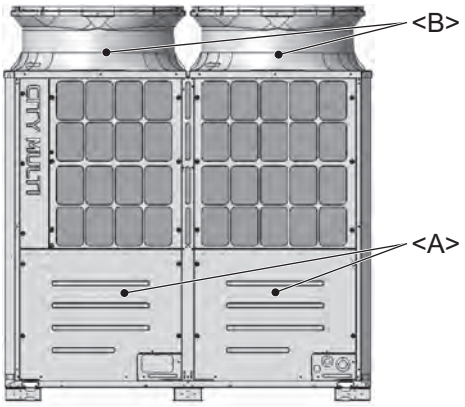
[Fig. 6.1.4]



<A> Unscrew the four screws on the rear panels.
Ⓐ Rear panel

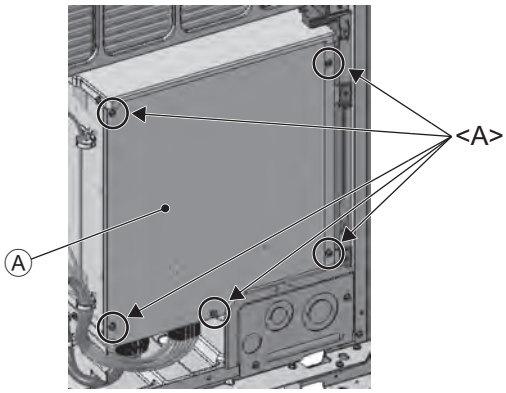
XL-module

[Fig. 6.2.1]



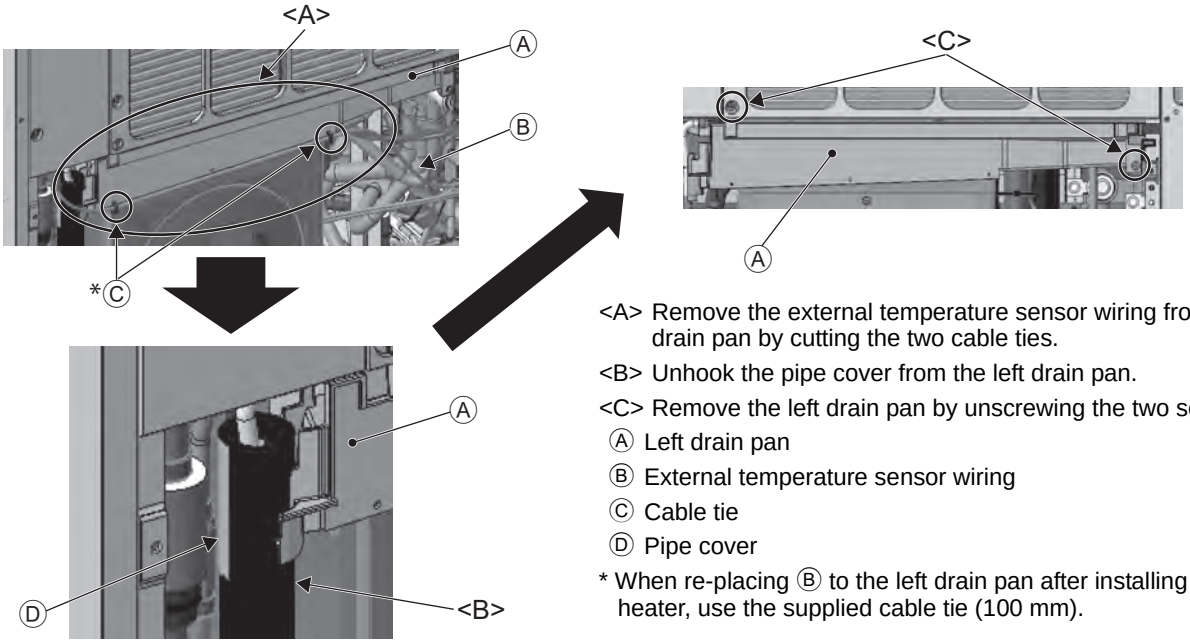
<A> Remove the front panel from the unit by unscrewing the 14 screws.
<B> Remove the fan guard by unscrewing the 12 screws.
* Remove the snow protection hood (optional parts), if any.

[Fig. 6.2.2]



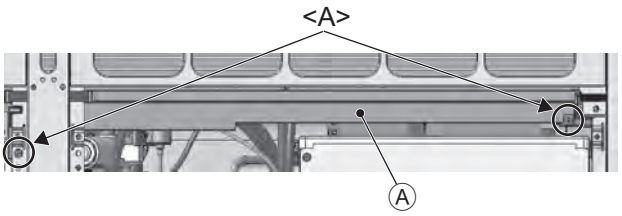
<A> Remove the control box front cover by unscrewing the five screws.
Ⓐ Control box front cover

[Fig. 6.2.3]



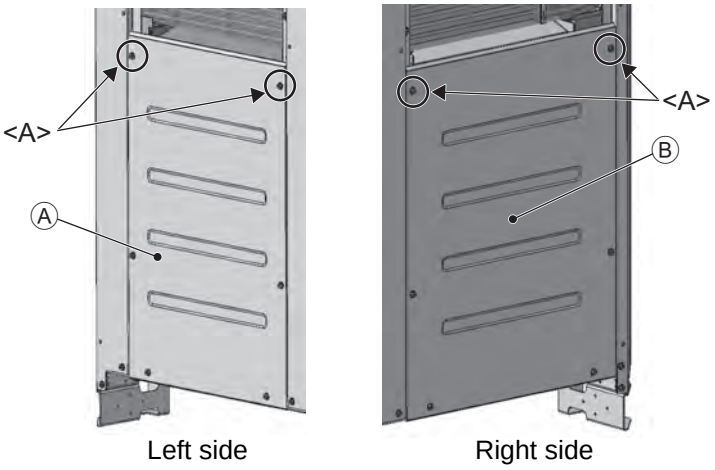
<A> Remove the external temperature sensor wiring from the left drain pan by cutting the two cable ties.
<B> Unhook the pipe cover from the left drain pan.
<C> Remove the left drain pan by unscrewing the two screws.
Ⓐ Left drain pan
Ⓑ External temperature sensor wiring
Ⓒ Cable tie
Ⓓ Pipe cover
* When re-placing Ⓑ to the left drain pan after installing the panel heater, use the supplied cable tie (100 mm).

[Fig. 6.2.4]



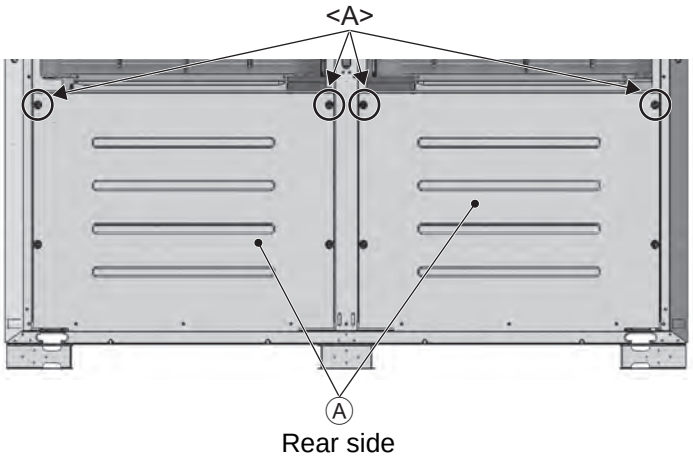
<A> Remove the right drain pan by unscrewing the two screws.
Ⓐ Right drain pan

[Fig. 6.2.5]



<A> Unscrew the two screws each on the right and left panels.
Ⓐ Left panel
Ⓑ Right panel

[Fig. 6.2.6]

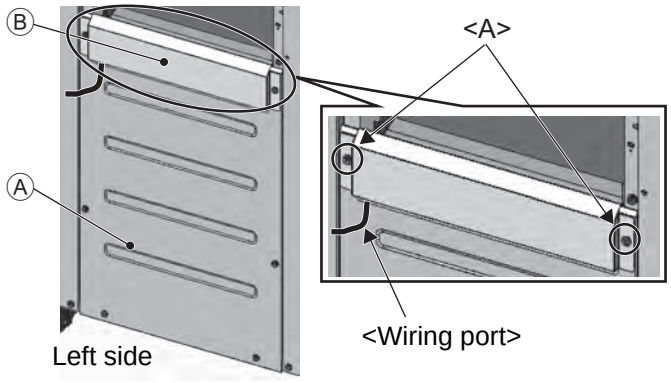


<A> Unscrew the two screws on the rear panels.
Ⓐ Rear panel

7. Panel Heater Installation

7	7.0

[Fig. 7.0.1]

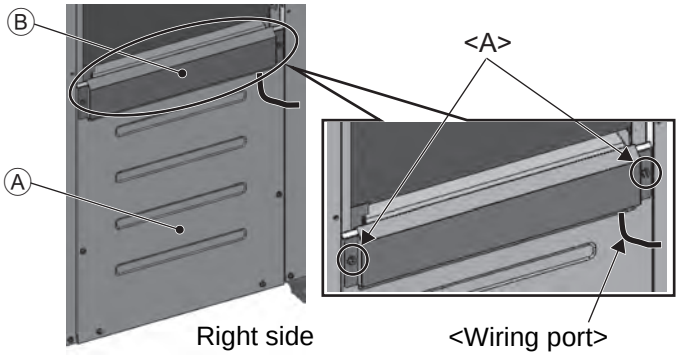


<A> Attach the panel heater to the upper side of the left panel and tighten it with two screws together.

Ⓐ Left panel

Ⓑ Panel heater L
(Left wiring port type, wiring color: Yellow)

[Fig. 7.0.2]

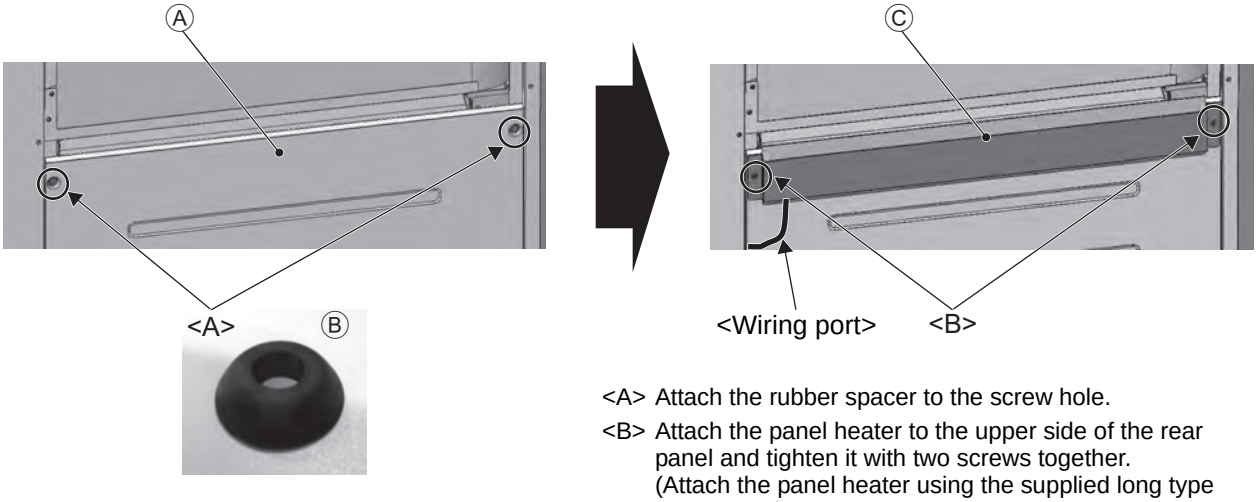


<A> Attach the panel heater to the upper side of the right panel and tighten it with two screws together.

Ⓐ Right panel

Ⓑ Panel heater R
(Right wiring port type, wiring color: Blue)

S-module
[Fig. 7.0.3]



<A> Attach the rubber spacer to the screw hole.

<B> Attach the panel heater to the upper side of the rear panel and tighten it with two screws together.
(Attach the panel heater using the supplied long type M5 screws.)

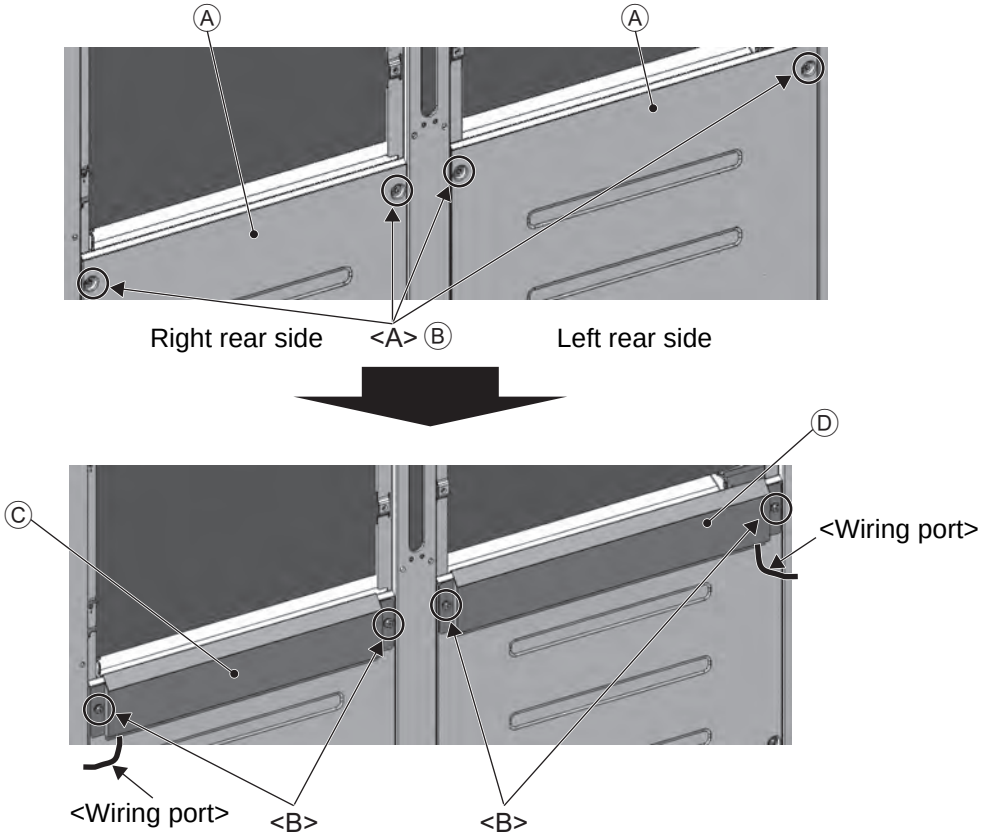
Ⓐ Rear panel

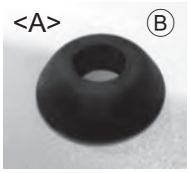
Ⓑ Rubber spacer

Ⓒ Panel heater B
(Left wiring port type, wiring color: White)

7	7.1

L/XL-module
[Fig. 7.1.3]





<A> Attach the rubber spacer to the screw hole.

<B> Attach the panel heater to the upper side of the rear panel and tighten it with two screws together. (Attach the panel heater using the supplied long type M5 screws.)

Ⓐ Rear panel

Ⓑ Rubber spacer

Ⓒ Panel heater BR
(Left wiring port type, wiring color: White)

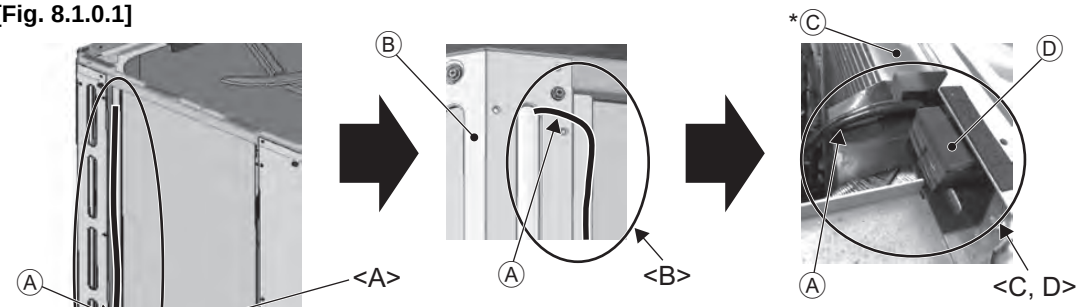
Ⓓ Panel heater BL
(Right wiring port type, wiring color: Red)

8. Electrical Wiring
Step 1. Panel heater wiring

8	8.1.0

S-module

[Fig. 8.1.0.1]



Left side

<A> Pull up the panel heater wirings so that the wirings run along the left rear pillar.

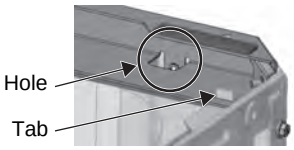
<B> Thread the panel heater wirings through the long hole on the left rear pillar.

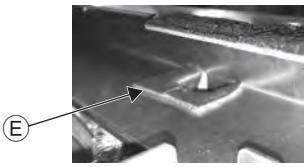
<C> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

<D> Pull the wiring through the hole on the left frame and bring it into the inner side of the heat exchanger.

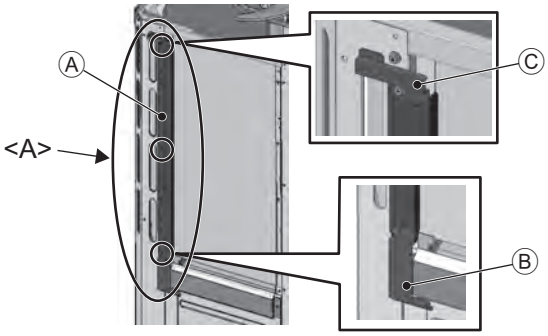
Ⓐ Panel heater wiring
Ⓑ Left rear pillar
Ⓒ Left frame
Ⓓ Plate rubber
Ⓔ Wire seal

* If the frame is not painted, place the supplied wire seal around the hole.





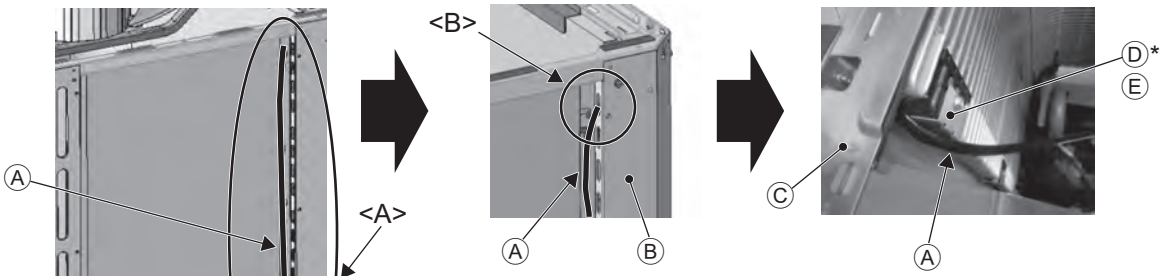
[Fig. 8.1.0.2]



<A> Screw down the metal sheet wiring cover at three points.

Ⓐ Cover wiring 1
Ⓑ Cover wiring 2
Ⓒ Cover wiring 4

[Fig. 8.1.0.3]



Right side

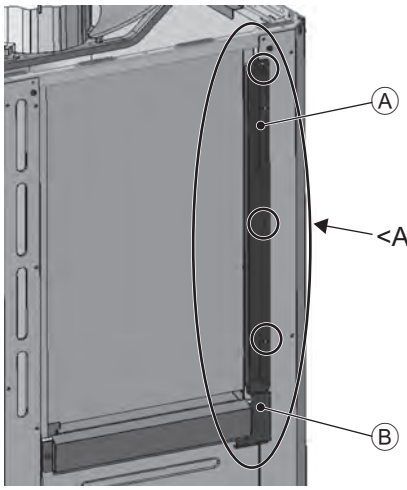
<A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

<B> Thread the wiring through the hole on the right rear pillar and bring it into the inner side of the heat exchanger.

Ⓐ Panel heater wiring
Ⓑ Right rear pillar
Ⓒ Right frame
Ⓓ Heat exchanger fixing plate
Ⓔ Wire seal

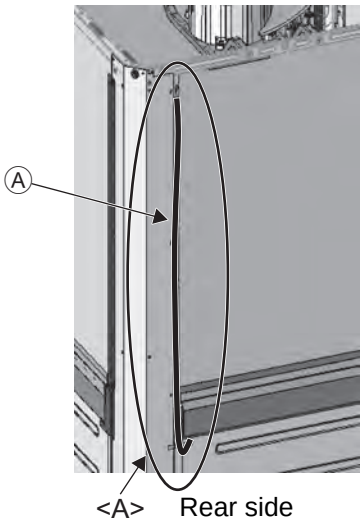
* If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

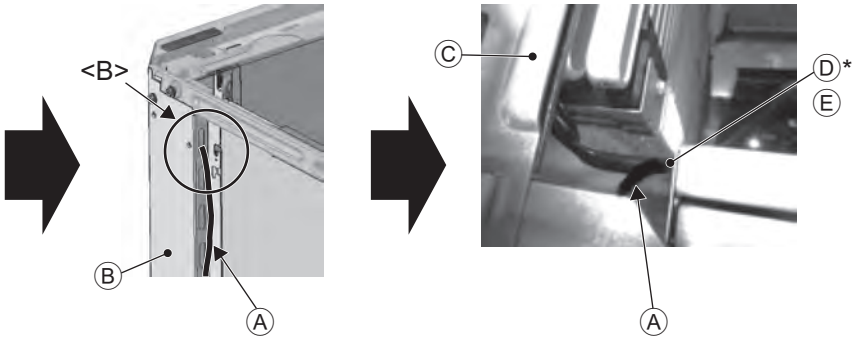
[Fig. 8.1.0.4]



<A> Screw down the metal sheet wiring cover at three points.
Ⓐ Cover wiring 1
Ⓑ Cover wiring 3

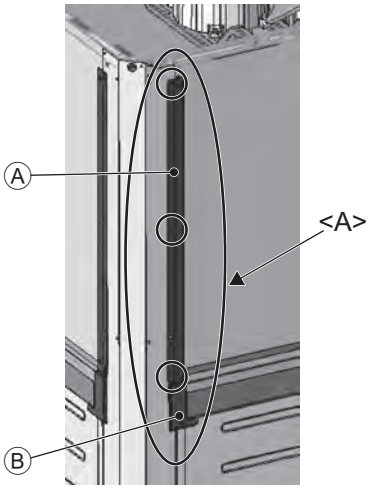
[Fig. 8.1.0.5]





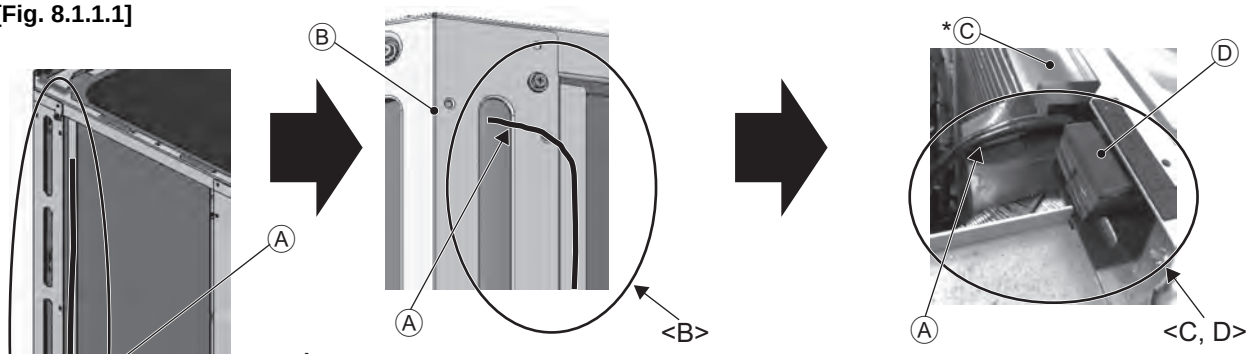
<A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.
<B> Thread the wiring through the hole on the right rear pillar and bring it into the inner side of the heat exchanger.
Ⓐ Panel heater wiring
Ⓑ Right rear pillar
Ⓒ Right frame
Ⓓ Heat exchanger fixing plate
Ⓔ Wire seal
* If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

[Fig. 8.1.0.6]



<A> Screw down the metal sheet wiring cover at three points.
Ⓐ Cover wiring 1
Ⓑ Cover wiring 2

L/XL-module
[Fig. 8.1.1.1]



Left side

<A> Pull up the panel heater wirings so that the wirings run along the left rear pillar.

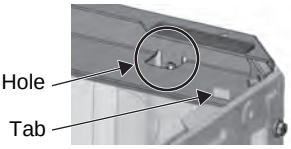
<B> Thread the panel heater wirings through the long hole on the left rear pillar.

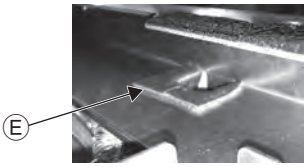
<C> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

<D> Pull the wiring through the hole on the left frame and bring it into the inner side of the heat exchanger.

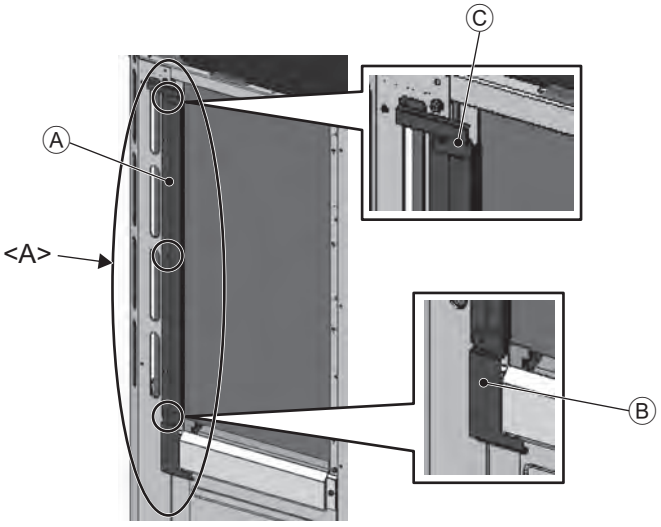
Ⓐ Panel heater wiring
Ⓑ Left rear pillar
Ⓒ Left frame
Ⓓ Plate rubber
Ⓔ Wire seal

* If the frame is not painted, place the supplied wire seal around the hole.





[Fig. 8.1.1.2]

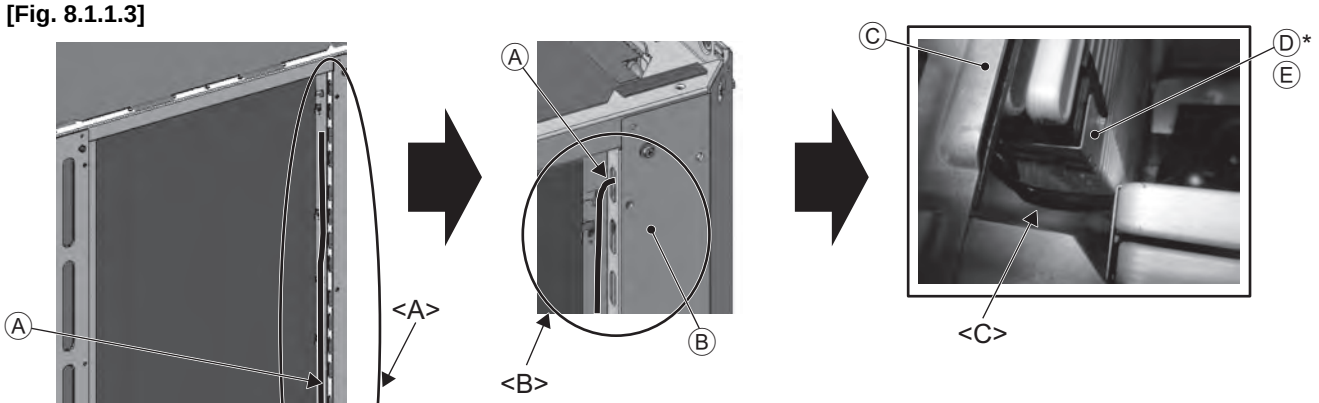


<A> Screw down the metal sheet wiring cover at three points.
Ⓐ Cover wiring 1
Ⓑ Cover wiring 2
Ⓒ Cover wiring 4

8	8.1.1

L-module

[Fig. 8.1.1.3]



Right side

<A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

<B> Thread the panel heater wirings through the long hole on the right rear pillar.

<C> Pull the wirings from the end of the heat exchanger and bring them into the inner side of the heat exchanger.

Ⓐ Panel heater wiring

Ⓑ Right rear pillar

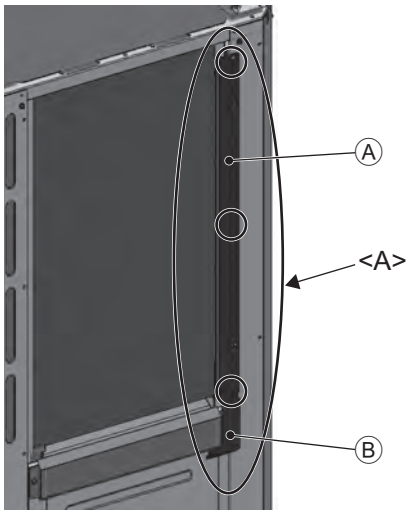
Ⓒ Right frame

Ⓓ Heat exchanger fixing plate

Ⓔ Wire seal

* If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

[Fig. 8.1.1.4]

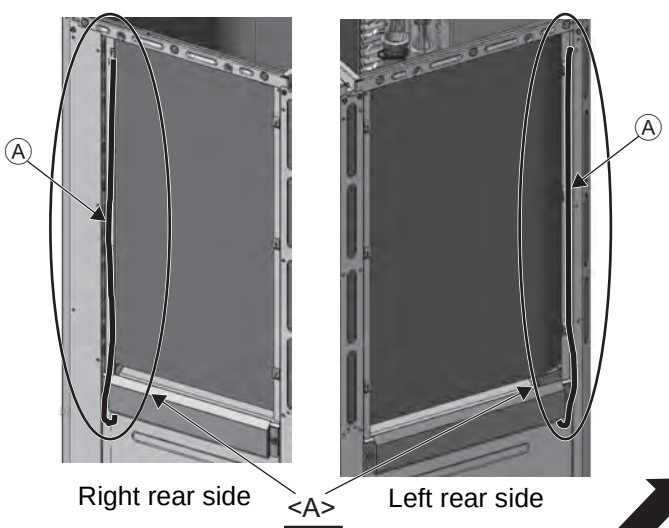


<A> Screw down the metal sheet wiring cover at three points.

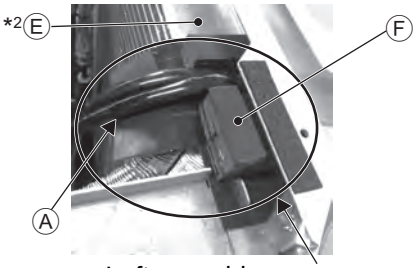
Ⓐ Cover wiring 1

Ⓑ Cover wiring 3

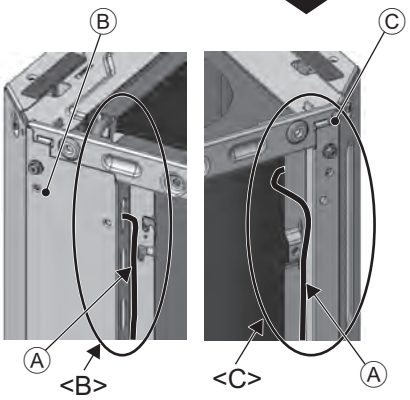
[Fig. 8.1.1.5]



<D> Right rear side



Left rear side <E, F>



Right rear side Left rear side

<A> Pull up the panel heater wirings so that the wirings run along each pillar.

<B> Thread the panel heater wirings through the long hole on the right rear pillar.

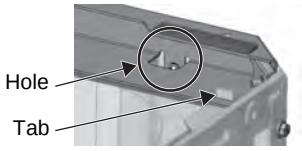
<C> Run the panel heater wirings between the left rear pillar and the heat exchanger.

<D> Pull the wirings from the end of the heat exchanger and bring them into the inner side of the heat exchanger.

<E> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

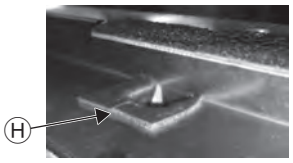
<F> Thread the wirings through the hole on the left frame, and bring them into the inner side of the heat exchanger.

Ⓐ Panel heater wiring
Ⓑ Right rear pillar
Ⓒ Left rear pillar
Ⓓ Right frame
Ⓔ Left frame
Ⓕ Plate rubber
Ⓖ Heat exchanger fixing plate
Ⓗ Wire seal



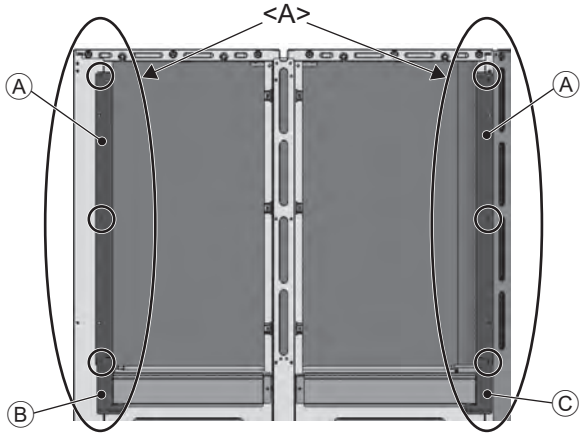
*1 If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

*2 If the frame is not painted, place the supplied wire seal around the hole.



Left rear side

[Fig. 8.1.1.6]

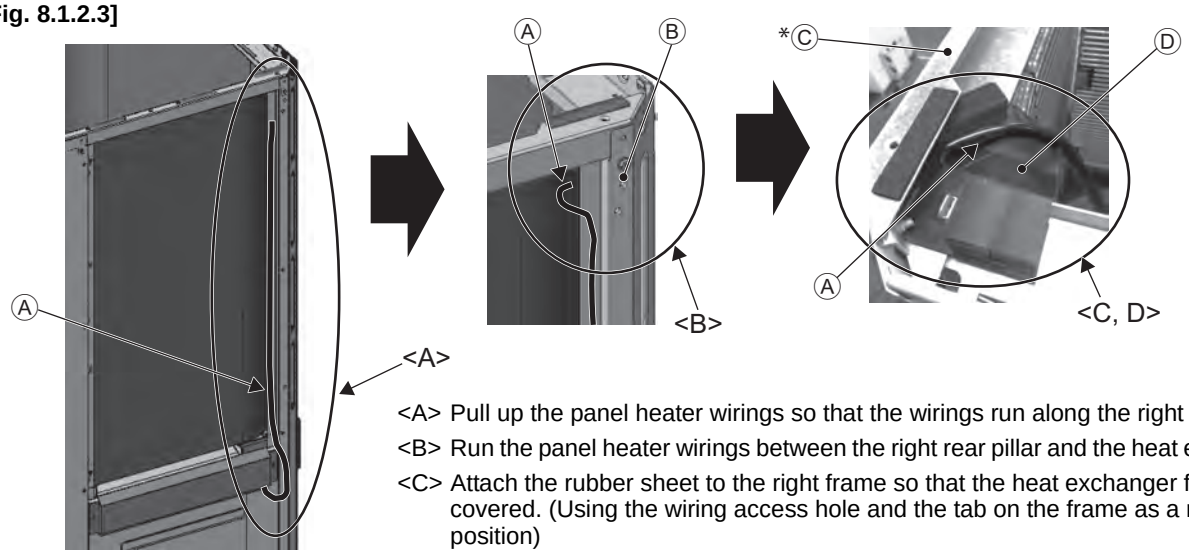


<A> Screw down the metal sheet wiring covers at three points.

Ⓐ Cover wiring 1
Ⓑ Cover wiring 2
Ⓒ Cover wiring 3

XL-module

[Fig. 8.1.2.3]



Right side

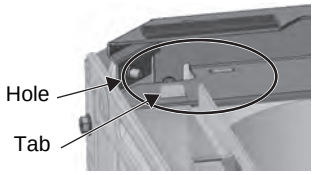
<A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

<B> Run the panel heater wirings between the right rear pillar and the heat exchanger.

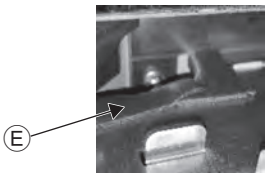
<C> Attach the rubber sheet to the right frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

<D> Pull the wiring through the hole on the right frame and into the inner side of the heat exchanger.

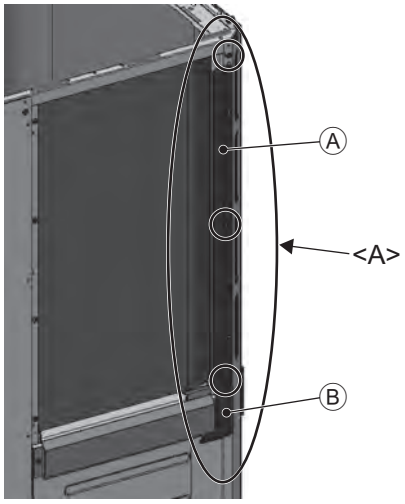
Ⓐ Panel heater wiring
Ⓑ Right rear pillar
Ⓒ Right frame
Ⓓ Plate rubber XL
Ⓔ Wire seal



* If the frame is not painted, place the supplied wire seal around the hole.

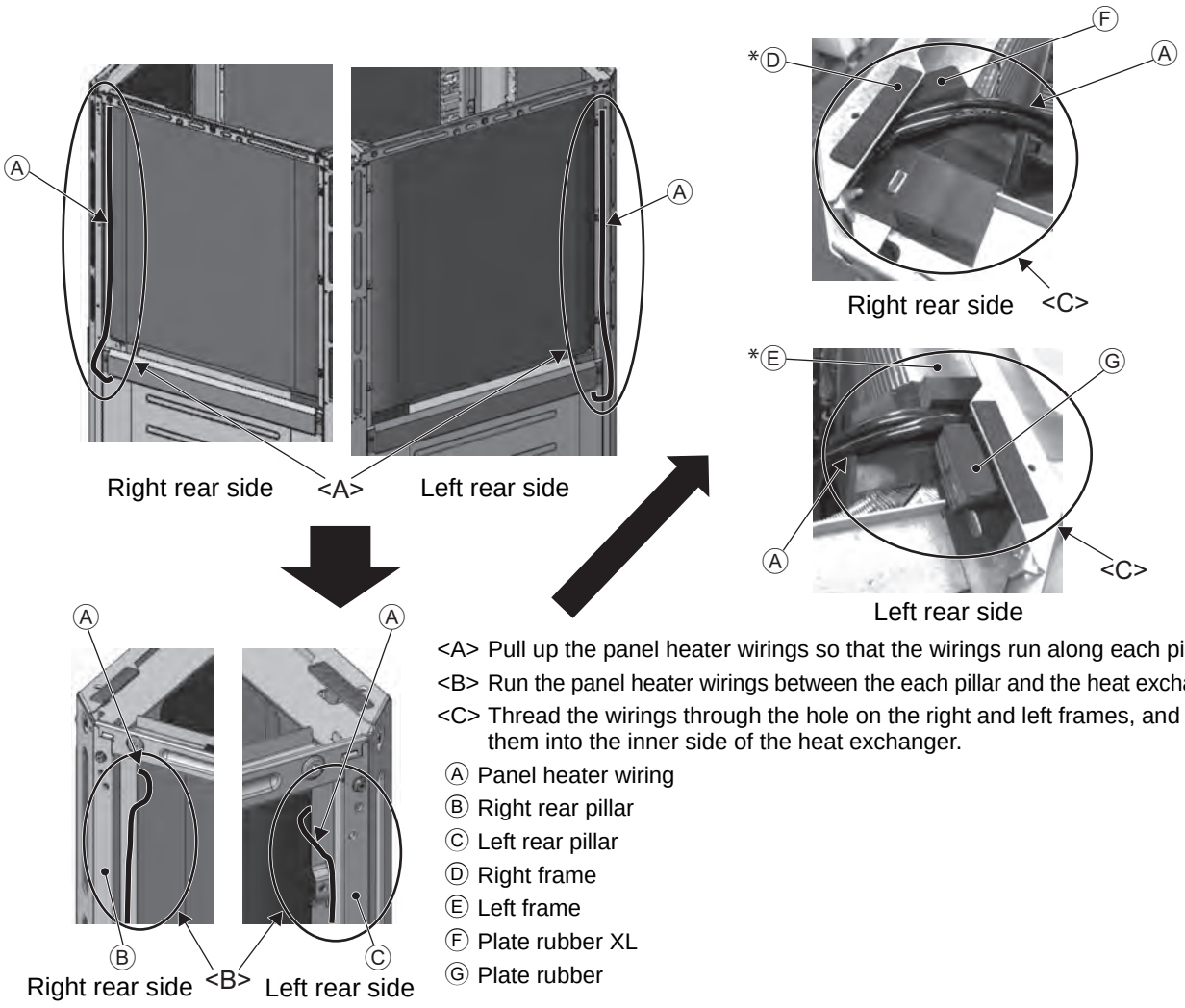


[Fig. 8.1.2.4]



<A> Screw down the metal sheet wiring cover at three points.
Ⓐ Cover wiring 1
Ⓑ Cover wiring 3

[Fig. 8.1.2.5]



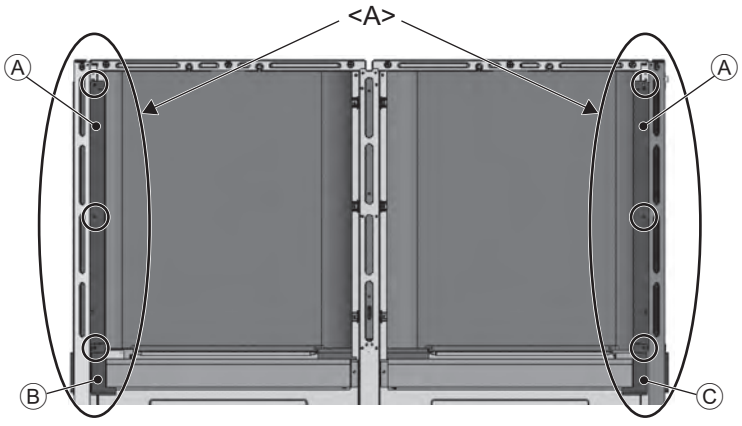
<A> Pull up the panel heater wirings so that the wirings run along each pillar.

<B> Run the panel heater wirings between the each pillar and the heat exchanger.

<C> Thread the wirings through the hole on the right and left frames, and bring them into the inner side of the heat exchanger.

Ⓐ Panel heater wiring
Ⓑ Right rear pillar
Ⓒ Left rear pillar
Ⓓ Right frame
Ⓔ Left frame
Ⓕ Plate rubber XL
Ⓖ Plate rubber

[Fig. 8.1.2.6]



<A> Screw down the metal sheet wiring covers at three points.

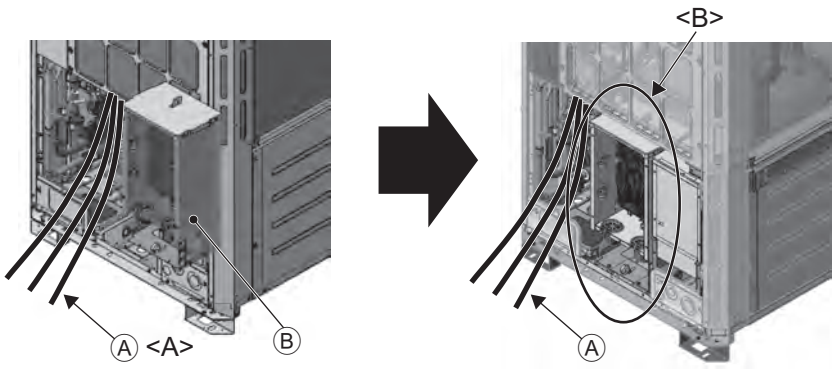
Ⓐ Cover wiring 1
Ⓑ Cover wiring 2
Ⓒ Cover wiring 3

Step 2. Fastening the panel heater wirings

8	8.2.0

S-module

[Fig. 8.2.0.1]

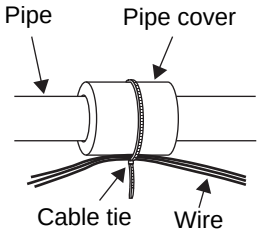


<A> Run the panel heater wirings outside the unit. Wrap the supplied pipe cover around the pipe so that the heat exchanger, refrigerant piping, and sheet metal edges are out of contact with panel heater wirings located between the heat exchanger and where indicated as <A> in the figure. Then fix the pipe cover and the wirings in place with a cable tie.

<B> Re-place the main control box and the wirings.

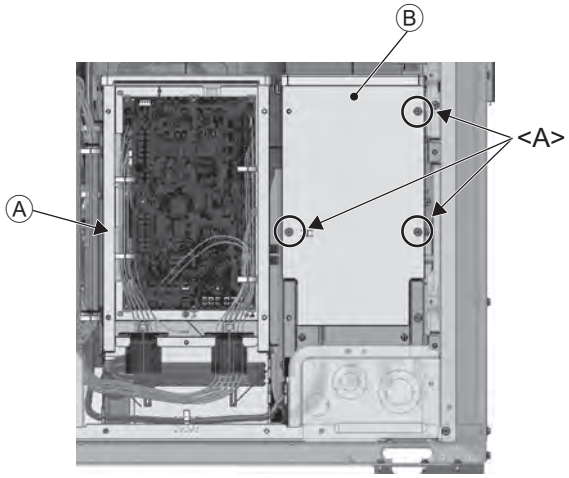
Ⓐ Panel heater wiring

Ⓑ Main control box



Wiring fixing image

[Fig. 8.2.0.2]

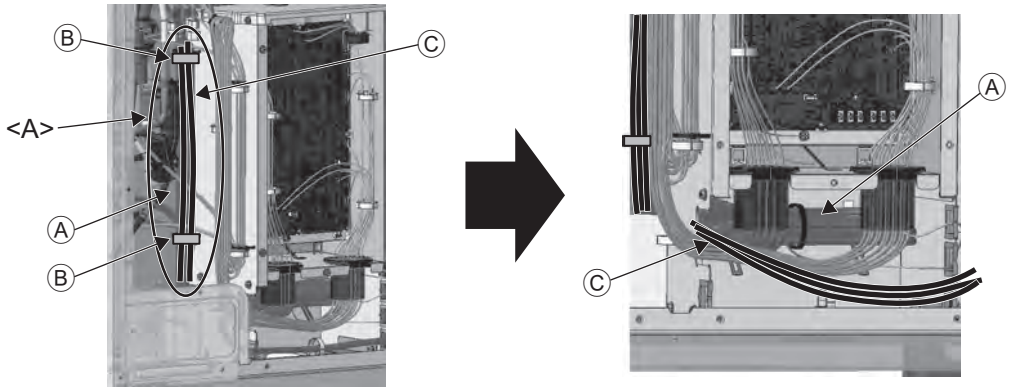


<A> Remove the cover from the inverter control box by unscrewing the three screws.

Ⓐ Main control box

Ⓑ Inverter control box

[Fig. 8.2.0.3]



<A> Run the panel heater wirings along with the strong electrical wiring in the back of the main control box, and fasten them with cable straps.

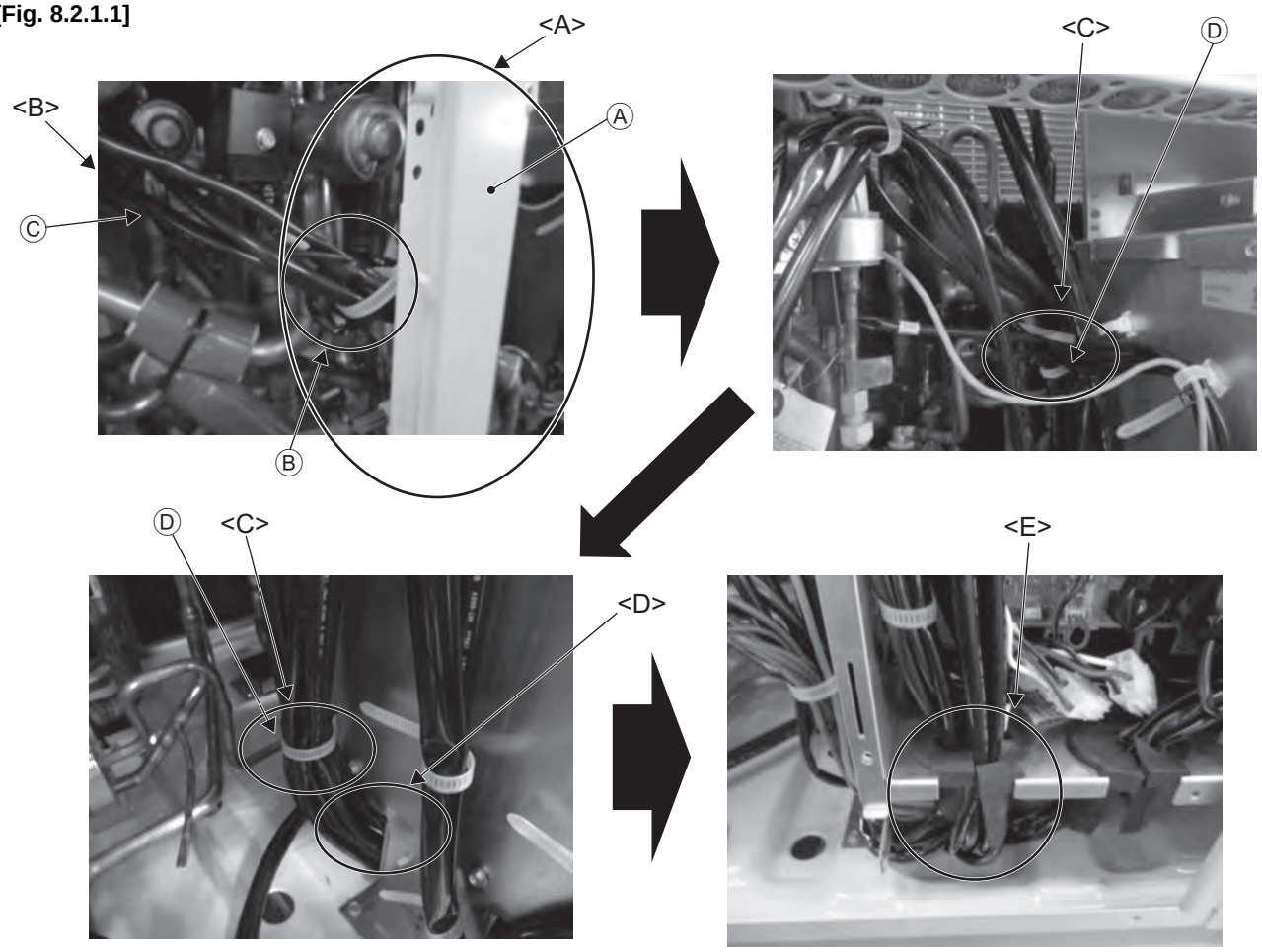
Ⓐ Strong electrical wiring

Ⓑ Cable strap

Ⓒ Panel heater wiring

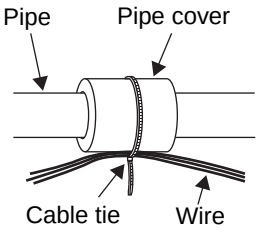
L/XL-module

[Fig. 8.2.1.1]



<A> Fasten the panel heater wirings with the cable strap on the center front pillar together with the strong electrical wiring.

<B> When performing <A> above, if the panel heater wirings are in contact with the heat exchanger, refrigerant piping, and sheet metal edges, wrap the supplied pipe cover around the pipe so that the wirings are out of contact with them. Then, fix the wirings in place with a cable tie.



Wiring fixing image

<C> Fasten the panel heater wirings with the cable strap for holding strong electrical wiring on the outside of the control box together with other wirings.

<D> Thread the panel heater wirings through the cable hole at the lower part of the control box along with other wirings.

<E> Thread all wirings on the left through the hole below the control box.

Ⓐ Center front pillar

Ⓑ Cable strap for strong electrical wiring (on the center front pillar)

Ⓒ Panel heater wirings

Ⓓ Cable strap for strong electrical wiring (on the outside of the control box)

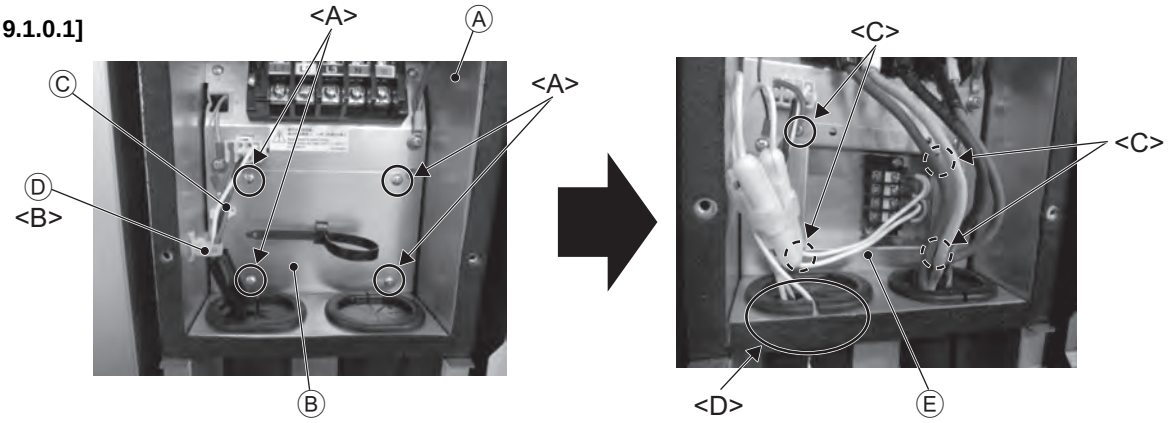
9. Terminal Assy Installation

Step 1. Installing and wiring the terminal block to the control box

9	9.1.0

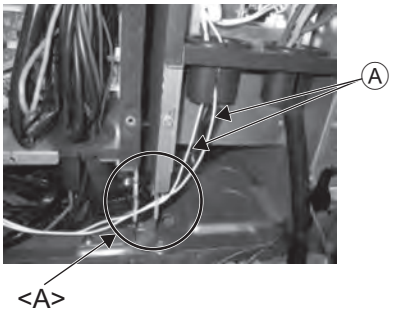
S-module

[Fig. 9.1.0.1]

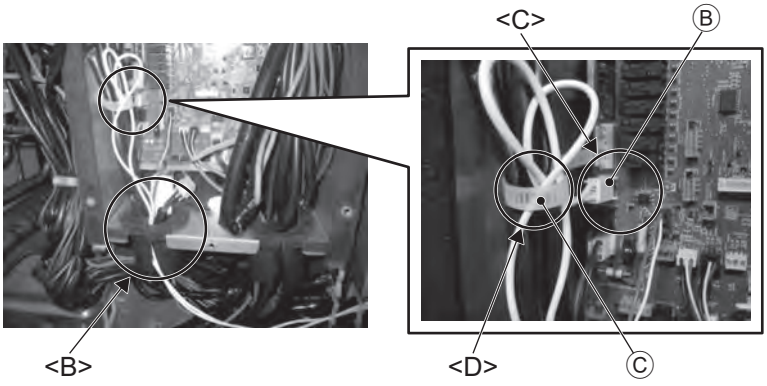


<A> Remove the attachment plate from the inverter control box by unscrewing the four screws.
<B> Loosen the cable strap holding the fan motor electrical wiring.
<C> Mount the terminal assy on the inverter control box with four screws.
<D> Thread the terminal assy wiring through the rubber bush.
Ⓐ Inverter control box
Ⓑ Attachment plate
Ⓒ Fan motor electrical wiring
Ⓓ Cable strap
Ⓔ Terminal assy

[Fig. 9.1.0.2]

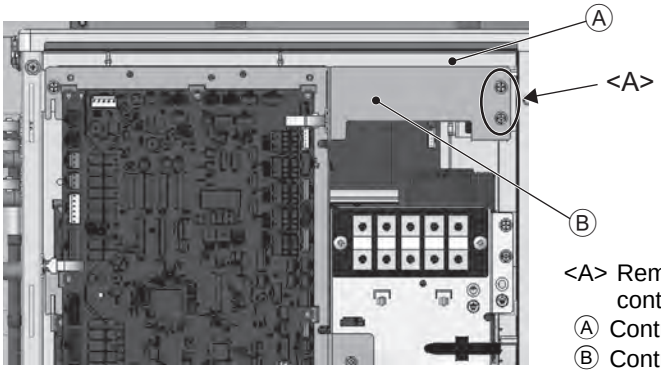


<A> Fasten the terminal assy wiring with a wire saddle.
<B> Thread the terminal assy wiring through the rubber bush on the main control box on the strong electrical wiring side.
<C> Connect the wiring to the circuit board.
<D> Fasten excess wiring with the cable strap.
Ⓐ Fuse wiring
Ⓑ Fuse wiring connector
Ⓒ Cable strap



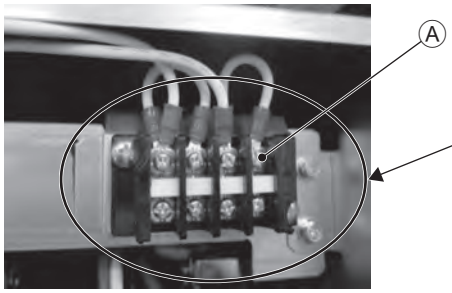
L/XL-module

[Fig. 9.1.1.1]



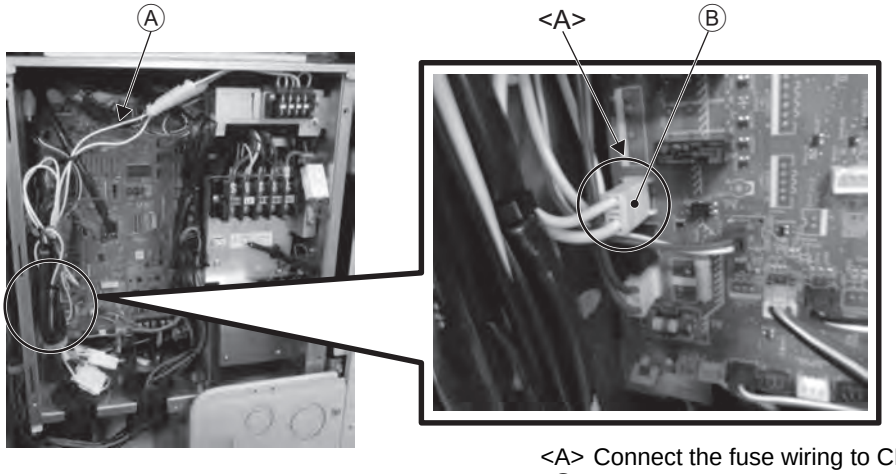
<A> Remove the two screws holding the control board assy to the control box.
Ⓐ Control box
Ⓑ Control board assy

[Fig. 9.1.1.2]



<A> Hook the top part of the terminal block on the sheet metal of the control board assy, and hold them together with the two removed screws.
Ⓐ Terminal

[Fig. 9.1.1.3]



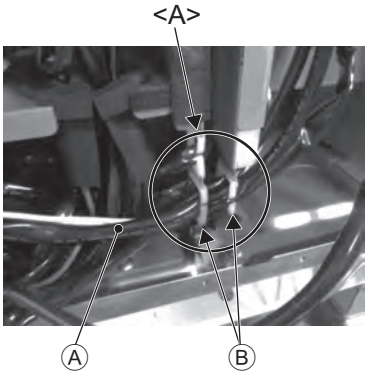
<A> Connect the fuse wiring to CN510 on the circuit board.
Ⓐ Fuse wiring
Ⓑ Fuse wiring connector

Step 2. Wiring the panel heater to the control box

9	9.2.0

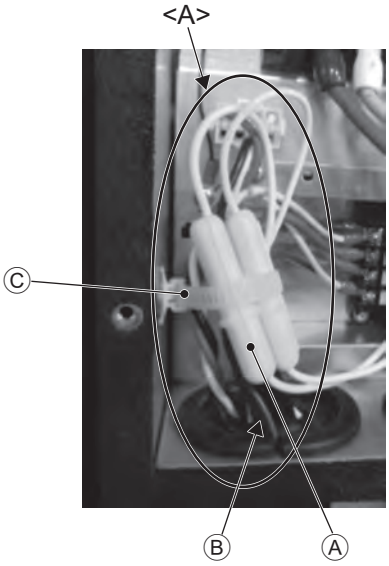
S-module

[Fig. 9.2.0.1]



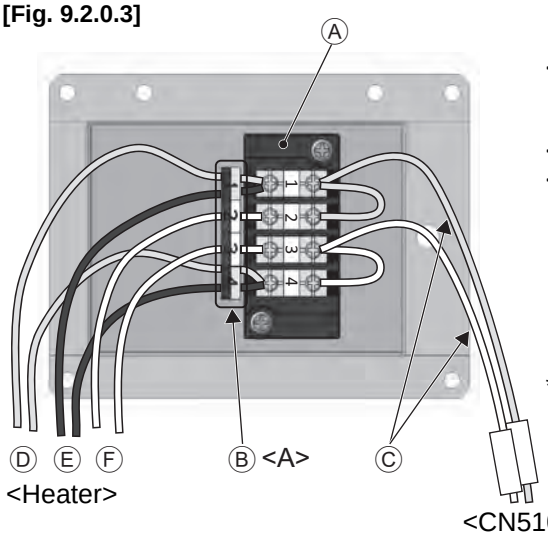
<A> Fasten the panel heater wirings with the wire saddles on the main control box and the inverter control box.
Ⓐ Panel heater wirings
Ⓑ Wire saddle

[Fig. 9.2.0.2]



<A> Route the panel heater wirings into the inverter control box through the rubber bush.
Fasten the panel heater wirings together with the fan motor electrical wiring and the terminal assy wiring with a cable strap.
Ⓐ Terminal assy wiring
Ⓑ Panel heater wirings
Ⓒ Cable strap

[Fig. 9.2.0.3]



<A> Wire the panel heater wirings as shown in the figure. Match the label color with the wiring color, and the label number with the wiring number.
<B> CORRECT
<C> INCORRECT
Ⓐ Terminal
Ⓑ Label
Ⓒ Terminal assy wiring
Ⓓ Left panel heater wiring (yellow)
Ⓔ Right panel heater wiring (blue)
Ⓕ Rear right panel heater wiring (white)
* See the figure below for how to connect two ring terminals to a single terminal.

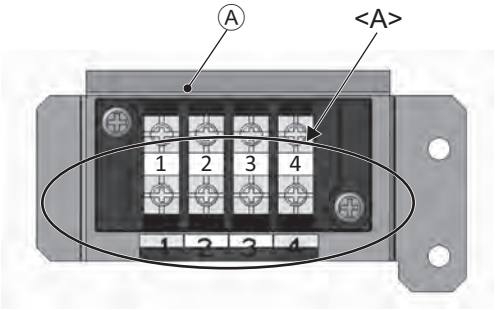
Location of panel heater wiring connection	Wiring color	Terminal block number	
Left side	Yellow	1	4
Right side	Blue	1	4
Rear side	White	2	3


<B>


<C>

L/XL-module

[Fig. 9.2.1.1]



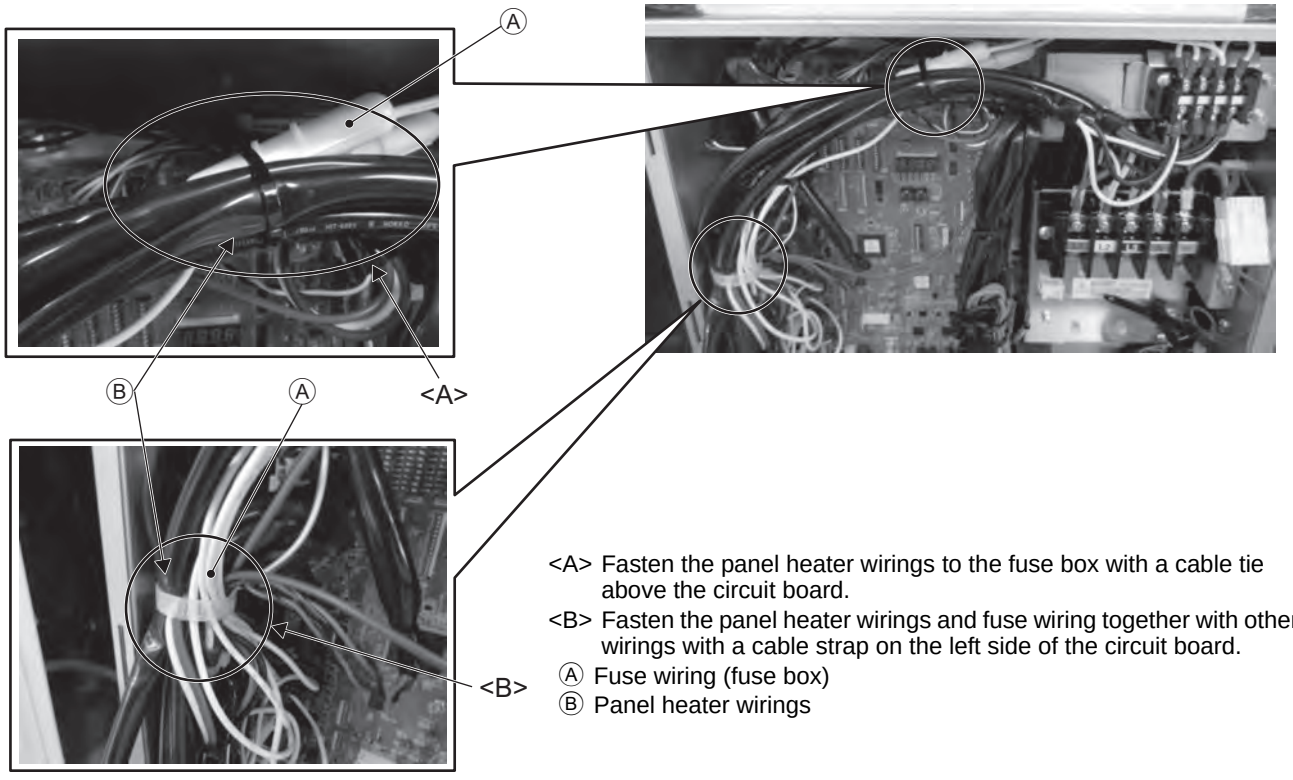
<A> Connect the panel heater wirings to the correct terminal block. (See the table below.)
<B> CORRECT
<C> INCORRECT
Ⓐ Terminal
* See the figure below for how to connect two ring terminals to a single terminal.

Location of panel heater wiring connection	Wiring color	Terminal block number	
Left side	Yellow	1	4
Right side	Blue	1	4
Left rear side	Red	2	3
Right rear side	White	2	3


<B>


<C>

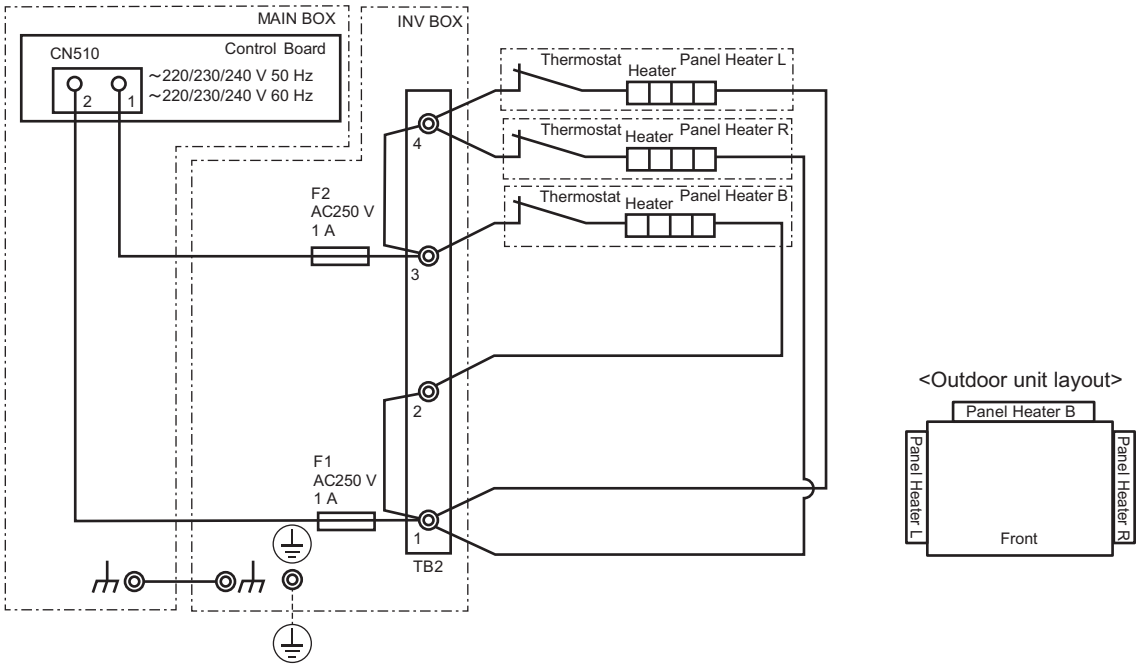
[Fig. 9.2.1.2]



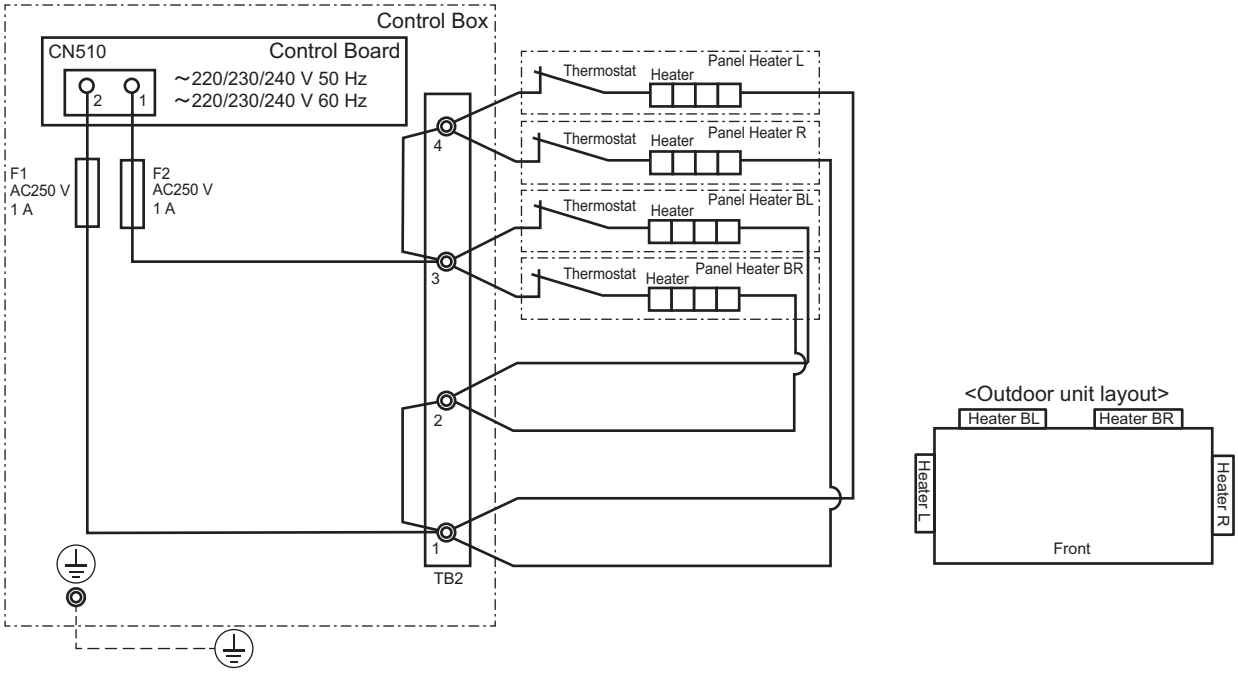
<A> Fasten the panel heater wirings to the fuse box with a cable tie above the circuit board.
<B> Fasten the panel heater wirings and fuse wiring together with other wirings with a cable strap on the left side of the circuit board.
Ⓐ Fuse wiring (fuse box)
Ⓑ Panel heater wirings

9.3

[Fig.9.3.1]
S-module



[Fig.9.3.2]
L/XL-module



9.4

[Fig.9.4.1]

Dipswitch settings

① Set the 10th bit of SW6 to ON.

② Set SW4 as shown in the table below to select the setting item No.974.
(The setting item No. will be displayed on LED1.)

③ Press SWP3 for two seconds or longer to change the settings. (The settings can be checked on LED3.)

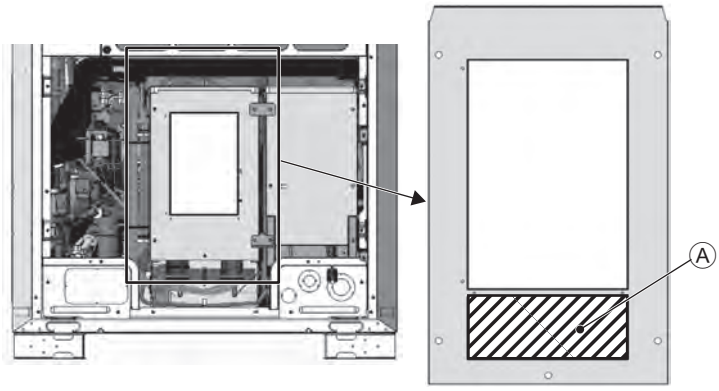
	Setting item No.	SW40:OFF, 1:ON*1										Setting (LED3 display)	
		1	2	3	4	5	6	7	8	9	10	Unlit	Lit
Panel heater setting	974	0	1	1	1	0	0	1	1	1	1	Panel heater ineffective	Panel heater effective

*1 Set SW4 while the unit is stopped.

10. Reassembly

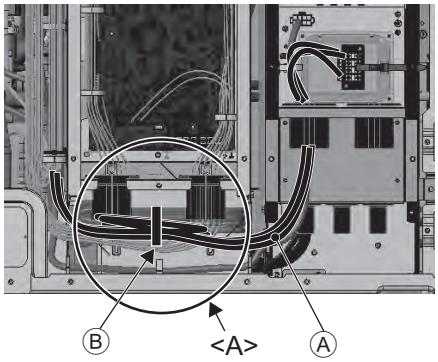
10	10.0

S-module
[Fig. 10.0.1]



<A> Attach the supplied wiring diagram nameplate under the caution plate on the main control box cover.
Ⓐ Label

[Fig. 10.0.2]



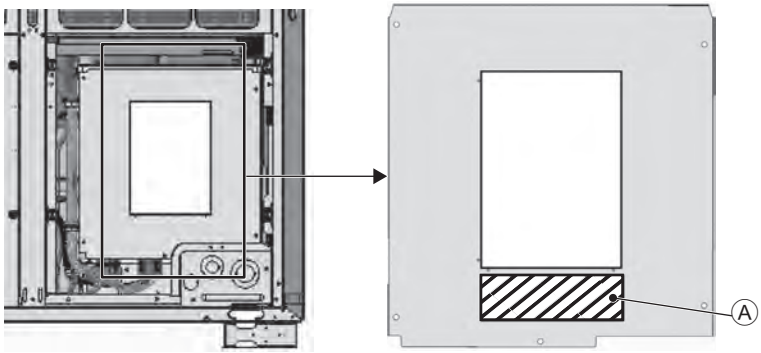
<A> Bundle the excess panel heater wirings at the bottom of the main control box with the cable tie.
Ⓐ Panel heater wiring
Ⓑ Cable tie

[Fig. 10.0.3]

Re-place all components as they were.

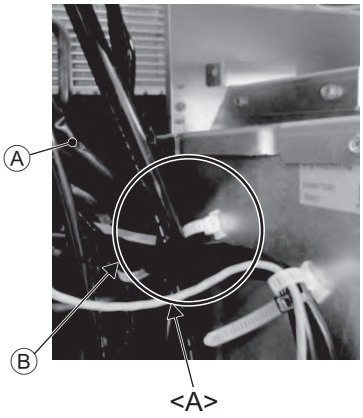
10	10.1

L/XL-module
[Fig. 10.1.1]



<A> Attach the supplied wiring diagram nameplate under the caution plate on the control box front cover.
Ⓐ Label

[Fig. 10.1.2]



<A> Bundle the excess panel heater wirings with the cable strap for holding strong electrical wiring at the side of the control box.
Ⓐ Panel heater wiring
Ⓑ Cable strap

[Fig. 10.1.3]

Re-place all components as they were.

Contents

*** For information not contained in this booklet, please refer to the Installation Manual of the outdoor unit.**

- **Use the supplied terminal block for the panel heater.**
- **Switch setting is required to use the panel heater.**
- **Using a snow hood is recommended.**
- **When the panel heater is installed in a place where winds blow directly to it, install a wind guard to obtain enough heating effect.**

GB

1. Safety precautions

1.1. Before installation and electric work

▶ Before installing the unit, make sure you read all the "Safety precautions".
▶ The "Safety precautions" provide very important points regarding safety. Make sure you follow them.

Symbols used in the text

⚠ Warning:
Describes precautions that should be observed to prevent danger of injury or death to the user.

⚠ Caution:
Describes precautions that should be observed to prevent damage to the unit.

Symbols used in the illustrations

⃠ : Indicates an action that must be avoided.

❗ : Indicates that important instructions must be followed.

⏚ : Indicates a part which must be grounded.

⚡ : Beware of electric shock. (This symbol is displayed on the main unit label.) <Color: yellow>

⚠ Warning:
Carefully read the labels affixed to the main unit.

⚠ HIGH VOLTAGE WARNING:

- **Control box houses high-voltage parts.**
- **When opening or closing the front panel of the control box, do not let it come into contact with any of the internal components.**
- **Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between FT-P and FT-N on INV Board has dropped to DC20V or less.**
  (It takes about 10 minutes to discharge electricity after the power supply is turned off.)

⚠ Warning:

- **Ask the dealer or an authorized technician to install the air conditioner.**
  - Improper installation by the user may result in water leakage, electric shock, or fire.
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.**
- **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.**
- **Use the specified cables for wiring. Make the connections securely so that the outside force of the cable is not applied to the terminals.**
  - Inadequate connection and fastening may generate heat and cause a fire.
- **Always use accessories specified by Mitsubishi Electric.**
  - Ask an authorized technician to install the accessories. Improper installation by the user may result in water leakage, electric shock, or fire.
- **Never repair the unit. If the air conditioner must be repaired, consult the dealer.**
  - If the unit is repaired improperly, water leakage, electric shock, or fire may result.
- **If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**
- **To reduce the risk of electric shock, do not install the unit when it is raining.**
- **Never attempt to repair the unit without the proper qualifications. If the air conditioner must be repaired consult the dealer, contractor or qualified Refrigeration Engineer.**
  - If the unit is repaired improperly, water leakage, electric shock, or fire may result.
- **Have all electric work done by a licensed electrician according to the "Electric Facility Engineering Standard", the "Wire Regulations in each area" and the instructions given in this manual and always use a dedicated power supply.**
  - If the power source capacity is inadequate or electric work is performed improperly, electric shock and fire may result.
- **Securely install the outdoor unit terminal cover (panel).**
  - If the terminal cover (panel) is not installed properly, dust or water may enter the outdoor unit and fire or electric shock may result.
- **When moving and reinstalling the air conditioner, consult the dealer or an authorized technician.**
  - If the air conditioner is installed improperly, water leakage, electric shock, or fire may result.
- **Do not reconstruct or change the settings of the protection devices.**
  - If the pressure switch, thermal switch, fuse, or other protection device is shorted or operated forcibly, or parts other than those specified by Mitsubishi Electric are used, fire or explosion may result.
- **To dispose of this product, consult your dealer.**
- **The installer and system specialist shall secure safety against leakage according to local regulation or standards.**
  - Choose the appropriate wire size and the switch capacities for the main power supply described in this manual if local regulations are not available.
- **Children should be supervised to ensure that they do not play with the appliance.**

1.2. Before installation

⚠ Caution:

- **Do not use the air conditioner in special environments.**
  - Oil, steam, sulfuric smoke, etc. can significantly reduce the performance of the air conditioner or damage its parts.
- **When installing the unit in a hospital, communication station, or similar place, provide sufficient protection against noise.**
  - Inverter equipment, private power generator, high-frequency medical equipment, or radio communication equipment may cause the air conditioner to operate erroneously, or fail to operate. On the other hand, the air conditioner may affect such equipment by creating noise that disturbs medical treatment or image broadcasting.
- **To reduce the risk of injury, wear protective gear when working on the controller.**

1.3. Before installation (relocation) - electrical work

⚠ Caution:

- **Ground the unit.**
  - Do not connect the ground wire to gas or water pipes, lightning rods, or telephone ground lines. Improper grounding may result in electric shock.
- **Install the power cable so that tension is not applied to the cable.**
  - Tension may cause the cable to break and generate heat and cause a fire.
- **Install a leak circuit breaker, as required.**
  - If a leak circuit breaker is not installed, electric shock may result.
- **Use power line cables of sufficient current carrying capacity and rating.**
  - Cables that are too small may leak, generate heat, and cause a fire.
- **Use only a circuit breaker and fuse of the specified capacity.**
  - A fuse or circuit breaker of a larger capacity, or the use of a substitute simple steel or copper wire may result in a general unit failure or fire.
- **Be careful that the installation base is not damaged by long use.**
  - If the damage is left uncorrected, the unit may fall and cause personal injury or property damage.
- **Do not touch the electrical parts with bare hands while the unit is in operation or immediately after operation.**
  - Doing so may result in burns.
- **If a large electric current flows due to malfunction or faulty wiring, earth-leakage breakers on the unit side and on the upstream side of the power supply system may both operate.**
  Depending on the importance of the system, separate the power supply system or take protective coordination of breakers.
- **Stop the operation and turn off the power before cleaning.**
- **Do not wash the air conditioner units.**
  - Washing them may cause an electric shock.
- **Be very careful about transporting the product.**
  - One person should not carry the product. Its weight is in excess of 20 kg [45 LBS].
  - Some products use PP bands for packaging. Do not use any PP bands as a means of transportation. It is dangerous.
- **Safely dispose of the packing materials.**
  - Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries.
  - Tear apart and throw away plastic packaging bags so that children will not play with them. If children play with a plastic bag which has not been torn apart, they face the risk of suffocation.
- **Never connect in reverse phases.**
- **Install the power cable so that tension is not applied to the cable.**
- **Do not wash the air conditioner units.**

1.4. Before starting the test run

⚠ Caution:

- **Turn on the power at least 12 hours before starting operation.**
  - Starting operation immediately after turning on the main power switch can result in irreversible damage to internal parts. Keep the power switch turned on during the operational season. Make sure of the phase order of power supply and voltage between each phase.
- **Do not touch the switches with wet fingers.**
  - Touching a switch with wet fingers can result in an electric shock.
- **Do not touch the refrigerant pipes during and immediately after operation.**
  - During and immediately after operation, the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes.
- **Do not operate the air conditioner with the panels and guards removed.**
  - Rotating, hot, or high-voltage parts can cause injuries.
- **Do not turn off the power immediately after stopping operation.**
  - Always wait at least 5 minutes before turning off the power. Otherwise, drainage water leakage or mechanical failure of sensitive parts may occur.

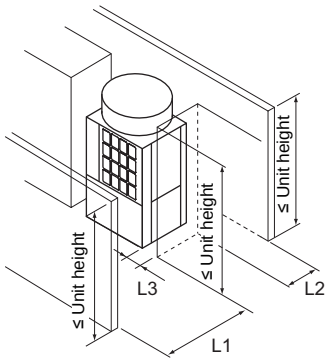
2. Spacing

See below for the recommended space around the outdoor unit when installing and servicing the panel heater.
For how to maintain proper outdoor unit operation, refer to the section “Spacing” in DATA BOOK.

In case of single installation

(1) When all walls are within their height limits*.

[mm (in)]



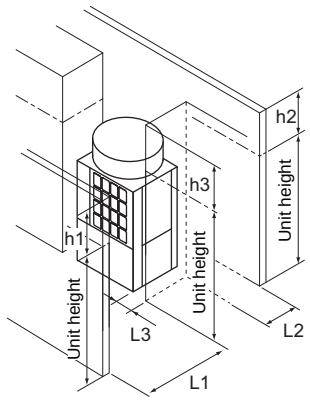
* Height limit

Front/Right/Left/Rear	Same height or lower than the overall height of the unit

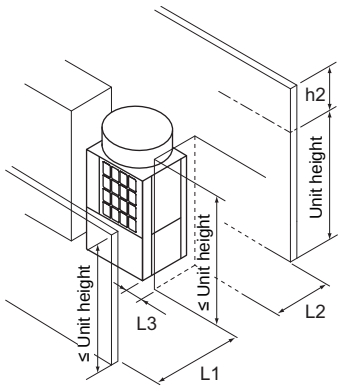
	Required minimum distance [mm (in)]		
	L1 (Front)	L2 (Rear)	L3 (Right/Left)
When the distance behind the unit (L2) needs to be small	450 (17-3/4)	300 (11-13/16)	450 (17-3/4)
When the distance to the right or left (L3) needs to be small	450 (17-3/4)	450 (17-3/4)	30 (1-3/16)

(2) When one or more walls exceed their height limits*.

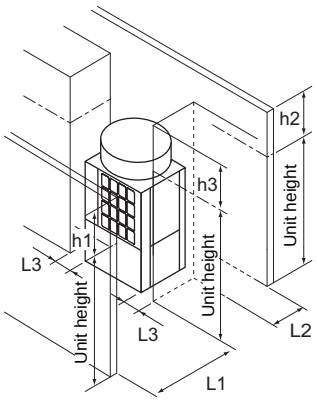
When the wall(s) at the front and/ or the right/left exceed(s) their height limits



When the wall at the rear exceeds its height limit



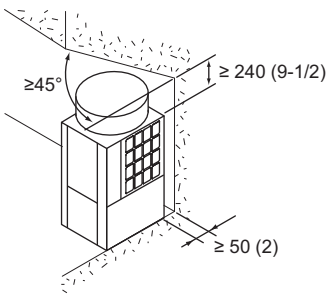
When all walls exceed their height limits

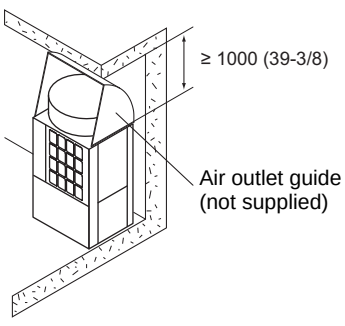


Add the dimension that exceeds the height limit (shown as "h1" through "h3" in the figures) to L1, L2, and L3 as shown in the table below.

	Required minimum distance [mm (in)]		
	L1 (Front)	L2 (Rear)	L3 (Right/Left)
When the distance behind the unit (L2) needs to be small	450 (17-3/4) +h1	300 (11-13/16)	450 (17-3/4)
When the distance to the right or left (L3) needs to be small	450 (17-3/4) +h1	450 (17-3/4)	30 (1-3/16) +h3

(3) When there are overhead obstacles





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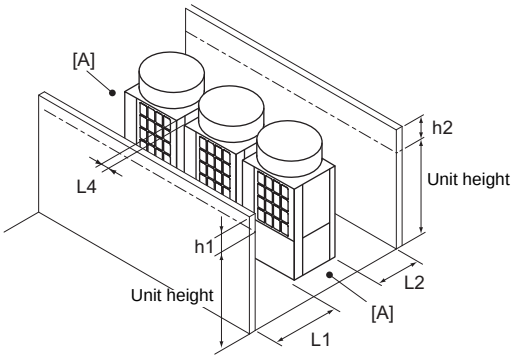
In case of collective installation and continuous installation

- When installing multiple units, make sure to take into consideration factors such as providing enough space for people to pass through, ample space between blocks of units, and sufficient space for airflow. (The areas marked with [A] in the figures below must be left open.)
- In the same way as with the single unit installation, add the dimension that exceeds the height limit (shown as "h1" through "h3" in the figures) to L1, L2, and L3 as shown in the tables below.
- If there are walls in the front and rear of the block of units, up to six units (three units for units EP450 through EP500) can be installed consecutively side by side, and a space of 1000 mm (39-3/8 in) or more must be left between each block of six units (three units for unit EP500).

(1) Side-by-side installation

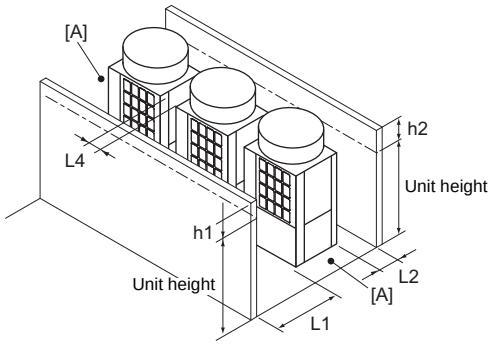
[mm (in)]

When the distances between the units (L4) need to be small



Required minimum distance [mm (in)]		
L1 (Front)	L2 (Rear)	L4 (Between)
450 (17-3/4) +h1	450 (17-3/4) +h2	30 (1-3/16)

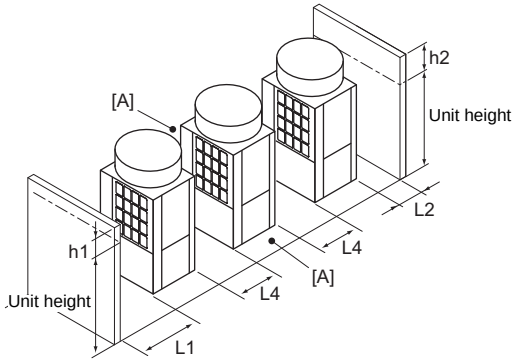
When the distance behind the block of units (L2) needs to be small



Required minimum distance [mm (in)]		
L1 (Front)	L2 (Rear)	L4 (Between)
450 (17-3/4) +h1	300 (11-13/16) + h2	450 (17-3/4)

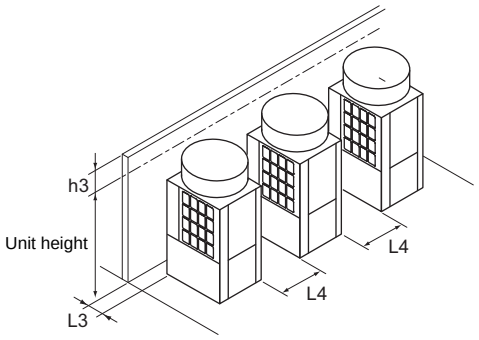
(2) Face-to-face installation

When there are walls in the front and rear of the block of units



Required minimum distance [mm (in)]		
L1 (Front)	L2 (Rear)	L4 (Between)
450 (17-3/4) +h1	300 (11-13/16) + h2	450 (17-3/4)

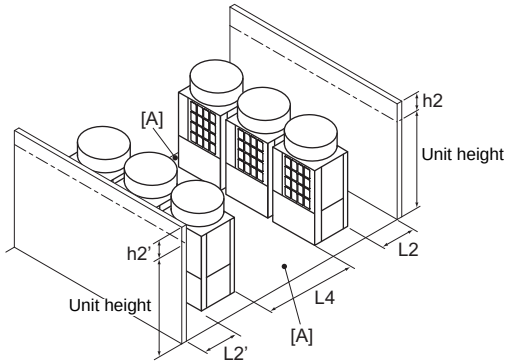
When there is a wall on either the right or left side of the block of units



Required minimum distance [mm (in)]	
L3 (Right/Left)	L4 (Between)
30 (1-3/16) + h3	450 (17-3/4)

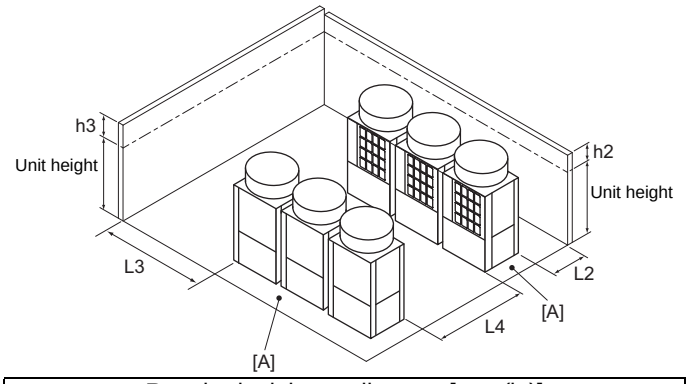
(3) Combination of face-to-face and side-by-side installations

When there are walls in the front and rear of the block of units



Required minimum distance [mm (in)]		
L2 (Rear)	L2' (Rear)	L4 (Between)
450 (17-3/4) +h2	450 (17-3/4) +h2'	900 (35-7/16)

When there are two walls in an L-shape



Required minimum distance [mm (in)]		
L2 (Rear)	L3 (Right/Left)	L4 (Between)
450 (17-3/4)	1000 (39-3/8) + h3	900 (35-7/16)

[A]: Leave open in two directions.

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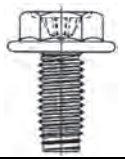
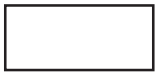
3. Parts List

<PAC-PH01EHY-E>

This kit contains the following parts.

Parts name	① PANEL HEATER L	② PANEL HEATER R	③ PANEL HEATER B-S	④ COVER WIRING 1	⑤ COVER WIRING 2	⑥ COVER WIRING 3
Shape	 Wiring color: Yellow	 Wiring color: Blue	 Wiring color: White			
Qty.	1	1	1	3	2	1

Parts name	⑦ COVER WIRING 4	⑧ TERMINAL ASSY	⑨ Pipe cover (ø16)	⑩ Pipe cover (ø29)	⑪ CABLE TIE	⑫ M5 SCREW
Shape						
Qty.	1	1	1	1	13	13

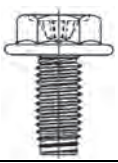
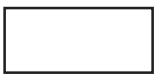
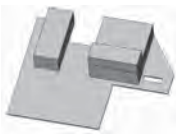
Parts name	⑬ RUBBER SPACER	⑭ WIRE SEAL	⑮ INSTALLATION MANUAL	⑯ LABEL WIRING	⑰ PLATE RUBBER
Shape			 Paper CD		
Qty.	2	6	1	1	1

<PAC-PH02EHY-E>

This kit contains the following parts.

Parts name	① PANEL HEATER L	② PANEL HEATER R	③ PANEL HEATER BL	④ PANEL HEATER BR	⑤ COVER WIRING 1	⑥ COVER WIRING 2
Shape	 Wiring color: Yellow	 Wiring color: Blue	 Wiring color: Red	 Wiring color: White		
Qty.	1	1	1	1	4	2

Parts name	⑦ COVER WIRING 3	⑧ COVER WIRING 4	⑨ TERMINAL ASSY	⑩ Pipe cover (ø16)	⑪ Pipe cover (ø29)	⑫ CABLE TIE
Shape						
Qty.	2	1	1	1	1	8

Parts name	⑬ M5 SCREW	⑭ RUBBER SPACER	⑮ WIRE SEAL	⑯ INSTALLATION MANUAL	⑰ LABEL WIRING	⑱ PLATE RUBBER
Shape				 Paper CD		
Qty.	18	4	6	1	1	1

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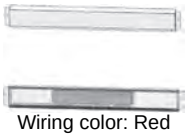
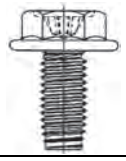
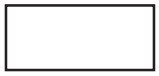
<PAC-PH03EHY-E>

This kit contains the following parts.

Parts name	① PANEL HEATER L	② PANEL HEATER R	③ PANEL HEATER BL	④ PANEL HEATER BR	⑤ COVER WIRING 1	⑥ COVER WIRING 2
Shape	 Wiring color: Yellow	 Wiring color: Blue	 Wiring color: Red	 Wiring color: White		
Qty.	1	1	1	1	4	2

Parts name	⑦ COVER WIRING 3	⑧ COVER WIRING 4	⑨ TERMINAL ASSY	⑩ Pipe cover (ø16)	⑪ Pipe cover (ø29)	⑫ CABLE TIE
Shape						
Qty.	2	1	1	1	1	8

Parts name	⑬ CABLE TIE	⑭ M5 SCREW	⑮ RUBBER SPACER	⑯ WIRE SEAL	⑰ INSTALLATION MANUAL	⑱ LABEL WIRING
Shape					 Paper CD	
Qty.	4	18	4	6	1	1

Parts name	⑲ PLATE RUBBER	⑳ PLATE RUBBER XL
Shape		
Qty.	1	1

4. Applicable models

Unit model	Outdoor unit	
	module	Bottom surface size (W×D) [mm]
PAC-PH01EHY-E	S	920 × 740
PAC-PH02EHY-E	L	1240 ×740
PAC-PH03EHY-E	XL	1750 × 740

5. Preparation for installation

The A-weighted sound pressure level is below 70 dB.

- This panel heater and the Terminal Assy must be installed by a dealer or certified technician.

Specifications of the outdoor unit panel heater

Unit model		PAC-PH01EHY-E			PAC-PH02EHY-E			PAC-PH03EHY-E		
Output	[W]	51 (220)	56 (230)	60 (240)	68 (220)	74 (230)	80 (240)	68 (220)	74 (230)	80 (240)
	[W/m]	68 (220)	75 (230)	80 (240)	68 (220)	74 (230)	80 (240)	68 (220)	74 (230)	80 (240)
Power supply voltage	[V]	220, 230, 240			220, 230, 240			220, 230, 240		

- Check that the main power on the outdoor unit is turned off.
- Panel heater installation requires many screws to be unscrewed. Do not lose these screws.

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6. Installation Procedures

<PAC-PH01EHY-E>

[Fig. 6.0.1]

<A> Remove the front panel from the unit by unscrewing the eight screws.

<B> Remove the fan guard by unscrewing the six screws.

* Remove the snow protection hood (optional parts), if any.

[Fig. 6.0.2]

<A> Remove the drain pan cover by unscrewing the screws and cutting the cable tie.

<B> Remove the front drain pan by unscrewing the two screws.
Be sure to remove the two rod holders holding the check joints to the drain pan.

Ⓐ Drain pan cover

Ⓑ Drain pan

Ⓒ Rod holder

[Fig. 6.0.3]

<A> Remove the top attachment and the bottom attachment connecting the main control box and inverter control box by unscrewing the two screws.

<B> Remove the cover from main control box by unscrewing the three screws.

Ⓐ Top attachment

Ⓑ Bottom attachment

Ⓒ Main control box

Ⓓ Inverter control box

[Fig. 6.0.4]

<A> Cut the two cable ties holding the weak electrical wiring inside the main control box in place.

<B> Loosen the four cable straps holding the weak and strong electrical wirings.

<C> Cut the two cable ties holding the rubber bush at the bottom of the main control box.

Ⓐ Cable tie

Ⓑ Cable strap

[Fig. 6.0.5]

Cut the three cable ties and loosen the two cable straps holding the weak electrical wiring outside the main control box.

Ⓐ Cable tie

Ⓑ Cable strap

[Fig. 6.0.6]

<A> Loosen the three cable straps holding the motor wiring outside and the bottom of the main control box.

<B> Remove the wiring from the two wire saddles.

Ⓐ Cable strap

Ⓑ Wire saddle

[Fig. 6.0.7]

<A> Loosen the two cable straps holding the strong electrical wiring outside and the bottom of the main control box.

Ⓐ Cable strap

[Fig. 6.0.8]

<A> Cut the cable tie and loosen the two welding clamps holding the strong electrical wiring at the bottom of the main control box.

Ⓐ Cable tie

Ⓑ Welding clamp

[Fig. 6.0.9]

<A> Unscrew the two screws holding the main control box.

[Fig. 6.0.10]

<A> Make sure that no undue force is applied to the wirings from which cable straps were removed. Attach the bottom attachment that was removed from the fin guard, and then hook the main control box on the attachment.

Ⓐ Bottom attachment

Ⓑ Main control box

[Fig. 6.0.11, 6.0.12]

<A> Remove the screws above the side and rear panels.

<PAC-PH02EHY-E>

[Fig. 6.1.1]

<A> Remove the front panel from the unit by unscrewing the 14 screws.

<B> Remove the fan guard by unscrewing the 12 screws.

* Remove the snow protection hood (optional parts), if any.

[Fig. 6.1.2]

<A> Remove the control box front cover by unscrewing the five screws.

Ⓐ Control box front cover

[Fig. 6.1.3, 6.1.4]

<A> Remove the screws above the side and rear panels.

<PAC-PH03EHY-E>

[Fig. 6.2.1]

<A> Remove the front panel from the unit by unscrewing the 14 screws.

<B> Remove the fan guard by unscrewing the 12 screws.

* Remove the snow protection hood (optional parts), if any.

[Fig. 6.2.2]

<A> Remove the control box front cover by unscrewing the five screws.

Ⓐ Control box front cover

[Fig. 6.2.3]

<A> Remove the external temperature sensor wiring from the left drain pan by cutting the two cable ties.

<B> Unhook the pipe cover from the left drain pan.

<C> Remove the left drain pan by unscrewing the two screws.

Ⓐ Left drain pan

Ⓑ External temperature sensor wiring

Ⓒ Cable tie

Ⓓ Pipe cover

* When re-placing Ⓑ to the left drain pan after installing the panel heater, use the supplied cable tie (100 mm).

[Fig. 6.2.4]

<A> Remove the right drain pan by unscrewing the two screws.

Ⓐ Right drain pan

[Fig. 6.2.5, 6.2.6]

<A> Remove the screws above the side and rear panels.

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7. Panel Heater Installation

<PAC-PH01EHY-E>

- **Panel heater installation**

[Fig. 7.0.1]

<A> Attach the panel heater to the upper side of the left panel and tighten it with two screws together.

Ⓐ Left panel

Ⓑ Panel heater L
(Left wiring port type, wiring color: Yellow)

[Fig. 7.0.2]

<A> Attach the panel heater to the upper side of the right panel and tighten it with two screws together.

Ⓐ Right panel

Ⓑ Panel heater R
(Right wiring port type, wiring color: Blue)

[Fig. 7.0.3]

<A> Attach the rubber spacer to the screw hole.

<B> Attach the panel heater to the upper side of the rear panel and tighten it with two screws together.
(Attach the panel heater using the supplied long type M5 screws.)

Ⓐ Rear panel

Ⓑ Rubber spacer

Ⓒ Panel heater B
(Left wiring port type, wiring color: White)

<PAC-PH02EHY-E>, <PAC-PH03EHY-E>

- **Panel heater installation**

[Fig. 7.0.1]

<A> Attach the panel heater to the upper side of the left panel and tighten it with two screws together.

Ⓐ Left panel

Ⓑ Panel heater L
(Left wiring port type, wiring color: Yellow)

[Fig. 7.0.2]

<A> Attach the panel heater to the upper side of the right panel and tighten it with two screws together.

Ⓐ Right panel

Ⓑ Panel heater R
(Right wiring port type, wiring color: Blue)

[Fig. 7.1.3]

<A> Attach the rubber spacer to the screw hole.

<B> Attach the panel heater to the upper side of the rear panel and tighten it with two screws together.
(Attach the panel heater using the supplied long type M5 screws.)

Ⓐ Rear panel

Ⓑ Rubber spacer

Ⓒ Panel heater BR
(Left wiring port type, wiring color: White)

Ⓓ Panel heater BL
(Right wiring port type, wiring color: Red)

GB

<PAC-PH01EHY-E>

Step 1. Panel heater wiring

- **Wiring on the left side and installing the wiring cover**

  [Fig. 8.1.0.1]

  <A> Pull up the panel heater wirings so that the wirings run along the left rear pillar.

  <B> Thread the panel heater wirings through the long hole on the left rear pillar.

  <C> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

  <D> Pull the wiring through the hole on the left frame and bring it into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Left rear pillar

  Ⓒ Left frame

  Ⓓ Plate rubber

  Ⓔ Wire seal

  * If the frame is not painted, place the supplied wire seal around the hole.

  [Fig. 8.1.0.2]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

  Ⓒ Cover wiring 4

- **Wiring on the right side and installing the wiring cover**

  [Fig. 8.1.0.3]

  <A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

  <B> Thread the wiring through the hole on the right rear pillar and bring it into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Right frame

  Ⓓ Heat exchanger fixing plate

  Ⓔ Wire seal

  * If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

  [Fig. 8.1.0.4]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 3

- **Wiring on the rear side and installing the wiring cover**

  [Fig. 8.1.0.5]

  <A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

  <B> Thread the wiring through the hole on the right rear pillar and bring it into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Right frame

  Ⓓ Heat exchanger fixing plate

  Ⓔ Wire seal

  * If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

  [Fig. 8.1.0.6]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

Step 2. Fastening the panel heater wirings

[Fig. 8.2.0.1]

<A> Run the panel heater wirings outside the unit. Wrap the supplied pipe cover around the pipe so that the heat exchanger, refrigerant piping, and sheet metal edges are out of contact with panel heater wirings located between the heat exchanger and where indicated as <A> in the figure. Then fix the pipe cover and the wirings in place with a cable tie.

<B> Re-place the main control box and the wirings.

Ⓐ Panel heater wiring

Ⓑ Main control box

[Fig. 8.2.0.2]

<A> Remove the cover from the inverter control box by unscrewing the three screws.

Ⓐ Main control box

Ⓑ Inverter control box

[Fig. 8.2.0.3]

<A> Run the panel heater wirings along with the strong electrical wiring in the back of the main control box, and fasten them with cable straps.

Ⓐ Strong electrical wiring

Ⓑ Cable strap

Ⓒ Panel heater wiring

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<PAC-PH02EHY-E>

Step 1. Panel heater wiring

- **Wiring on the left side and installing the wiring cover**

  [Fig. 8.1.1.1]

  <A> Pull up the panel heater wirings so that the wirings run along the left rear pillar.

  <B> Thread the panel heater wirings through the long hole on the left rear pillar.

  <C> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

  <D> Pull the wiring through the hole on the left frame and bring it into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Left rear pillar

  Ⓒ Left frame

  Ⓓ Plate rubber

  Ⓔ Wire seal

  * If the frame is not painted, place the supplied wire seal around the hole.

  [Fig. 8.1.1.2]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

  Ⓒ Cover wiring 4

  [Fig. 8.1.1.3]

  <A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

  <B> Thread the panel heater wirings through the long hole on the right rear pillar.

  <C> Pull the wirings from the end of the heat exchanger and bring them into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Right frame

  Ⓓ Heat exchanger fixing plate

  Ⓔ Wire seal

  * If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

  [Fig. 8.1.1.4]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 3

- **Wiring on the right and left rear sides and installing the wiring cover**

  [Fig. 8.1.1.5]

  <A> Pull up the panel heater wirings so that the wirings run along each pillar.

  <B> Thread the panel heater wirings through the long hole on the right rear pillar.

  <C> Run the panel heater wirings between the left rear pillar and the heat exchanger.

  <D> Pull the wirings from the end of the heat exchanger and bring them into the inner side of the heat exchanger.

  <E> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

  <F> Thread the wirings through the hole on the left frame, and bring them into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Left rear pillar

  Ⓓ Right frame

  Ⓔ Left frame

  Ⓕ Plate rubber

  Ⓖ Heat exchanger fixing plate

  Ⓗ Wire seal

  *1 If the wiring comes in contact with the edges of the heat exchanger fixing plate, place the supplied wire seal.

  *2 If the frame is not painted, place the supplied wire seal around the hole.

  [Fig. 8.1.1.6]

  <A> Screw down the metal sheet wiring covers at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

  Ⓒ Cover wiring 3

Step 2. Fastening the panel heater wirings

[Fig. 8.2.1.1]

<A> Fasten the panel heater wirings with the cable strap on the center front pillar together with the strong electrical wiring.

<B> When performing <A> above, if the panel heater wirings are in contact with the heat exchanger, refrigerant piping, and sheet metal edges, wrap the supplied pipe cover around the pipe so that the wirings are out of contact with them. Then, fix the wirings in place with a cable tie.

<C> Fasten the panel heater wirings with the cable strap for holding strong electrical wiring on the outside of the control box together with other wirings.

<D> Thread the panel heater wirings through the cable hole at the lower part of the control box along with other wirings.

<E> Thread all wirings on the left through the hole below the control box.

Ⓐ Center front pillar

Ⓑ Cable strap for strong electrical wiring (on the center front pillar)

Ⓒ Panel heater wirings

Ⓓ Cable strap for strong electrical wiring (on the outside of the control box)

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<PAC-PH03EHY-E>

Step 1. Panel heater wiring

- **Wiring on the left side and installing the wiring cover**

  [Fig. 8.1.1.1]

  <A> Pull up the panel heater wirings so that the wirings run along the left rear pillar.

  <B> Thread the panel heater wirings through the long hole on the left rear pillar.

  <C> Attach the rubber sheet to the left frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

  <D> Pull the wiring through the hole on the left frame and bring it into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Left rear pillar

  Ⓒ Left frame

  Ⓓ Plate rubber

  Ⓔ Wire seal

  * If the frame is not painted, place the supplied wire seal around the hole.

  [Fig. 8.1.1.2]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

  Ⓒ Cover wiring 4

- **Wiring on the right side and installing the wiring cover**

  [Fig. 8.1.2.3]

  <A> Pull up the panel heater wirings so that the wirings run along the right rear pillar.

  <B> Run the panel heater wirings between the right rear pillar and the heat exchanger.

  <C> Attach the rubber sheet to the right frame so that the heat exchanger fin will be covered. (Using the wiring access hole and the tab on the frame as a reference position)

  <D> Pull the wiring through the hole on the right frame and into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Right frame

  Ⓓ Plate rubber XL

  Ⓔ Wire seal

  * If the frame is not painted, place the supplied wire seal around the hole.

  [Fig. 8.1.2.4]

  <A> Screw down the metal sheet wiring cover at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 3

- **Wiring on the right and left rear sides and installing the wiring cover**

  [Fig. 8.1.2.5]

  <A> Pull up the panel heater wirings so that the wirings run along each pillar.

  <B> Run the panel heater wirings between the each pillar and the heat exchanger.

  <C> Thread the wirings through the hole on the right and left frames, and bring them into the inner side of the heat exchanger.

  Ⓐ Panel heater wiring

  Ⓑ Right rear pillar

  Ⓒ Left rear pillar

  Ⓓ Right frame

  Ⓔ Left frame

  Ⓕ Plate rubber XL

  Ⓖ Plate rubber

  [Fig. 8.1.2.6]

  <A> Screw down the metal sheet wiring covers at three points.

  Ⓐ Cover wiring 1

  Ⓑ Cover wiring 2

  Ⓒ Cover wiring 3

Step 2. Fastening the panel heater wirings

[Fig. 8.2.1.1]

<A> Fasten the panel heater wirings with the cable strap on the center front pillar together with the strong electrical wiring.

<B> When performing <A> above, if the panel heater wirings are in contact with the heat exchanger, refrigerant piping, and sheet metal edges, wrap the supplied pipe cover around the pipe so that the wirings are out of contact with them. Then, fix the wirings in place with a cable tie.

<C> Fasten the panel heater wirings with the cable strap for holding strong electrical wiring on the outside of the control box together with other wirings.

<D> Thread the panel heater wirings through the cable hole at the lower part of the control box along with other wirings.

<E> Thread all wirings on the left through the hole below the control box.

Ⓐ Center front pillar

Ⓑ Cable strap for strong electrical wiring (on the center front pillar)

Ⓒ Panel heater wirings

Ⓓ Cable strap for strong electrical wiring (on the outside of the control box)

9. Terminal Assy Installation

<PAC-PH01EHY-E>

Step 1. Installing and wiring the terminal block to the control box

[Fig. 9.1.0.1]

<A> Remove the attachment plate from the inverter control box by unscrewing the four screws.

<B> Loosen the cable strap holding the fan motor electrical wiring.

<C> Mount the terminal assy on the inverter control box with four screws.

<D> Thread the terminal assy wiring through the rubber bush.

Ⓐ Inverter control box

Ⓑ Attachment plate

Ⓒ Fan motor electrical wiring

Ⓓ Cable strap

Ⓔ Terminal assy

[Fig. 9.1.0.2]

<A> Fasten the terminal assy wiring with a wire saddle.

<B> Thread the terminal assy wiring through the rubber bush on the main control box on the strong electrical wiring side.

<C> Connect the wiring to the circuit board.

<D> Fasten excess wiring with the cable strap.

Ⓐ Fuse wiring

Ⓑ Fuse wiring connector

Ⓒ Cable strap

Step 2. Wiring the panel heater to the control box

[Fig. 9.2.0.1]

<A> Fasten the panel heater wirings with the wire saddles on the main control box and the inverter control box.

Ⓐ Panel heater wirings

Ⓑ Wire saddle

[Fig. 9.2.0.2]

<A> Route the panel heater wirings into the inverter control box through the rubber bush.
Fasten the panel heater wirings together with the fan motor electrical wiring and the terminal assy wiring with a cable strap.

Ⓐ Terminal assy wiring

Ⓑ Panel heater wirings

Ⓒ Cable strap

[Fig. 9.2.0.3]

<A> Wire the panel heater wirings as shown in the figure. Match the label color with the wiring color, and the label number with the wiring number.

<B> CORRECT

<C> INCORRECT

Ⓐ Terminal

Ⓑ Label

Ⓒ Terminal assy wiring

Ⓓ Left panel heater wiring (yellow)

Ⓔ Right panel heater wiring (blue)

Ⓕ Rear right panel heater wiring (white)

* See the figure <C> for how to connect two ring terminals to a single terminal.

Location of panel heater wiring connection	Wiring color	Terminal block number	
Left side	Yellow	1	4
Right side	Blue	1	4
Rear side	White	2	3

[Fig. 9.3.1]

See the electrical wiring diagram.

[Fig. 9.4.1]

Dipswitch settings

① Set the 10th bit of SW6 to ON.

② Set SW4 as shown in the table below to select the setting item No.974.
(The setting item No. will be displayed on LED1.)

③ Press SWP3 for two seconds or longer to change the settings. (The settings can be checked on LED3.)

*1 Set SW4 while the unit is stopped.

GB

<PAC-PH02EHY-E> <PAC-PH03EHY-E>

Step 1. Installing and wiring the terminal block to the control box

- **Installing the terminal block for the panel heater**

[Fig. 9.1.1.1]

<A> Remove the two screws holding the control board assy to the control box.

Ⓐ Control box

Ⓑ Control board assy

[Fig. 9.1.1.2]

<A> Hook the top part of the terminal block on the sheet metal of the control board assy, and hold them together with the two removed screws.

Ⓐ Terminal

[Fig. 9.1.1.3]

<A> Connect the fuse wiring to CN510 on the circuit board.

Ⓐ Fuse wiring

Ⓑ Fuse wiring connector

Step 2. Wiring the panel heater to the control box

[Fig. 9.2.1.1]

<A> Connect the panel heater wirings to the correct terminal block. (See the table below.)

<B> CORRECT

<C> INCORRECT

Ⓐ Terminal

* See the figure <C> for how to connect two ring terminals to a single terminal.

Location of panel heater wiring connection	Wiring color	Terminal block number	
Left side	Yellow	1	4
Right side	Blue	1	4
Left rear side	Red	2	3
Right rear side	White	2	3

[Fig. 9.2.1.2]

<A> Fasten the panel heater wirings to the fuse box with a cable tie above the circuit board.

<B> Fasten the panel heater wirings and fuse wiring together with other wirings with a cable strap on the left side of the circuit board.

Ⓐ Fuse wiring (fuse box)

Ⓑ Panel heater wirings

[Fig. 9.3.2]

See the electrical wiring diagram.

[Fig. 9.4.1]

Dipswitch settings

① Set the 10th bit of SW6 to ON.

② Set SW4 as shown in the table below to select the setting item No.974.
(The setting item No. will be displayed on LED1.)

③ Press SWP3 for two seconds or longer to change the settings. (The settings can be checked on LED3.)

*1 Set SW4 while the unit is stopped.

10. Reassembly

Reinstall the parts in the reverse order in which they were removed.

<PAC-PH01EHY-E>

[Fig. 10.0.1]

<A> Attach the supplied wiring diagram nameplate under the caution plate on the main control box cover.

Ⓐ Label

[Fig. 10.0.2]

<A> Bundle the excess panel heater wirings at the bottom of the main control box with the cable tie.

Ⓐ Panel heater wiring

Ⓑ Cable tie

[Fig. 10.0.3]

Re-place all components as they were.

<PAC-PH02EHY-E> <PAC-PH03EHY-E>

[Fig. 10.1.1]

<A> Attach the supplied wiring diagram nameplate under the caution plate on the control box front cover.

Ⓐ Label

[Fig. 10.1.2]

<A> Bundle the excess panel heater wirings with the cable strap for holding strong electrical wiring at the side of the control box.

Ⓐ Panel heater wiring

Ⓑ Cable strap

[Fig. 10.1.3]

Re-place all components as they were.

11. Confirmation of proper operation

Checking the panel heater for normal operation

(1) Use a tester to check that the heater wire is not broken for proper operation.

(2) Check the output voltage for proper circuit operation.

- Energizing conditions*1: Heating mode, outside temperature of 4°C or below, and the compressor is in operation

*1 To meet the above conditions, cool the outdoor temperature sensor (TH7) using a cold spray. When cooling the sensor, make sure to close the control box panel to keep the cold spray from getting on the board inside of the control box.

- Use the supplied terminal block for the panel heater.
- Switch setting is required to use the panel heater.

12. The following symptoms do not indicate malfunctions.

Situation	Explanation
The heater is not energized at TH7 ≤ 4°C.	• Panel heater ON conditions are not met. - Panel heater ON conditions: Outdoor temperature is 4°C or below (TH7 ≤ 4°C), and heating operation (including defrost operation) is being performed. To prevent burn injury, temperature of each surface is individually controlled so that the energization is stopped for areas where the heater sheet metal temperature becomes too high. Therefore not all heaters may be energized. * Note: Resistance at the terminal that stops the panel heater is 1440 Ω ± 7% when the unit is turned off and the panel heater surface temperature is 40°C or below. (If the resistance is 2880 Ω ± 7%, either of the cables may be broken.)
The panel heater is cold even though the heater ON conditions are met.	The outdoor unit performs operation by sucking in outside air. Therefore the panel heater tends to be cold while the outdoor unit is in operation. Check the panel heater during defrost. * Note: The panel heater temperature during the defrost operation ≈ outdoor temperature + 15 deg
The heater does not turn off when TH7 ≥ 4°C.	• Panel heater OFF conditions are not met. - Panel heater OFF conditions: The outdoor unit is in cooling mode or stop mode, or the compressor is stopped, or [outdoor temperature is above 7°C (TH7 > 7°C) and three minutes have passed since the defrost operation is completed].
The drain water is drained from the top of the outer panel of the outdoor unit.	Even when the panel heater is turned on, it is normal that water is drained from the outer panel of the outdoor unit.
Ice between the outer panel and the inner panel does not melt.	Water is drained from the outer panel of outdoor unit because the panel heater is used for maintaining water drainage from the outdoor unit panel.
Ice is formed at both edges of the heater.	The center part of the heater is heated to collect and drain water. Therefore ice may be formed at both edges.
Water freezes between units that are densely installed.	If units are installed too close to each other, drain water from the heater may freeze and accumulate between units. There will not be a problem unless the top panel of the heater is covered with ice.

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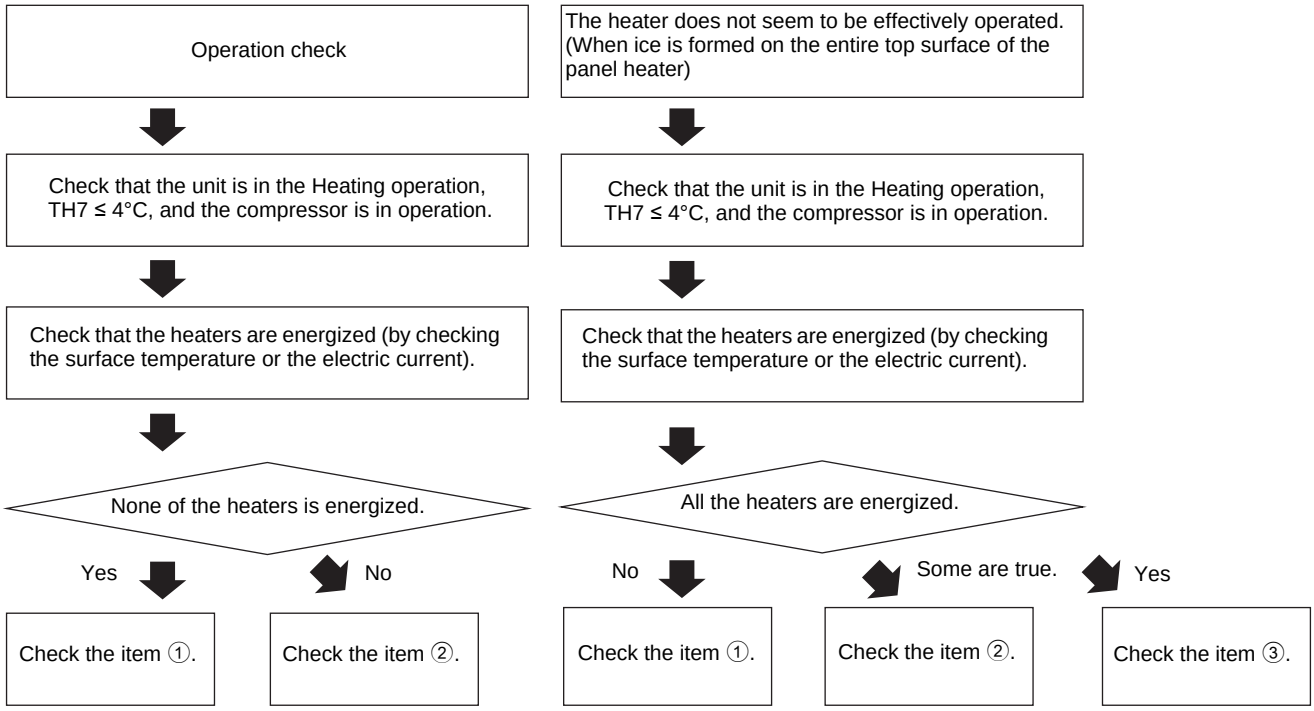
13. Failure judgement



	Check point	Measures
①	Is the DipSW set?	Turn on SW6-10, and then enable SW4 (974). (See the Dipswitch setting section.)
	Is the connector inserted into CN510?	Insert the connector to CN510.
	Is the unit in the Thermo-OFF mode? (Is the compressor operating?)	Open a window or other ventilating openings, and operate the unit in the Heating operation.
	Has either of the electric current fuses between the terminal block and the connector been blown?	Check for blown fuses. If any metal piece comes into contact with the terminal block, remove it. Correct the wiring if there is a wiring error.
	Is the heater wiring connected to the correct pole of the terminal block?	Connect each wiring to the pole of the terminal block that has the same color and number.
	Is the ring terminal connected in the proper orientation?	The contact failure may occur on the ring terminal. Connect the ring terminal properly as shown in the photo in Chapter 9.2.
	Isn't the wire broken?	Check the resistance value of each heater (2880 Ω). If the wire is broken, replace the panel heater with a new one.
②	Is the heater wiring connected to the correct pole of the terminal block?	Connect each wiring to the pole of the terminal block that has the same color and number.
	Is the ring terminal connected in the proper orientation?	The contact failure may occur on the ring terminal. Connect the ring terminal properly as shown in the photo in Chapter 9.2.
	Isn't the wire broken?	Check the resistance value of each heater (2880 Ω). If the wire is broken, replace the panel heater with a new one.
	Isn't the sheet metal of the heater exposed to abnormally high-temperature source other than heaters (such as direct sunlight in midsummer or a burner)?	The heater stops operation for safety purpose when the temperature of the sheet metal becomes too high. Change the conditions of this surface to the same conditions as for other surfaces.
	Do structural components move when the heater is removed and swung widely?	The heating element may have been displaced. To prevent empty heating, replace the heater with a new one.
③	Is the unit installed in an environment where it is exposed to outside wind?	If so, to improve the efficiency of the heater, take measures such as attaching a snow hood or wind protection wall.
	Is the unit installed in an environment where it is exposed to snow and where snow can accumulate on the unit?	It is difficult to melt accumulated snow. Attach a snow hood or snow wall.

This product is designed and intended for use in the residential, commercial and light-industrial environment.

The product at hand is based on the following EU regulations:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility Directive 2014/30/EU

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

MITSUBISHI ELECTRIC CORPORATION

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