

**ARUX12TLAV2**  
**ARUX18TLAV2**  
**ARUX24TLAV2**  
**ARUX30TLAV2**  
**ARUX36TLAV2**  
**ARUX48TLAV2**  
**ARUX60TLAV2**

## **INSTALLATION MANUAL**

INDOOR UNIT (Duct type)  
For authorized service personnel only.

## **MANUEL D'INSTALLATION**

UNITÉ INTÉRIEURE (type conduit)  
Pour le personnel agréé uniquement.

## **MANUAL DE INSTALACIÓN**

UNIDAD INTERIOR (Tipo conducto)  
Únicamente para personal de servicio autorizado.

English

Français

Español



# INSTALLATION MANUAL

PART No. 9380243007

VRF system indoor unit (Duct type)

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## 1. SAFETY PRECAUTIONS

### 1.1. IMPORTANT! Please read before starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

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

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all danger, warning, and caution notices given in this manual.

#### WARNING:

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

#### CAUTION:

This symbol refers to a hazard or unsafe practice which can result in personal injury and the potential for product or property damage.

- Hazard alerting symbols



: Electrical



: Safety/alert

### If Necessary, Get Help

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

### In Case of Improper Installation

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

## 1.2. SPECIAL PRECAUTIONS

### When Wiring

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

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding (earthing) can cause accidental injury or death.
- Ground (Earth) the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

### When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

### When Installing...

#### ...In a Ceiling or Wall

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

#### ...In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

#### ...In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

#### ...In a Snowy Region (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow.

### When Connecting Refrigerant Tubing

- Keep all tubing runs as short as possible.
- Use the brazing method for connecting tubing.
- Check carefully for leaks before opening the refrigerant valves.

### When Servicing

- Turn the power OFF at the main circuit breaker panel before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.
- After installation, explain correct operation to the customer, using the operation manual.

#### DANGER

**Never touch electrical components immediately after the power supply has been turned off. Electrical shock may occur. After turning off the power, always wait 5 minutes or more before touching electrical components.**

- Be sure to read this manual thoroughly before installation.
- The warnings and precautions indicated in this manual contain important information pertaining to your safety. Be sure to observe them.
- Hand this manual, together with the operation manual, to the customer. Request the customer to keep them on hand for future use, such as for relocating or repairing the unit.

### WARNING

Request your dealer or a professional installer to install the indoor unit in accordance with this installation manual.

An improperly installed unit can cause serious accidents such as water leakage, electric shock, or fire.

If the indoor unit is installed in disregard of the instructions in the installation manual, it will void the manufacturer's warranty.

Do not turn on the power until all work has been completed. Turning on the power before the work is completed can cause serious accidents such as electric shock or fire.

If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces a toxic gas.

Installation must be performed in accordance with the requirement of NEC (National Electrical Code) and CEC (Canadian Electrical Code) by authorized personnel only.

Except for EMERGENCY, never turn off main as well as sub breaker of the indoor units during operation. It will cause compressor failure as well as water leakage. First, stop the indoor unit by operating the control unit, converter or external input device and then cut the breaker. Make sure to operate through the control unit, converter or external input device. When the breaker is designed, locate it at a place where the users cannot start and stop in the daily work.

This product can expose you to chemicals including Lead, lead compounds, and formaldehyde, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## 2. ABOUT THIS PRODUCT

### 2.1. General information

This indoor unit provides the flexibility for installation in any upflow or horizontal flow application.

The unit can be positioned for bottom air return in the upflow position or air return through the end of the unit in the horizontal position.

### 2.2. Precautions for using R410A refrigerant

#### WARNING

Do not introduce any substance other than the prescribed refrigerant into the refrigeration cycle.

If air enters the refrigeration cycle, the pressure in the refrigeration cycle will become abnormally high and cause the piping to rupture.

If there is a refrigerant leakage, make sure that it does not exceed the concentration limit. If a refrigerant leakage exceeds the concentration limit, it can lead to accidents such as oxygen starvation.

Do not touch refrigerant that has leaked from the refrigerant pipe connections or other area. Touching the refrigerant directly can cause frostbite.

If a refrigerant leakage occurs during operation, immediately vacate the premises and thoroughly ventilate the area.

If the refrigerant comes in contact with a flame, it produces a toxic gas.

### 2.3. Special tools for R410A

#### WARNING

To install a unit that uses the R410A refrigerant, use dedicated tools and piping materials that have been manufactured specifically for R410A use.

Because the pressure of the R410A refrigerant is approximately 1.6 times higher than the R22, failure to use dedicated piping material or improper installation can cause rupture or injury.

Furthermore, it can cause serious accidents such as water leakage, electric shock, or fire.

Tool name	Changes
Gauge manifold	Pressure is huge and cannot be measured with a conventional (R22) gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended to use a gauge manifold with a high pressure display range 500 micron to 768 psi (-0.1 to 5.3 MPa) and a low pressure display range 500 micron to 551 psi (-0.1 to 3.8 MPa).
Charging hose	To increase pressure resistance, the hose material and base size were changed.
Vacuum pump	A conventional (R22) vacuum pump can be used by installing a vacuum pump adapter. Be sure that the pump oil does not back flow into the system. Use one capable for vacuum suction of 500 micron (-100.7 kPa).
Gas leakage detector	Special gas leakage detector for R410A refrigerant.

## 2.4. Accessories





### WARNING

For installation purposes, be sure to use the parts supplied by the manufacturer or other prescribed parts. The use of non-prescribed parts can cause serious accidents such as the unit to fall, water leakage, electric shock, or fire.

The following installation parts are furnished. Use them as required.

Keep the installation manual in a safe place and do not discard any other accessories until the installation work has been completed.

Do not discard any accessories needed for installation until the installation work has been completed.

Name and shape	Q'ty	Application
Operation manual 	1	
Installation manual 	1	(This book)
Cable Tie (medium) 	2	For binding when rewiring for left to right airflow application.
Cable Tie (small) 	6	

## 2.5. Optional parts

Description	Model	Application
IR receiver unit	UTY-TRHX	For the wireless remote controller.
Remote sensor	UTY-XSZX	Room temperature sensor.
External connect kit	UTY-XWZXZC	For output function. (Output terminal / CNB01)
	UTY-XWZXZB	For control input function. (Apply voltage terminal / CNA01)
	UTY-XWZXZD	For control input function. (Dry contact terminal / CNA02)
	UTY-XWZXZ7	For forced thermostat off function. (Apply voltage terminal / CNA03)
	UTY-XWZXZE	For forced thermostat off function. (Dry contact terminal / CNA04)
Modbus converter	UTY-VMSX	For connecting to the Modbus network.
Thermostat converter	UTY-TTRX	For connecting to a third-party thermostat.
Wireless LAN adapter	UTY-TFSXZ*	For wireless LAN control.
External power supply unit	UTZ-GXXA	Supply power to the indoor unit PCB when the indoor unit is turned off to prevent errors.
24VAC heater connection cable	UTY-XWZXZK	For connection with an external heater.

## 2.6. About unit of the length

This product is different from other Fujitsu General products and it is designed with United States customary unit. Metric units are provided for reference. When the exact dimensions and tolerances are required, refer to the United States customary units.

## 3. INSTALLATION WORK

### 3.1. Selecting an installation location

Correct initial installation location is important because it is difficult to move unit after it is installed.

#### ⚠ WARNING

Select installation locations that can properly support the weight of the indoor. Install the units securely so that they do not topple or fall.

#### ⚠ CAUTION

Do not install the unit in the following areas:

- Area with high salt content, such as at the seaside.  
It will deteriorate metal parts, causing the parts to fail or the unit to leak water.
- Area filled with mineral oil or containing a large amount of splashed oil or steam, such as a kitchen.  
It will deteriorate plastic parts, causing the parts to fail or the unit to leak water.
- Area that generates substances that adversely affect the equipment, such as sulfuric gas, chlorine gas, acid, or alkali.  
It will cause the copper pipes and brazed joints to corrode, which can cause refrigerant leakage.
- Area that can cause combustible gas to leak, contains suspended carbon fibers or flammable dust, or volatile flammables such as paint thinner or gasoline.  
If gas leaks and settles around the unit, it can cause a fire.
- Area where animals may urinate on the unit or ammonia may be generated.

Do not use the unit for special purposes, such as storing food, raising animals, growing plants, or preserving precision devices or art objects.  
It can degrade the quality of the preserved or stored objects.

Do not install where there is the danger of combustible gas leakage.

Do not install the unit near a source of heat, steam, or flammable gas.

Install the unit where drainage does not cause any trouble.

Install the indoor unit, power supply cable, transmission cable, and remote controller cable at least 40 in (1 m) away from a television or radio receivers. The purpose of this is to prevent TV reception interference or radio noise.  
(Even if they are installed more than 40 in (1 m) apart, you could still receive noise under some signal conditions.)

If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

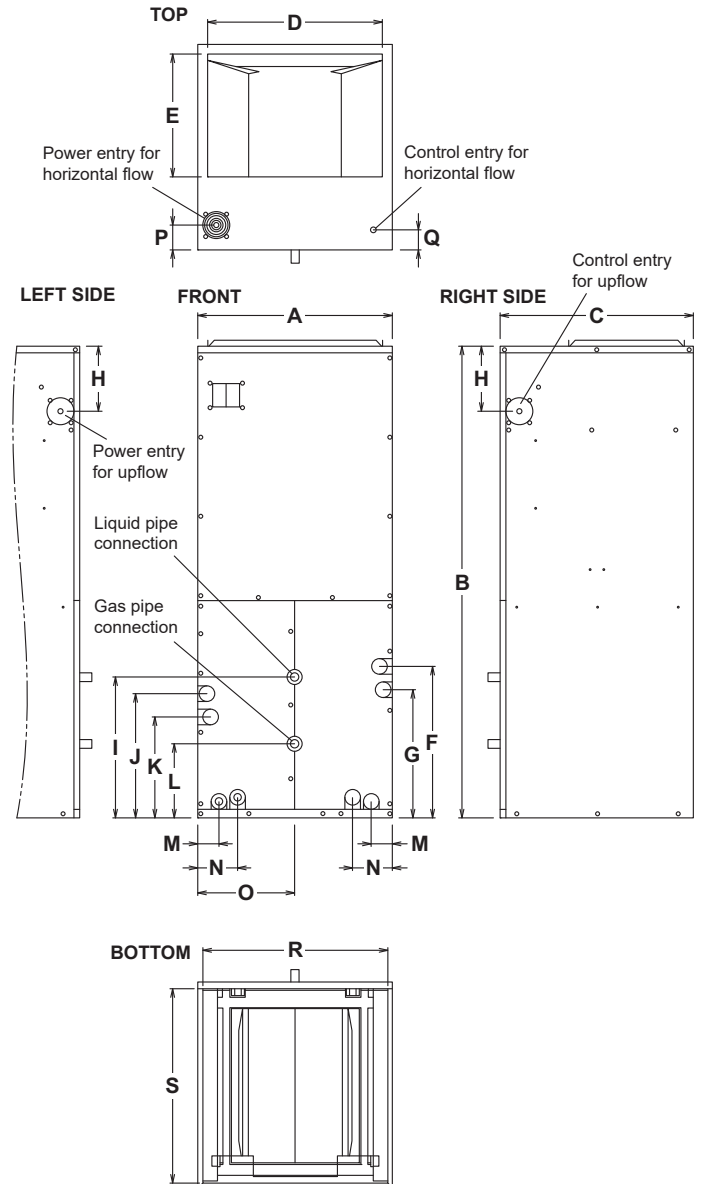
Provide protection against toppling of the unit. Toppling of the unit will cause injury or physical damage.

If the cooling operation is performed in a high temperature and high humidity environment, condensation may occur on the surface of the indoor unit. Dripping of condensation will cause physical damage. When the occurrence of condensation is expected, cover the indoor unit with heat insulation material or provide enough installation space so that the addition of a secondary drain pan or other protection measures can be taken.

#### Decide the mounting position with the customer as follows:

- (1) Install the indoor unit on a place having a sufficient strength so that it withstands against the weight of the indoor unit.
- (2) The inlet and outlet ports should not be obstructed; the air should be able to blow all over the room.
- (3) Leave the space required to service the air conditioner.
- (4) A place from where the air can be distributed evenly throughout the room by the unit.
- (5) Install the unit where connection to the outdoor unit (or RB unit) is easy.
- (6) Install the unit where the connection pipe can be easily installed.
- (7) Install the unit where the drain pipe can be easily installed.
- (8) Install the unit where noise and vibrations are not amplified.
- (9) Take servicing, etc., into consideration and leave the spaces. Also install the unit where the filter can be removed.

## 3.2. Indoor unit dimensions



	Unit dimensions [in (mm)]									
	A	B	C	D	E	F	G	H	I	J
AR12/14/18	17.50 (444.5)	43.00 (1092.2)	21.00 (533.4)	15.63 (397.0)	12.50 (318.5)	13.50 (342.9)	11.00 (279.4)	6.75 (171.5)	10.74 (272.8)	11.00 (279.4)
AR30/36	21.00 (533.4)	48.00 (1219.2)	21.00 (533.4)	19.00 (482.6)	12.50 (318.5)	15.39 (390.9)	13.00 (330.2)	6.75 (171.5)	14.09 (357.9)	12.38 (314.5)
AR48/60	24.50 (622.3)	58.75 (1492.3)	21.75 (552.5)	22.25 (565.2)	14.25 (362.0)	19.75 (501.7)	17.25 (438.2)	6.75 (171.5)	18.45 (468.6)	16.75 (425.5)
	K	L	M	N	O	P	Q	R	S	
AR12/14/18	10.75 (273.1)	7.74 (196.6)	1.50 (38.1)	2.00 (50.8)	7.47 (189.7)	5.00 (127.0)	2.12 (53.8)	16.10 (408.9)	20.20 (513.1)	
AR30/36	10.30 (261.6)	11.06 (280.9)	2.30 (58.42)	4.35 (110.5)	9.35 (237.5)	5.00 (127.0)	2.00 (50.8)	19.90 (505.5)	20.80 (528.3)	
AR48/60	14.35 (364.5)	15.45 (392.4)	2.30 (58.42)	4.35 (110.5)	11.30 (287.0)	4.50 (114.3)	2.50 (63.5)	23.50 (596.9)	20.70 (525.8)	

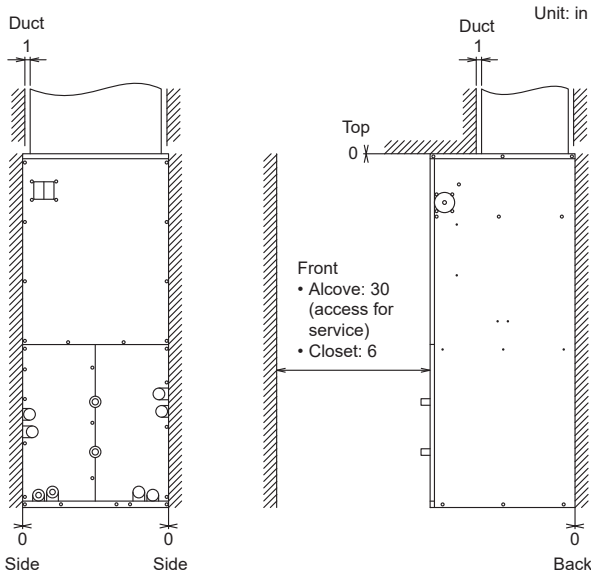
### 3.3. Clearance and return air requirements

#### Location

Access for servicing is an important factor in the location of any indoor unit. Provide a minimum of 30 inches in front of the appliance for access to the control box, heating elements, fan unit and air filters. This access may be provided by a closet door or by locating the appliance so that a wall or partition is not less than 30 inches from the front access Panel. Location is usually predetermined. Check with owner's or dealer's installation plans. If location has not been decided, consider the following in choosing a suitable location.

- (1) Select a location with adequate structural support, space for service access, clearance for return and supply duct connections.
- (2) Normal operating sound levels may be objectionable if the indoor unit is placed directly over or under some rooms such as bedrooms, study, etc.
- (3) Caution should be taken to locate the unit so that supply and return air ducts are about the same length causing even air distribution of supply and return air to and from the living spaces.
- (4) Locate appliance where electrical supply wiring can be easily routed to main electrical panel and where electrical wiring will not be damaged.
- (5) Locate appliance where remote controller wiring can be easily routed to the remote controller and where the wiring will not be damaged.
- (6) Locate appliance where refrigerant lines can be easily routed from the heat exchanger to the condenser.
- (7) Locate the appliance where condensate lines can be easily routed to an available drain. Be sure to route condensate drain piping so as not to obstruct access to the air filter.
- (8) When the heat exchanger is installed in a draw-thru application it will create a negative pressure situation in the condensate drain system. To prevent condensate from being drawn into the fan unit it is recommended to trap the primary (Main) and secondary (Overflow) drain line. If the secondary drain is not used, it must be capped.
- (9) The draw-thru design will cause exterior surface of cabinet to sweat when units is installed in a non-conditioned space such as an attic or garage. Installer must provide protection such as full size auxiliary drain pan on all units installed in a non-conditioned space to prevent damage from condensation runoff. Some states, cities and counties require additional insulation to be installed on the exterior casing of the indoor unit to prevent sweating. Refer to the state, city, county or local code for insulation requirement to be sure the installation is in compliance. It is recommended that indoor units installed in non conditioned spaces be insulated on the exterior of the entire cabinet, including the front access panel with 1 inch thick fiberglass with the vapor barrier on the outside.

- Provide a service access for inspection purposes.
- Do not place any wiring or illumination in the service space, as they will impede service.



#### Return Air

In order for the indoor unit to work properly, a closet or alcove must have a certain total free area opening for the return air.

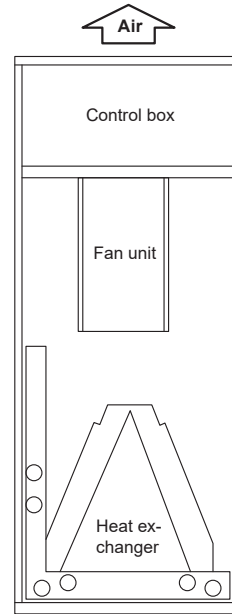
Model	Return air requirements
ARUX12/18/24	<ul style="list-style-type: none"> <li>• Minimum 200 in<sup>2</sup> free area opening</li> <li>• Use return grille or heat exchanger cabinet</li> </ul>
ARUX30/36	<ul style="list-style-type: none"> <li>• Minimum 250 in<sup>2</sup> free area opening</li> <li>• Use return grille, heat exchanger cabinet, or any return grille with a minimum 250 in<sup>2</sup> free area opening</li> </ul>
ARUX48/60	<ul style="list-style-type: none"> <li>• Minimum 390 in<sup>2</sup> free area opening</li> <li>• Use return grille, or heat exchanger cabinet, or any return grille with a minimum 390 in<sup>2</sup> free area opening</li> </ul>

### 3.4. Airflow direction and preparation before installation

#### Arrangement:

Unit is shipped from the factory arranged to be installed in an upflow or horizontal right to left airflow position. Horizontal right to left means, when facing the front of the unit, when the unit is laid on its side, the supply air opening is to the left and the return opening is to the right. These models are field convertible to a horizontal left to right airflow position.

#### 3.4.1 Upflow application



In an upflow installation the discharge outlet is at the top. Care should be taken to insure unit is level to permit proper condensate drainage. Normal upflow installation will be in a closet or basement. If installed in a closet, the closet should have a platform framed in, that with an opening at the top of the platform centered in the closet that measure at least 12 inches in height. A filter frame and filter can be used that covers the opening and is sealed to prevent air by-passing the filter. The minimum filter size is shown in the table below.

Standard Throw away Air Filter @ 300 ft/min or less	
800 CFM =	20 x 20 x 1
1000 CFM =	20 x 25 x 1
1200 CFM =	20 x 30 x 1
1400 CFM =	25 x 30 x 1
1600 CFM =	25 x 30 x 1
1800 CFM =	30 x 30 x 1
2000 CFM =	30 x 40 x 1 or two 30 x 20 x 1
2400 CFM =	30 x 40 x 1 or two 30 x 20 x 1

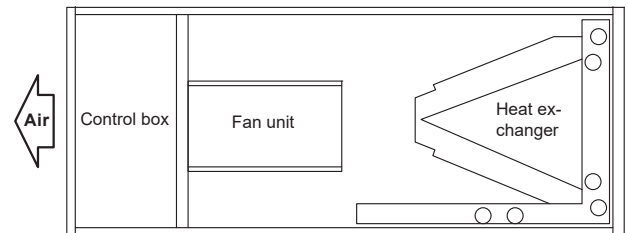
  

Pleated Air Filter @ 500 ft/min or less	
800 CFM =	16 x 16 x 1
1000 CFM =	18 x 20 x 1
1200 CFM =	20 x 20 x 1
1400 CFM =	20 x 20 x 1
1600 CFM =	20 x 25 x 1
1800 CFM =	20 x 30 x 1 or two 20 x 15 x 1
2000 CFM =	20 x 30 x 1 or two 20 x 15 x 1
2400 CFM =	25 x 30 x 1 or two 14 x 30 x 1

- Connect the supply air outlet to a plenum to the top of the unit and secure it with screws.
- Use a Non-tape sealant such as mastic or an aerosol sealant to seal duct leakage.
- If installed in a basement, run supply and return duct work in accordance with local codes.

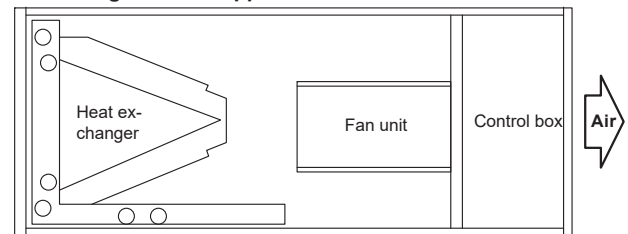
#### 3.4.2 Right to left airflow application

- This product is shipped to be installed without modification in a right to left airflow configuration.



- Horizontal flow applications will normally be used in an attic or crawl space. This type of installation requires supply air plenum or duct to be connected to the supply collar and a return air plenum or duct be attached to the unit inlet collar. The supply ducts will be connected to the supply air plenum and routed thru the attic to a register in each room. Use a Non-tape sealant such as mastic or an aerosol sealant to prevent leaks in the ducts and the plenum.
- The opposite end of the return air duct is attached to a return filter grille housing. The filter grille is usually located in a wall, just below the ceiling or the ceiling in a hallway. Use a non-tape sealant such as mastic or an aerosol sealant to prevent leaks in the ducts and the plenum.

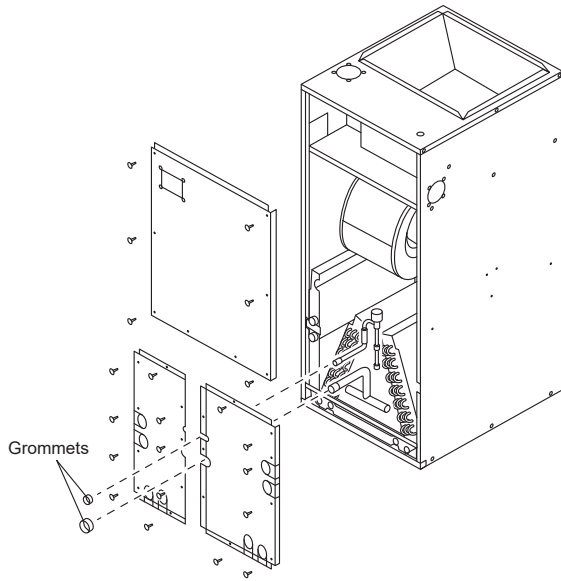
#### 3.4.3 Left to right airflow application



Left to right airflow application require internal configuration changes.

(1) Remove the panels.

\* Do not lose the grommets that protects the refrigerant pipes.



(2) Untie the cables.

(A) Cut the cable tie (medium).

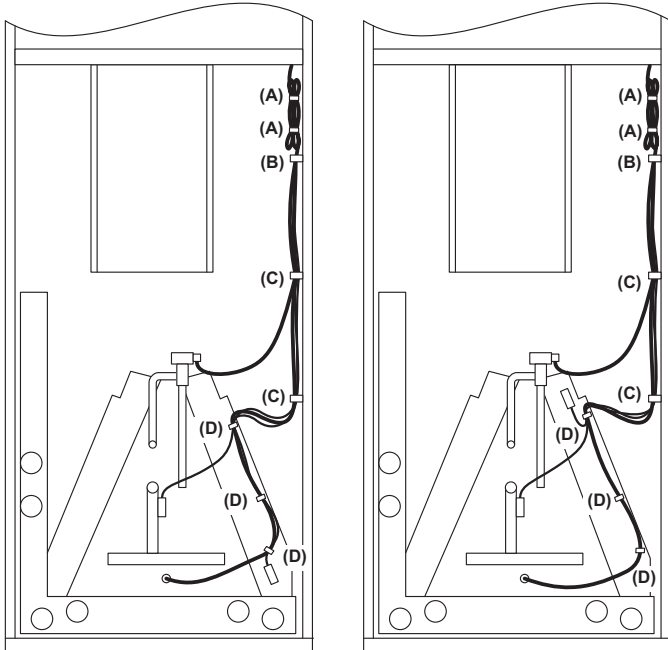
(B) Loosen the cable clamp.

(C) Remove the cable clamps and screws. 1 set will be reused in step (11).

(D) Cut the cable ties (small) that binds the cable to the piping. Binding position and the number varies depending on the model.

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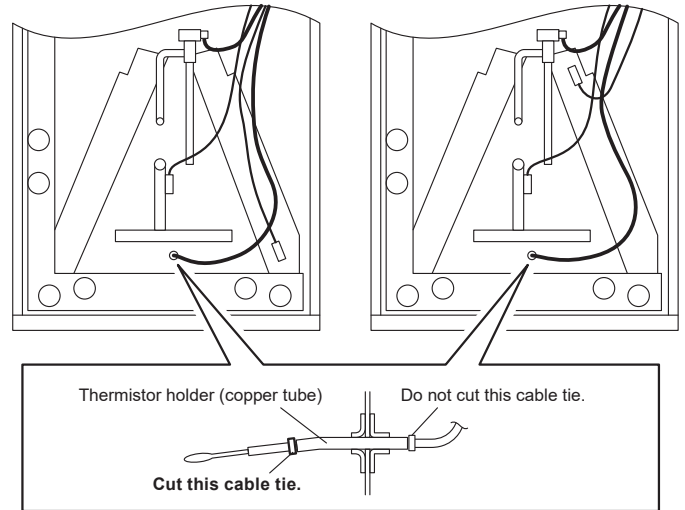
**ARUX60**



(3) Cut the cable tie that holds the room temperature thermistor inside the heat exchanger (access from the intake port), and remove the room temperature thermistor from the heat exchanger.

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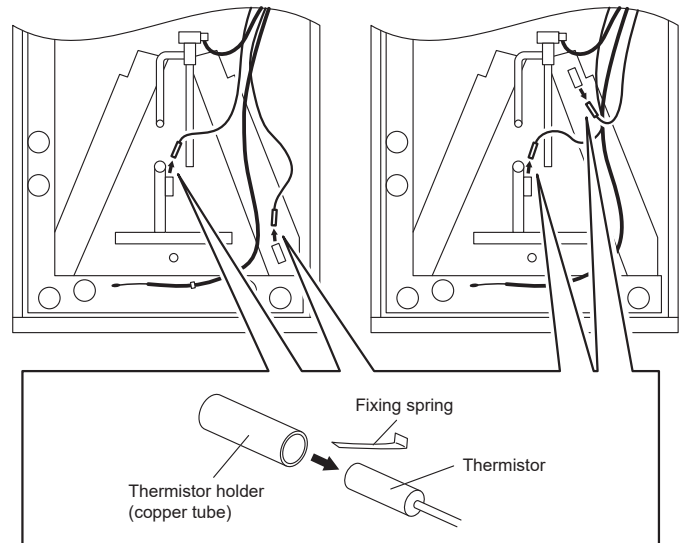


(4) Remove the thermistors for gas and liquid pipes. (2 places)

\* Do not lose the fixing springs.

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**ARUX60**

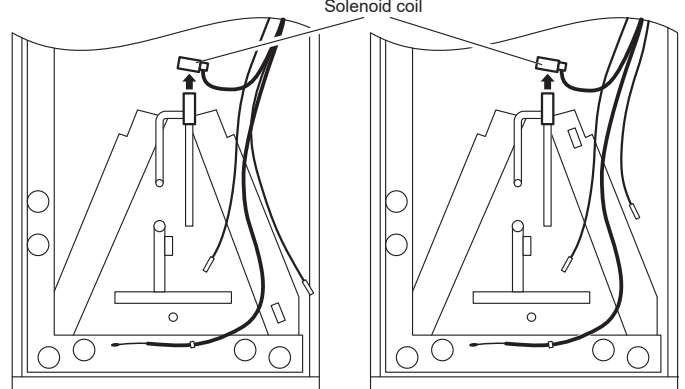


(5) Remove the coil on the solenoid valve.

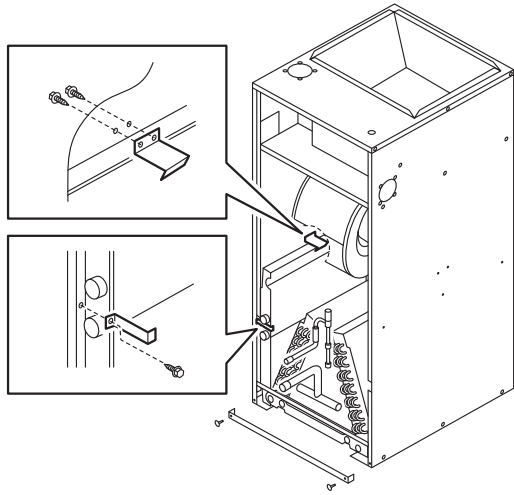
\* Protect the removed thermistors, solenoid coil, and cables with curing tape, etc. so that they will not be damaged.

**ARUX12/18/24/30/36/48**

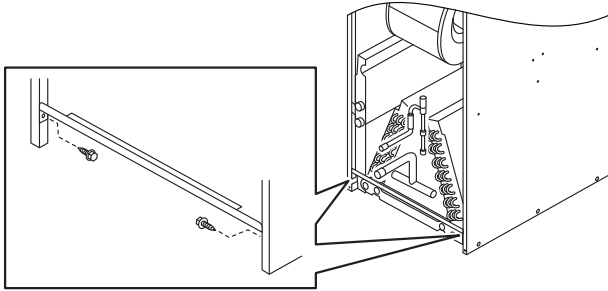
**ARUX60**



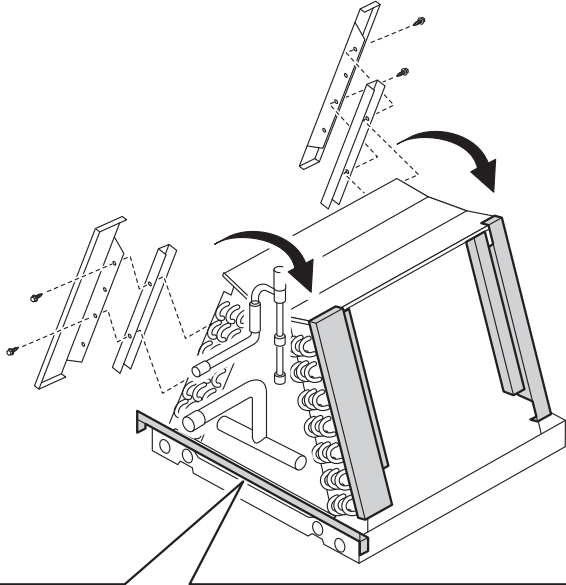
- (6) Remove the fasteners on the drain pan for horizontal installation. (2 places)  
Then, remove the frame on the suction side of the unit.



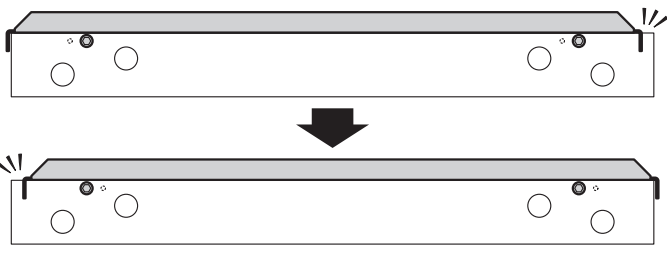
- (7) Remove the fixing screw of the heat exchanger and pull out it.



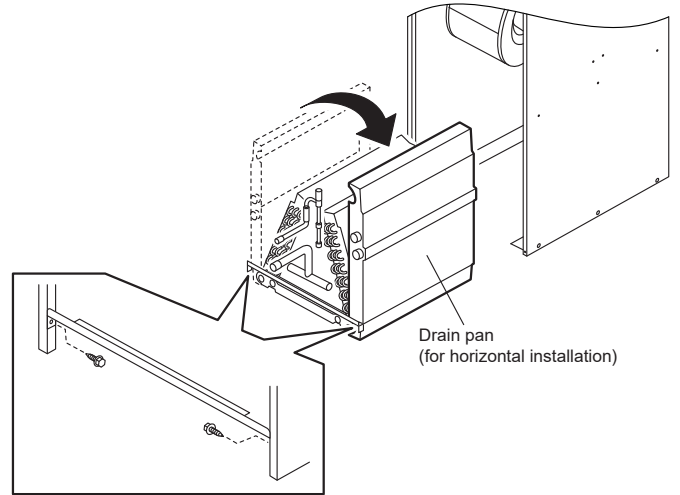
- (8) Move the gutters and mounts on the heat exchanger to the right side. (2 places, for front side and back side)  
For the ARXU48/60 model only, move the fixing frame to the right.  
\* Do not switch the gutter for the front side and the back side.



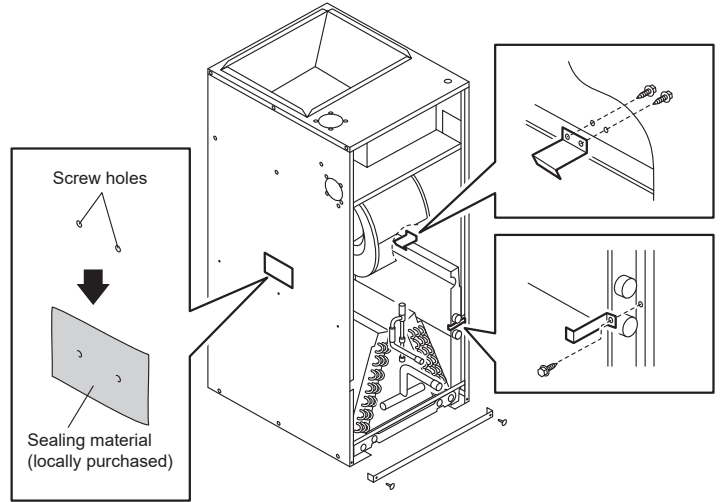
Only for ARUX48/60



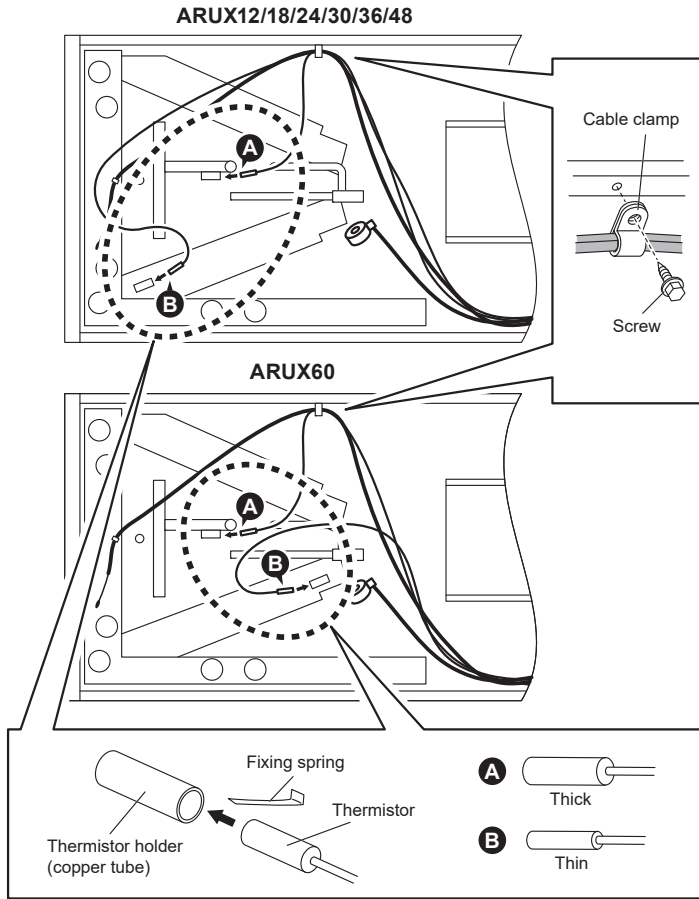
- (9) Move the drain pan for horizontal installation to the right side of the heat exchanger.  
Then reinstall the heat exchanger and fix it with screws.



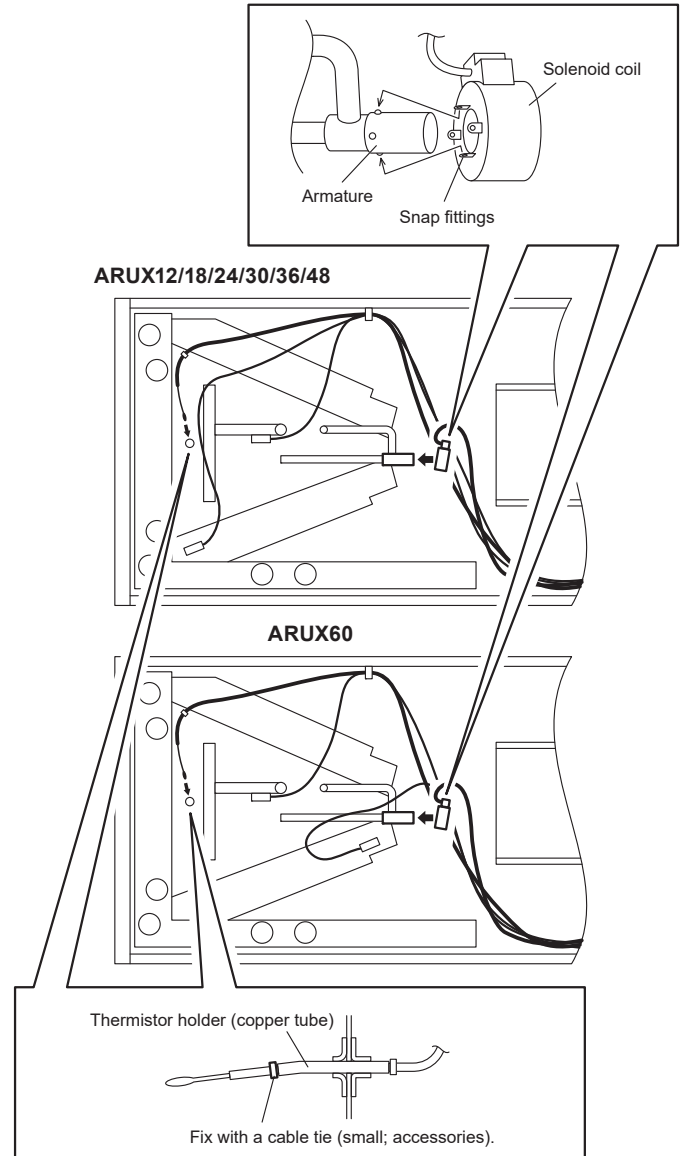
- (10) Attach the fastener (2 places) for the drain pan removed in step (6) to the right side of the unit.  
And reinstall the frame removed in step (6).  
Then, use a sealing material (locally purchased) to close the screw holes of the fastener removed in step (6).



- (11) Insert the thermistors removed in step (4) into the thermistor holder at the position shown in the figure, and fix them with the fixing springs. Then, clamp the cables with the cable clamp and screw (use the 1 set removed in step (2)). Route the cable as shown in the figure.



- (12) Reinstall the solenoid coil removed in step (5) in the orientation shown in the figure. (\*Be sure to match the snap fittings on the solenoid coil and armature. Incomplete mounting can cause malfunctions.) Insert the room temperature thermistor removed in step (3) into the mount on the front of the heat exchanger, and fix it with a cable tie (small; accessories). (Access from the intake port.) Cut off the excess of the cable tie.



- (13) Bind the cables to the heat exchanger with the cable ties (small; accessories) as shown in the figure.

If the cables are not long enough or too long, loosen and adjust the cable clamp installed in step (11).

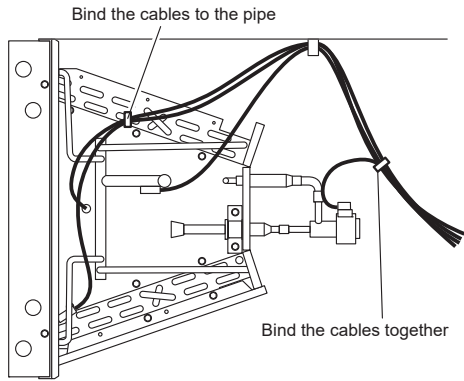
**CAUTION**

Route the cables so that water does not collect in the cable tube. If water collects in the cable tube, it may corrode the cable.

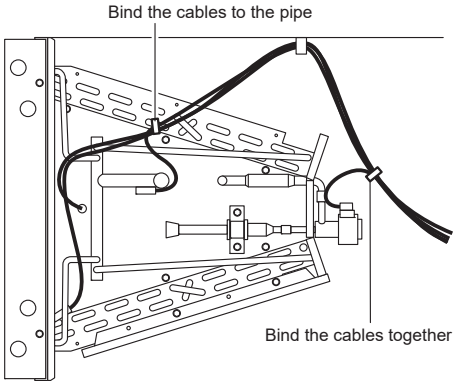
<p><b>GOOD</b></p>	<p><b>PROHIBITED</b></p>
<p><b>GOOD</b></p>	<p><b>PROHIBITED</b></p>



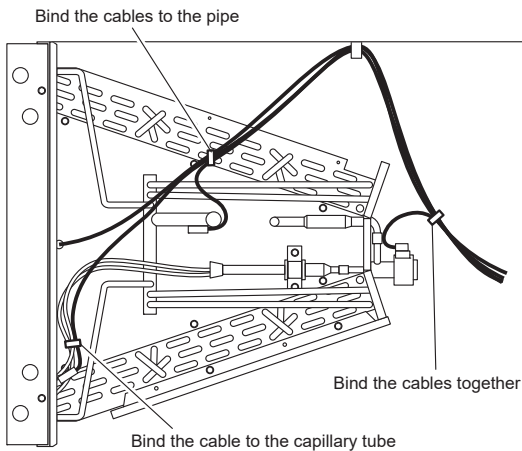
**ARUX12**



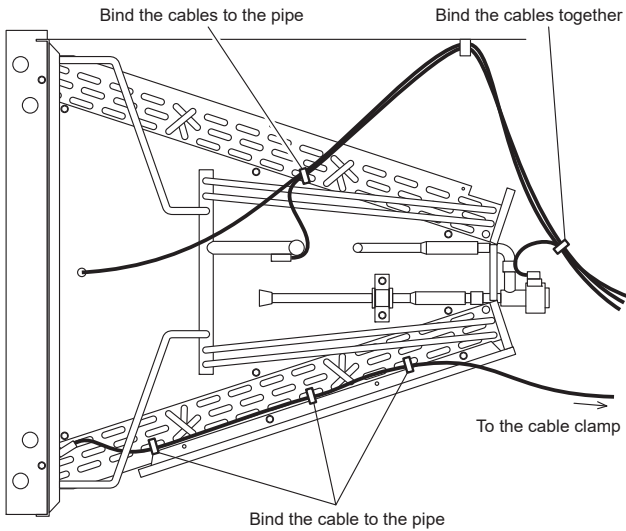
**ARUX18/24**



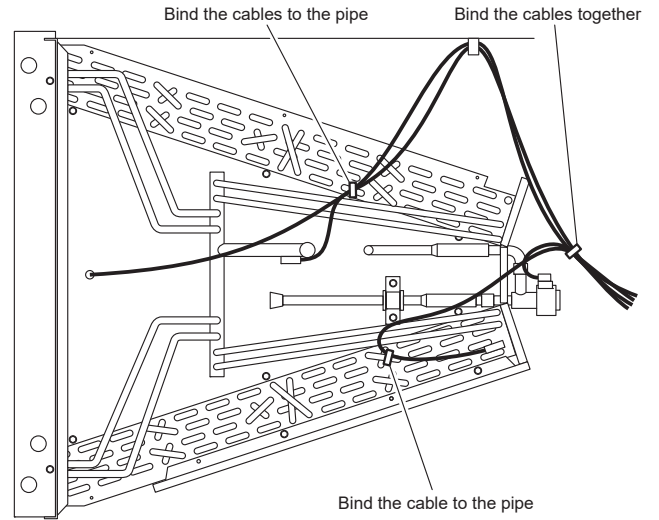
**ARUX30/36**



**ARUX48**



**ARUX60**



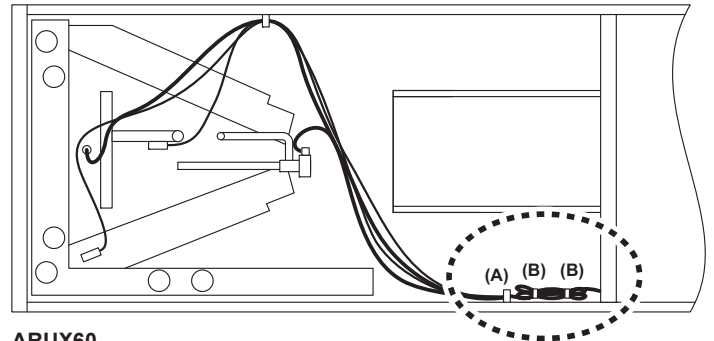
(14) Finish the cables.

**CAUTION**

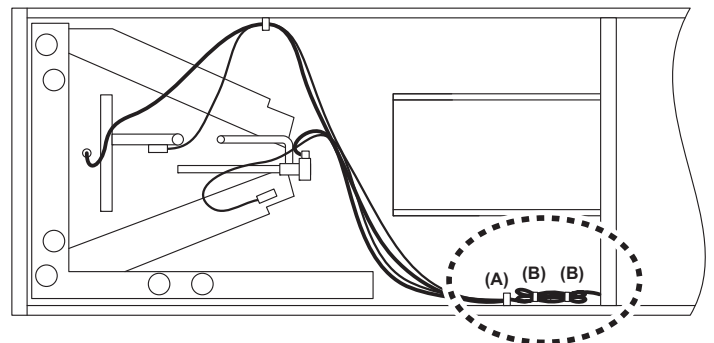
Make sure that the cables are not tensioned. If tension is applied to the cables, it may cause a malfunction such as disconnection.

- (A) Remove excess cable slack and clamp with the cable clamp.
- (B) Bind the excess cable slack with a cable tie (medium; accessories).

**ARUX12/18/24/30/36/48**



**ARUX60**



### 3.5. Installing the unit

#### ⚠ WARNING

Install the air conditioner in a location which can withstand a load of at least 5 times the weight of the main unit and which will not amplify sound or vibration. If the installation location is not strong enough, the indoor unit may fall and cause injuries.

#### ⚠ CAUTION

Confirm the directions of the air intake and outlet before installing the unit.

The unit takes in air from the evaporator side, and expels it from the fan side.

#### 3.5.1 Installation in an unconditioned space

The exterior cabinet of this unit has a greater risk of sweating when installed in an unconditioned space than when it is installed in the conditioned space. This is primarily due to the temperature of the conditioned air moving through the indoor unit and the air circulating around the unit where it is installed. For this reason, the following is recommended for all indoor unit applications, but special attention should be paid to those installed in unconditioned spaces:

- Duct sizing and airflow are critical and must be based on the equipment selected.
- Supply and return duct attachment: If other than the factory flanges are used, the attachment of ducting must be insulated and tight to prevent sweating.
- No perimeter supply flanges are provided. If a full perimeter supply duct is used, it is the responsibility of the installer to provide duct flanges as needed, to secure and seal the supply duct to prevent air leakage and the sweating that will result.
- Apply caulking around all cabinet penetrations such as power wires, control wires, refrigerant tubing and condensate line where they enter the cabinet. Seal the power wires on the inside where they exit conduit opening. Sealing is required to prevent air leakage into the unit which can result in condensate forming inside the unit, control box, and on electrical controls. Take care not to damage, remove or compress insulation when applying the caulk.
- In some cases, the entire indoor unit can be wrapped with insulation. This can be done as long as the unit is completely enclosed in insulation, sealed and service access is provided to prevent accumulation of moisture inside the insulation wrap.
- An auxiliary overflow pan is recommended to protect the structure from excessive cabinet sweating or a restricted heat exchanger drain line.
- Apply caulking around all cabinet penetrations such as power wires, control wires, refrigerant tubing and condensate line where they enter the cabinet. Seal the power wires on the inside where they exit conduit opening. Sealing is required to prevent air leakage into the unit which can result in condensate forming inside the unit, control box, and on electrical controls. Take care not to damage, remove or compress insulation when applying the caulk.

#### 3.5.2 Closet Installation

Prior to installing the indoor unit make sure the holes are cut into the floor for the refrigerant pipes, the drain line, the electrical wiring, the remote controller wiring.

- (1) Remove the fan unit and control box access panel.
- (2) Remove the heat exchanger access panel.
- (3) Place the unit into position using one of the following choices:
  - A) If the Combustible Floor Base is used you slide the unit on to the combustible floor base until the unit is touching the flanges on the back of the floor base.
  - B) If the Combustible Floor Base is not used you slide the unit over the duct opening until the opening in the unit lines up with the duct opening in the floor.
- (4) Secure the unit by one of the two choices:
  - A) If the Combustible Floor Base is used you secure the furnace to the floor by drilling two holes through the furnace base and the floor base at the right and left front inside corners of the cabinet. Use two screws to secure the furnace to the floor.
  - B) If the Combustible Floor Base is not used you secure the unit to the floor by drilling two holes through the furnace base at the left and right front inside corners of the cabinet. Use two screws to secure the unit to the floor.
- (5) Use caulking, sealers, and/or tape to seal between the combustible floor base and the opening on the unit or between the opening on the unit and the duct in the floor.

#### 3.5.3 Installation on combustible flooring

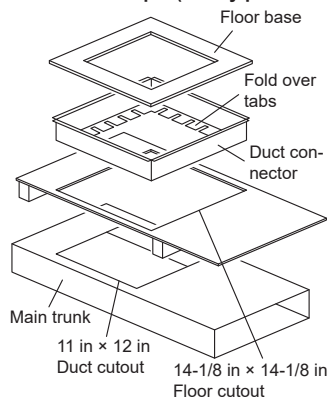
#### ⚠ WARNING

Combustible Floor Base **MUST BE USED** when the unit is being installed on combustible flooring. The unit cannot be installed on carpeting.

Failure to use the combustible floor base on combustible flooring or installing the unit on carpeting could result in a fire causing personnel injury, property damage or loss of life.

Before installing the combustible floor base make sure that there is a minimum of R-2.1 insulation between the sheet metal and any wood or combustible flooring. Refer to following figure for typical combustible floor base installation.

Installation example (locally purchased)



### 3.5.4 Mounting the duct

#### ⚠ CAUTION

To prevent people from touching the parts inside the unit, be sure to install grilles on the inlet and outlet ports. The grilles must be designed in such a way that cannot be removed without tools.

The external static pressure is as follows.  
AR12/18/24/30/36/48/60TLAV: 0.1 to 0.8 in WG (25 to 200 Pa)

If an intake duct is installed, take care not to damage the temperature sensor (the temperature sensor is attached to the intake port flange).

Be sure to install the air filter in the air inlet. If the air filter is not installed, the heat exchanger may be clogged and its performance may decrease.

#### Placing unit in duct work

- Utilize flexible transitions on supply and return connections to reduce noise and vibration transmission to the structure.
- When the connecting return air duct is smaller than the heat exchanger inlet opening, construct the transition piece so that the vertical and horizontal dimensions of the transition piece do not increase more than one inch for every seven inches of length of the transition piece.
- Provide at least three feet of straight duct work preceding the unit inlet.

#### Duct insulation and vapor proofing:

- Properly select and install duct insulation as required by the application.
- All externally insulated duct work must have an adequate vapor seal for summer operation. This is particularly important where the duct is exposed to highly humid conditions in such places as attics, vented crawl spaces, unconditioned basements, and utility rooms. The vapor seal prevents condensation of moisture in the insulating material and subsequent loss of its insulating value.

#### 3.5.5 Auxiliary overflow pan

In compliance with recognized codes, an auxiliary overflow pan must installed under all equipment containing heat exchanger that are located in any area of a structure where damage to the building or building contents may occur as a result of an overflow of the heat exchanger drain pan or a stoppage in the primary condensate drain piping.

## 4. PIPE INSTALLATION

#### ⚠ CAUTION

Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant R410A models. Also, when storing the piping, securely seal the openings by pinching, taping, etc.

While welding the pipes, be sure to blow dry nitrogen gas through them.

### 4.1. Selecting the pipe material

#### ⚠ CAUTION

Do not use existing pipes from another refrigeration system or refrigerant.

Use pipes that have clean external and internal sides without any contamination which may cause trouble during use, such as sulfur, oxide, dust, cutting waste, oil, or water.

It is necessary to use seamless copper pipes.

Material : Phosphor deoxidized seamless copper pipes.

It is desirable that the amount of residual oil is less than 0.04 oz. /100 ft. (40 mg /10 m).

Do not use copper pipes that have a collapsed, deformed, or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants.

Improper pipe selection will degrade performance. As an air conditioner using R410A incurs pressure higher than when using conventional (R22) refrigerant, it is necessary to choose adequate materials.

- Thicknesses of copper pipes used with R410A are as shown in the table.
- Never use copper pipes thinner than those indicated in the table even if they are available on the market.

#### Thicknesses of annealed copper pipes (R410A)

Pipe outside diameter [in (mm)]	Thickness [in (mm)]
1/4 (6.35)	0.032 (0.80)
3/8 (9.52)	0.032 (0.80)
1/2 (12.70)	0.032 (0.80)
5/8 (15.88)	0.039 (1.00)
3/4 (19.05)	0.047 (1.20)

## 4.2. Pipe requirement

### CAUTION

Refer to the installation manual of the outdoor unit for description of the length of connecting pipe or for difference of its elevation.

- Use pipe with water-resistant heat insulation.

### CAUTION

Install heat insulation around both the gas and liquid pipes. Failure to do so may cause water leaks. Use heat insulation with heat resistance above 248°F (120°C). (Reverse cycle model only)

In addition, if the humidity level at the installation location of the refrigerant piping is expected to exceed 70 %, install heat insulation around the refrigerant piping. If the expected humidity level is 70 to 80 %, use heat insulation that is 9/16 in (15 mm) or thicker and if the expected humidity exceeds 80 %, use heat insulation that is 13/16 in (20 mm) or thicker. If heat insulation is used that is not as thick as specified, condensation may form on the surface of the insulation.

In addition, use heat insulation with heat conductivity of 0.045 W/(m·K) or less (at 68°F (20°C)).

## 4.3. Brazing connection (pipe connection)

### 4.3.1 Bending pipes

- The pipes are shaped by your hands or pipe bender. Be careful not to collapse them.
- Do not bend the pipes in an angle more than 90°.
- When pipes are repeatedly bend or stretched, the material will harden, making it difficult to bend or stretch them any more. Do not bend or stretch the pipes more than 3 times.

### CAUTION

To prevent breaking of the pipe, avoid sharp bends.

If the pipe is bent repeatedly at the same place, it will break.

### 4.3.2 Pipe connection

### CAUTION

The heat exchanger is shipped pressurized with dry nitrogen. Do not leave piping open to the atmosphere unnecessarily. Water and water vapor are detrimental to the refrigerant system. Until the piping is complete, recap the system and charge with nitrogen at the end of each workday. Clean all piping connections before soldering joints.

Failure to follow these procedures could result in personal injury or equipment damage.

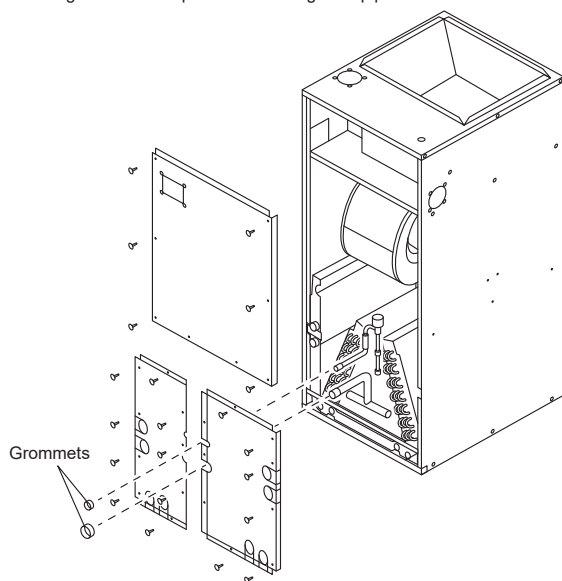
- The gas and liquid pipes connections must be brazed.
- Be sure to braze them before performing any wiring work or installing the drain pipe.

Outer diameter of pipe [in (mm)]

	AR12	AR18	AR24	AR30	AR36	AR48	AR60
Liquid pipe	1/4 (6.35)				3/8 (9.52)		
Gas pipe	1/2 (12.70)				5/8 (15.88)		

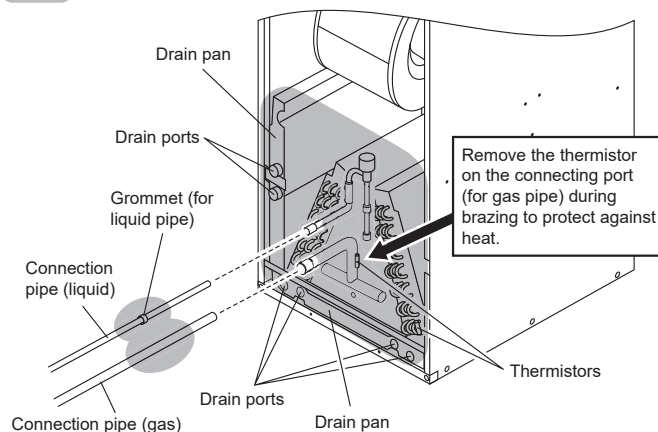
- (1) Remove the panels.

- \* Do not lose the grommets that protects the refrigerant pipes.



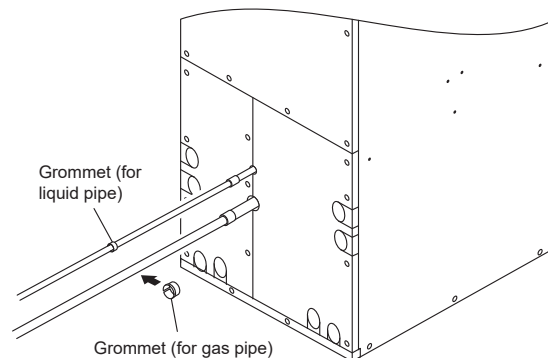
- (2) First, pass the grommet (for the liquid pipe) through the connection pipe (liquid). Protect the periphery of brazing area by wet cloth, etc. and then braze the pipes.

 : Protect these areas with wet cloth, etc.



Remove the thermistor on the connecting port (for gas pipe) during brazing to protect against heat.

- (3) After installing the coil access panels, the grommet for the gas pipe can be attached to the gas pipe. Insert the grommet for the liquid pipe and the gas pipe into each hole on the panels.



### WARNING

Be sure to use wet cloth, etc., to protect the pipe heat insulation and grommets. Because these parts are extremely flammable, they can cause a fire if they are not properly protected.

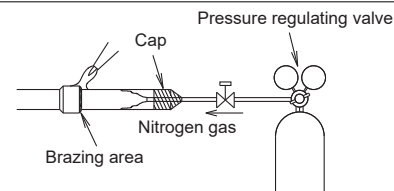
Be sure to use wet cloth, etc., to protect the thermistors. In case the thermistor may be damaged by heat of brazing, which lead to failure of normal operation.

Do not expose the unit (panel, drain pan, drain port, etc.) to the flame. The exposure of these parts to the flame will adversely affect their appearance and functions or cause a water leakage.

### CAUTION

If air or another type of refrigerant enters the refrigeration cycle, the internal pressure in the refrigeration cycle will become abnormally high and prevent the unit from exerting its full performance.

Apply nitrogen gas while brazing the pipes. Nitrogen gas pressure:  
2.9 psi (0.02 MPa)  
(= pressure felt sufficiently on the back of your hand)



If a pipe is brazed without applying nitrogen gas, it will create an oxidation film. This can degrade performance or damage the parts in the unit (such as the compressor or valves).

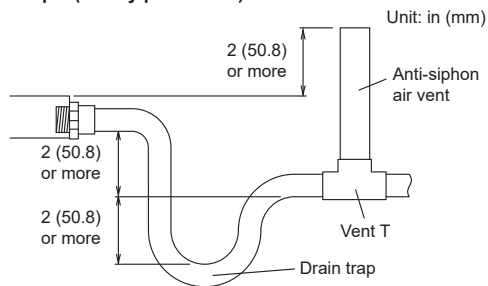
Do not use flux to braze pipes. If the flux is the chlorine type, it will cause the pipes to corrode. Furthermore, if the flux contains fluoride, it will adversely affect the refrigerant pipe system such as by degrading the refrigerant oil.

For brazing material, use phosphor copper that does not require flux.

#### 4.4. Installing drain pipes

The drain pan has two 3/4 in NPT (National pipe thread) female primary and two secondary connections (left or right hand). Horizontal pan has two 3/4 in NPT female, one primary and one secondary. Piping from each fitting used is to have 2 in minimum trap and each run in such a manner as to provide enough slope for adequate drainage to a visible area. Do not pipe these two fittings together into a common drain. Cap unused connection.

##### Installation example (locally purchased)



#### CAUTION

Be sure to properly insulate the drain pipes.  
Make sure the drain water is properly drained.

### 5. ELECTRICAL WIRING

#### WARNING

Electrical work must be performed in accordance with this manual by a person certified under the national or regional regulations. Be sure to use a dedicated circuit for the unit. An insufficient power supply circuit or improperly performed electrical work can cause serious accidents such as electric shock or fire.

Before starting work, check that power is not being supplied to the all units.

For wiring, use the prescribed type of cables, connect them securely, making sure that there are no external forces of the cables applied to the terminal connections. Improperly connected or secured cables can cause serious accidents such as overheating the terminals, electric shock, or fire.

Securely install the electrical box cover on the unit. An improperly installed electrical box cover can cause serious accidents such as electric shock or fire through exposure to dust or water.

Install sleeves into any holes made in the walls for wiring. Otherwise, a short circuit could result.

Use the included connection cables and power cables or ones specified by the manufacturer. Improper connections, insufficient insulation, or exceeding the allowable current can cause electric shock or fire.

Do not modify the power cables, use extension cables, or use any branches in the wiring. Improper connections, insufficient insulation, or exceeding the allowable current can cause electric shock or fire.

Match the terminal block numbers and connection cable colors with those of the outdoor unit (or RB unit). Erroneous wiring may cause burning of the electric parts.

Securely connect the connection cables to the terminal board. In addition, secure the cables with wiring holders. Improper connections, either in the wiring or at the ends of the wiring, can cause a malfunction, electric shock, or fire.

Always fasten the outside covering of the connection cable with the cable clamp. (If the insulator is chafed, electric discharge may occur.)

We suggest installing GFEB breakers or follow local electrical code. When installing this system, install using ground fault equipment breakers (GFEB) to reduce the risk of leaking current which result in electric shock or potential fire.

Always connect the ground (earth) cable. Improper grounding (earthing) work can cause electric shocks.

Install the remote controller cables so as not to be direct touched with your hand.

Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.

Connect the connection cable firmly to the terminal board. Imperfect installation may cause a fire.

If the supply cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

#### CAUTION

Ground (Earth) the unit.  
Do not connect the ground (earth) cable to a gas pipe, water pipe, lightning rod, or a telephone ground (earth) cable.  
Improper grounding (earthing) may cause electric shock.

Do not connect power supply cables to the transmission or remote controller terminals, as this will damage the product.

Never bundle the power supply cable and transmission cable, remote controller cable together.  
Separate these cable by 2 in (50 mm) or more.  
Bundling these cables together will cause miss operation or breakdown.

When handling PCB, static electricity charged in the body may cause malfunction of the PCB. Follow the cautions below:

- Establish an ground (earth) for the indoor and outdoor units and peripheral devices.
- Cut power (breaker) off.
- Touch metal part of the indoor unit for more than 10 seconds to discharge static electricity charged in the body.
- Do not touch terminals of parts and patterns implemented on PCB.

#### 5.1. Electrical requirement

<b>Voltage rating</b>	208 / 230 V
<b>Operating range</b>	187 to 253 V

- Select the power cable type and size in accordance with relevant local and national regulations.
- Specifications for local wiring power cord and branch wiring are in compliance with local code.
- Select the correct cable type and size according to the country or region's regulations.
- Max. wire length: Set a length so that the voltage drop is less than 2%. Increase the wire diameter when the wire length is long.

Breaker should be installed at every refrigerant system. Do not use a breaker in a different refrigerant system.

Refer to the table for the breaker specifications of each installation condition. Perform the power crossover wiring within the range of the same refrigerant system. When the crossover wiring is done, make a connection for indoor units to satisfy conditions A and B below.

##### A. Current breaker requirements

Model	MCA	MAX. CKT. BKR (Fuse capacity)
ARUX12TLAV2	1.54 A	15 A
ARUX18TLAV2	1.73 A	
ARUX24TLAV2	2.38 A	
ARUX30TLAV2	3.29 A	
ARUX36TLAV2	4.05 A	
ARUX48TLAV2	5.15 A	
ARUX60TLAV2	5.88 A	

MCA: Minimum Circuit Ampacity  
MAX. CKT. BKR : Maximum Circuit Breaker

Breaker should be installed at every refrigerant system. Do not use a breaker in a different refrigerant system.

With this model, connect only one indoor unit to a current breaker. (Crossover wiring is prohibited.)

Select a minimum of 7 or more multiples of rated current under the condition time in seconds 10 ms (0.01 S) or less at the current breaker trip curves (time in seconds/multiples of rated current).

##### B. Ground Fault Equipment Breaker requirements

Breaker capacity	Maximum connectable indoor units (*1) (ARUX12/18/24/30/36/48/60TLAV2 model only)
30 mA, 0.1 sec or less	9 or less
100 mA, 0.1 sec or less	10 to 30 (*2)

\*1: Number of connected Heat pump type

\*2: If the 100 mA capacity breaker is not provided, split the quantity of the indoor units into small groups of 9 units or less and provide a breaker with capacity of 30 mA for each group.

When connecting different models on the above listed breaker in conjunction with the ARUX12/18/24/30/36/48/60TLAV2, you might be able to connect more than 9 units. To determine the maximum amount of indoor units when using different models or Heat recovery type, reference each units Design & Technical manual to calculate the total amount of units that can be connected on a given breaker.

##### 5.1.1 Transmission and remote controller wiring specifications

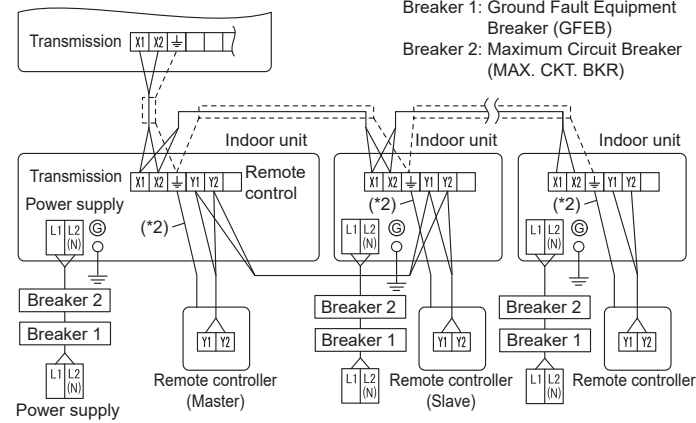
Follow the specifications below for the transmission and remote controller cable.

	Cable size	Wire type	Remarks
Transmission cable	22 AWG (0.33 mm <sup>2</sup> )	LEVEL 4 (NEMA) non-polar 2core, twisted pair solid core diameter 0.026 in (0.65mm)	LONWORKS® compatible cable
Remote controller cable (2-wire type only)	22 AWG to 16 AWG (0.33 to 1.25 mm <sup>2</sup> )	Sheathed PVC cable	Non polar 2 core, twisted pair
	18 AWG	Thermostat cable 2 core	Use sheathed non twisted pair cable

## 5.2. Wiring method

### Example

Outdoor unit or RB unit (\*1)



Breaker shall be located in sight from and readily accessible from all indoor units.

\*1: When connecting to the Heat recovery system, refer to the installation manual of the RB unit.

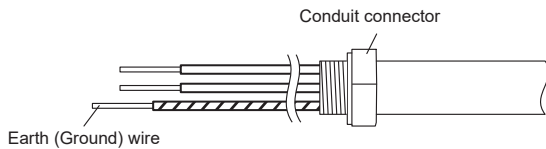
\*2: Ground (Earth) the remote controller if it has an ground (earth) cable.

## 5.3. Unit wiring

Before attaching the cable to terminal block.

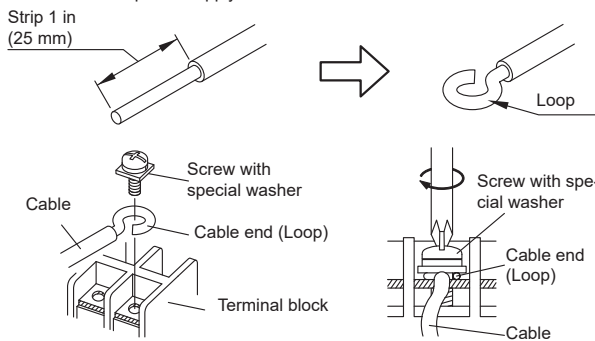
### 5.3.1 Power supply cable

- Adjust the length of power supply cable to avoid excessive tension.
- Keep the earth (ground) wire longer than the other wires.



### A. For solid core wiring

- To connect the electrical terminal, follow the below diagram and connect after looping it around the end of the cable.
- Use the specified cables, connect them securely, and fasten them so that there is no stress placed on the terminals.
- Use an appropriate screwdriver to tighten the terminal screws. Do not use a screwdriver that is too small, otherwise, the screw heads may be damaged and prevent the screws from being properly tightened.
- Do not tighten the terminal screws too much, otherwise, the screws may break.
- See the table for the terminal screw tightening torques.
- Please do not fix 2 power supply cables with 1 screw.

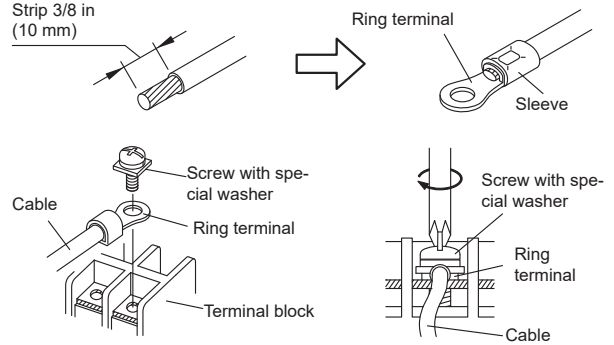


### WARNING

When using solid core cables, do not use the ring terminal. If you use the solid core cables with the ring terminal, the ring terminal's pressure bonding may malfunction and cause the cables to abnormally heat up.

### B. For strand wiring

- Use ring terminals with insulating sleeves as shown in the figure below to connect to the terminal block.
- Securely clamp the ring terminals to the cables using an appropriate tool so that the cables do not come loose.
- Use the specified cables, connect them securely, and fasten them so that there is no stress placed on the terminals.
- Use an appropriate screwdriver to tighten the terminal screws. Do not use a screwdriver that is too small, otherwise, the screw heads may be damaged and prevent the screws from being properly tightened.
- Do not tighten the terminal screws too much, otherwise, the screws may break.
- See the table for the terminal screw tightening torques.
- Please do not fix 2 power supply cables with 1 screw.



### WARNING

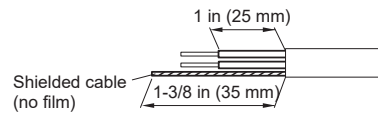
Use ring terminals and tighten the terminal screws to the specified torques, otherwise, abnormal overheating may be produced and possibly cause heavy damage inside the unit.

### Tightening torque

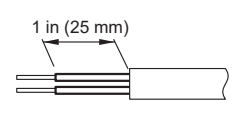
M4 screw (Power supply/L1, L2 (N), GND)	11 to 16 lbf-in (1.2 to 1.8 N·m)
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### 5.3.2 Transmission and Remote controller cable

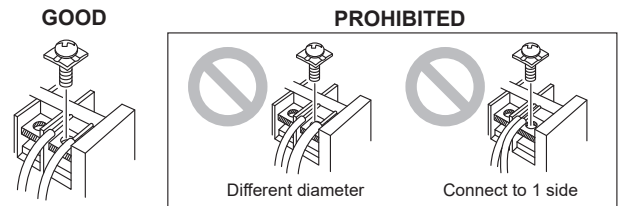
#### Transmission cable



#### Remote controller cable



- Connect remote controller and transmission cables as shown in figure below.



### WARNING

Tighten the terminal screws to the specified torques, otherwise, abnormal overheating may be produced and possibly cause heavy damage inside the unit.

### Terminal number

- M3 screw
- Transmission: X1, X2
- Remote controller: Y1, Y2 (Do not connect to Y3)

### Tightening torque

4.4 to 5.3 lbf-in  
(0.5 to 0.6 N·m)

### CAUTION

To peel the film from the lead cable, use a dedicated tool that will not damage the conductor cable.

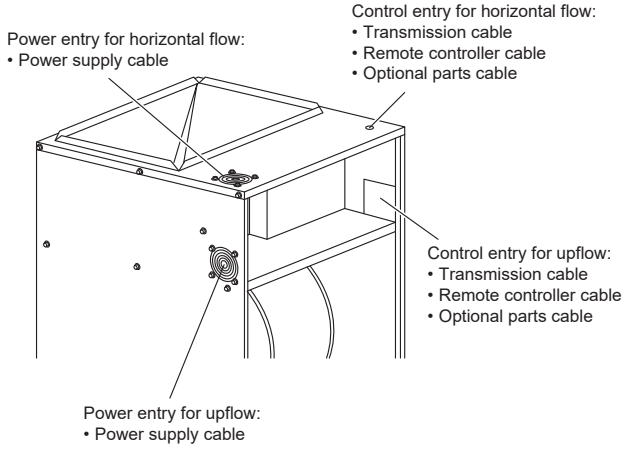
When installing a screw on the terminal block, do not cut the cable by overtightening the screw. On the other hand, an undertightened screw can cause faulty contact, which will lead to a communication failure.

## 5.4. Connection of wiring

### 5.4.1 Entries position

#### CAUTION

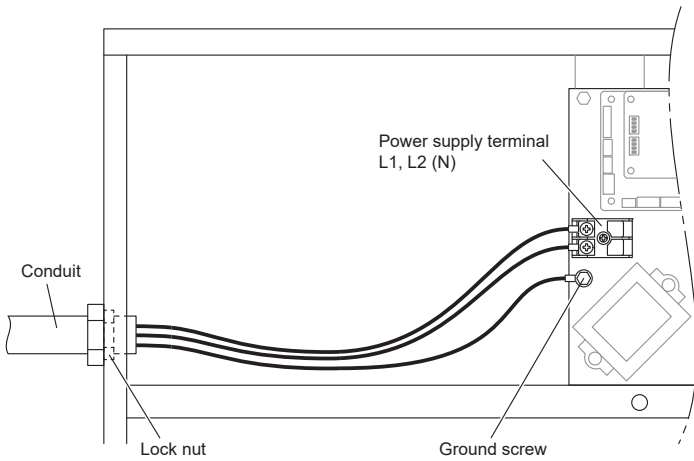
To protect the cable insulation after opening a knockout hole, remove any burrs from the edge of the hole.



### 5.4.2 Power entry connection

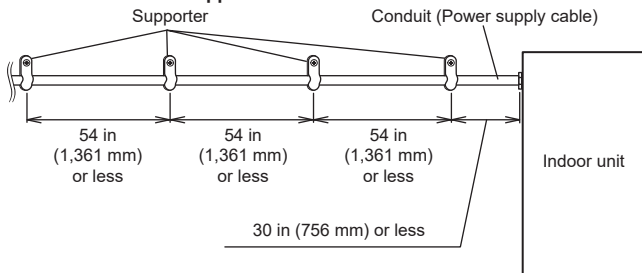
#### CAUTION

Do not pass the transmission cable, remote control cable or optional parts cable through the power entry.



Do not bind the power supply cable and other cables together.

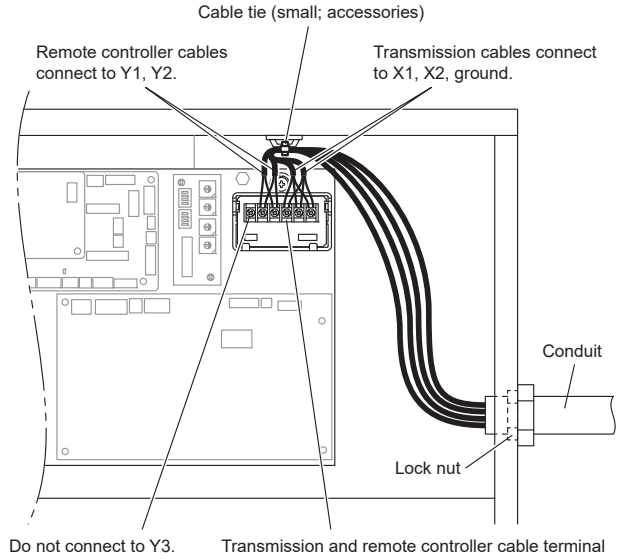
Fix the conduit with the supporters as shown below.



### 5.4.3 Control entry connections

#### CAUTION

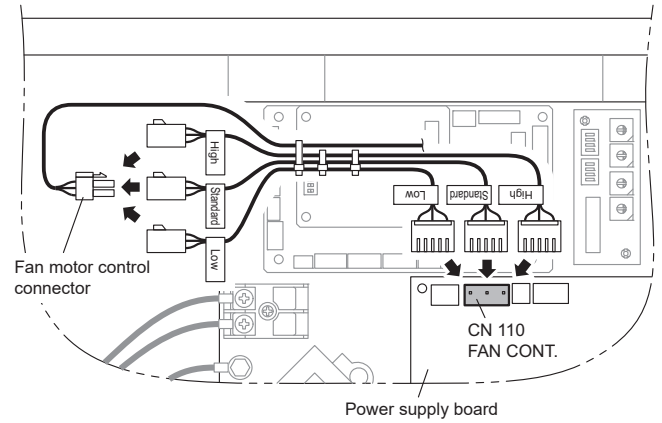
Do not pass the power supply cable through the control entry.



## 5.5. Airflow changing

The indoor unit static pressure can be changed to high or low by replacing the fan motor control relay wire.

### Connector position



### External static pressure and required connector type

External static pressure [in WG (Pa)]	Connecting connectors (*: Factory setting)	
	Power board side	Fan motor side
0.8 (200)	High	High
0.5 (125)	Standard*	Standard*
0.1 (25)	Low	Low

\* Refer to the Design & Technical manual for the range of static pressure.

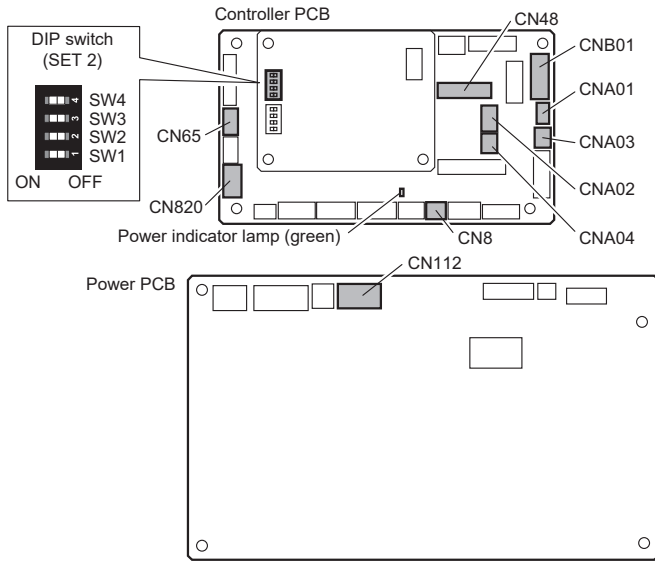
## 5.6. Optional parts wiring

### 5.6.1 Connector and DIP switch position

#### CAUTION

Do not operate any switches other than prescribed, as it can cause the unit to operate improperly or malfunction.

Use an insulated screwdriver to set the DIP switches.



#### NOTE:

If the external heater is not in-line, set the "DIP switch SET 2 SW3" to "off" and set the function setting "79" to "00: Disable". Refer to "6.3. Function setting".

Name	Application		
Power indicator lamp (green)	Indicates the state of the power supply. Refer to "5.6.2 Power indicator lamp status" following.		
CNA01	Apply voltage terminal	For external input. Refer to "5.7. External input and external output (Optional parts)".	
CNA03	Dry contact terminal		
CNA02			
CNA04			
DIP switch SET 2	SW2 SW3	Input signal type switching Indoor unit fan setting for external heater	In the following cases, set this switch to "off" and set the function setting "79" to "00: Disable". Refer to "6.3. Function setting". • When not using any external heaters. • When the external heater is not in-line.
CNB01	Output terminal (DC 12 V)	For one of the following. • External output • External heater (*2) Refer to "5.7. External input and external output (Optional parts)" and "5.8. Heater connection".	
CN8	For Remote sensor unit (*1)		
CN48	For IR receiver unit (*1)		
CN65	For one of the following. • Modbus converter (*1) • Wireless LAN adapter (*1)		
CN820	For External power supply unit (*1)		
CN112	Heater terminal (AC 24 V)	For external heater. Refer to "5.8. Heater connection".	

\*1: For details, refer to each installation manual.

\*2: Only for 2 stage models.

### 5.6.2 Power indicator lamp status

Power indicator lamp (Green)	Status contents
○ Lit	Lit when the power is turned on.
● Fast flashing (every 0.1 second)	There is a fault with the communication board or the main board.
● Blinking (repeat 3 seconds ON and 1 second OFF)	The indoor unit is turned off and power is supplied from the External power supply unit (optional) to the indoor unit PCB.

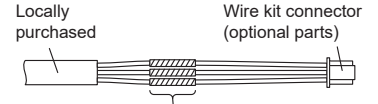
### 5.6.3 Connection methods

#### Wire modification for External input/output wire

- Remove insulation from wire attached to wire kit connector.
- Remove insulation from field supplied cable. Use crimp type insulated butt connector to join field cable and wire kit wire.
- Connect the wire with connecting wire with solder.

#### IMPORTANT:

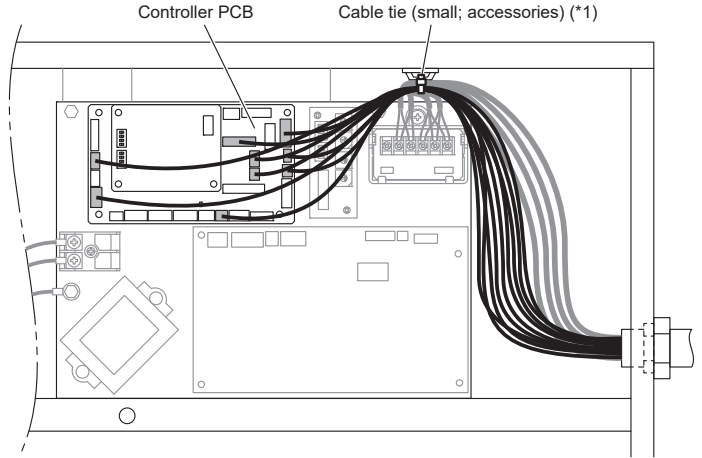
Be sure to insulate the connection between the wires.



Solder and insulate the connected parts.

#### Wiring arrangement

In following figure, all the possible connectors are connected for description. In actual installation, you cannot connect all the connectors at once.



\*1: If you cut the accessory cable tie, use a locally purchased

#### CAUTION

To protect the cable insulation after opening a knockout hole, remove any burrs from the edge of the hole.

## 5.7. External input and external output (Optional parts)

#### CAUTION

Do not operate any switches other than prescribed, as it can cause the unit to operate improperly or malfunction.

Use an insulated screwdriver to set the DIP switches.

### 5.7.1 External input

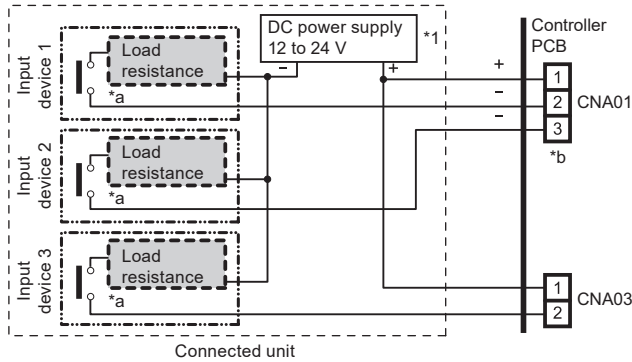
- Indoor unit can be operation/stop, emergency stop or forced stop by using indoor unit PCB CNA01 or CNA02.
- "Operation/Stop" mode, "Emergency stop" mode or "Forced stop" mode can be selected with function setting of indoor unit.
- Indoor unit can be forced thermostat off by using indoor unit PCB CNA03 or CNA04.
- A twisted pair cable (22 AWG) should be used. Maximum length of cable is 150 m.
- Use an external input and output cable with appropriate external dimension, depending on the number of cables to be installed.
- The wire connection should be separate from the power cable line.

## Input select

Use either one of these types of terminal according to the application. (Both types of terminals cannot be used simultaneously.)

### • Apply voltage terminal ([CNA01], [CNA03])

When a power supply must be provided at the input device you want to connect, use the apply voltage terminal ([CNA01], [CNA03]).

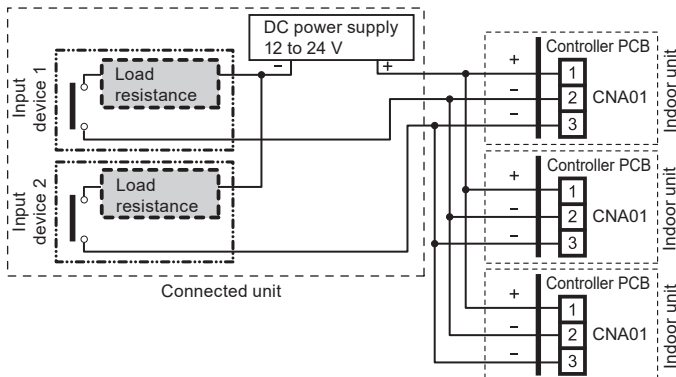


\*1: Make the power supply DC 12 to 24 V. Select a power supply capacity with an ample surplus for the connected load.  
Do not impress a voltage exceeding 24 V across pins 1-2, and 1-3.

\*a: The allowable current is DC 5 mA to 10 mA. (Recommended: DC 5 mA)  
Provide a load resistance such that the current becomes DC 10 mA or less.  
Select very low current use contacts (usable at DC 12 V, DC 1 mA or less).

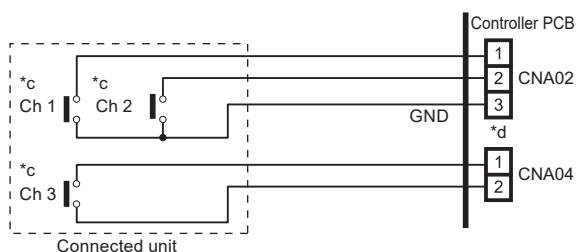
\*b: The polarity is [+] for pin 1 and [-] for pin 2 and 3. Connect correctly.

When connected to apply voltage terminals of multiple indoor units with a connected unit, be sure to make a branch outside the indoor unit using a pull box, etc. as shown on below example.



### • Dry contact terminal ([CNA02], [CNA04])

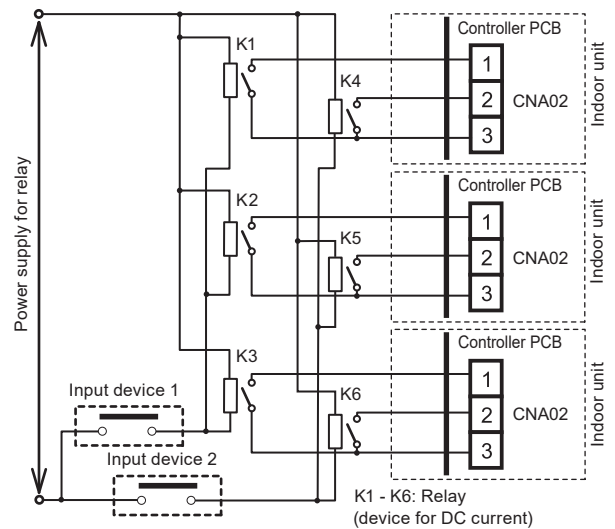
When a power supply is unnecessary at the input device you want to connect, use the dry contact terminal ([CNA02], [CNA04]).



\*c: Select very low current use contacts (usable at DC 12 V, DC 1 mA or less).

\*d: The wiring is different from apply voltage terminals. Be sufficiently careful when wiring.

When connected to dry contact terminals of multiple indoor units with a connected unit, insulate each indoor unit with relay, etc. as shown on below example.



### NOTE:

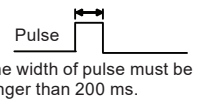
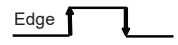
When connected to multiple indoor units directly, it will cause breakdown.

## Operation behavior

### • Input signal type

The input signal type can be selected.  
It is switched by DIP switch on the indoor unit PCB.

DIP switch [Set 2 SW2]	Input signal type
OFF (factory setting)	Edge
ON	Pulse



### • When function setting is "Operation/Stop" mode.

Input signal type	Connector	Input signal	Command
Edge	Ch1 of CNA01 or CNA02	OFF → ON	Operation
		ON → OFF	Stop
Pulse	CNA01 or CNA02	Ch1	OFF → ON
		Ch2	OFF → ON

\* The last command has priority.

\* The indoor units within the same remote controller group operates in the same mode.

### • When function setting is "Emergency stop" mode.

Input signal type	Connector	Input signal	Command
Edge	Ch1 of CNA01 or CNA02	OFF → ON	Emergency stop
		ON → OFF	Normal
Pulse	CNA01 or CNA02	Ch1	OFF → ON
		Ch2	OFF → ON

\* All indoor units of same refrigerant system stops when emergency stop operates.

### • When function setting is "Forced stop" mode.

Input signal type	Connector	Input signal	Command
Edge	Ch1 of CNA01 or CNA02	OFF → ON	Forced stop
		ON → OFF	Normal
Pulse	CNA01 or CNA02	Ch1	OFF → ON
		Ch2	OFF → ON

\* When the forced stop is triggered, indoor unit stops and operation/stop operation by a remote controller is restricted.

\* When forced stop function is used with forming a remote controller group, connect the same equipment to each indoor unit within the group.

• Selection method of functions  
"Operation/Stop" mode or "Emergency stop" mode, "Forced stop" mode can be selected with function setting of indoor unit.



• **Forced thermostat off function**

["Edge" input only]

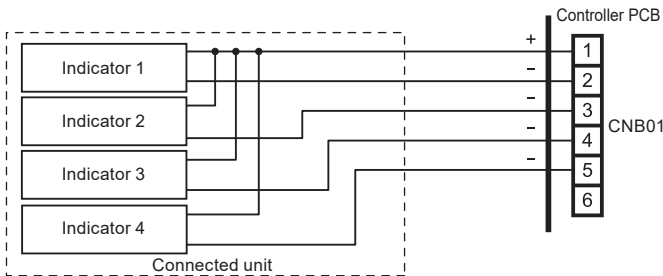
Function setting	Connector	Input signal	Command
60-00	Ch3 of CNA03 or CNA04	OFF → ON	Thermostat off
		ON → OFF	Normal

**5.7.2 External output**

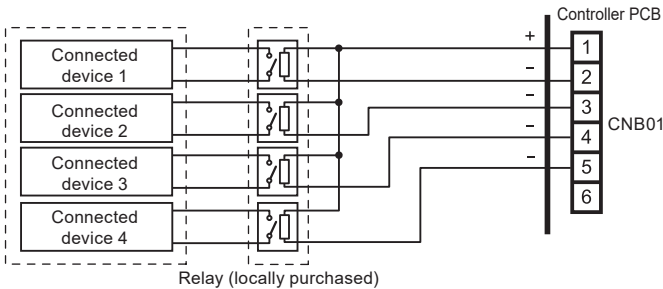
- A twisted pair cable (22AWG) should be used. Maximum length of cable is 82 ft. (25 m).
- Use an external input and output cable with appropriate external dimension, depending on the number of cables to be installed.
- Output voltage: Hi DC 12 V ± 2 V, Lo 0 V.
- Permissible current: 50 mA

**Output select**

- **When indicator etc. are connected directly**



- **When connecting with unit equipped with a power supply**



**Operation behavior**

\* If function setting "60" is set to "00" (\*1)

Connector	Output voltage	Status
External output 1 Pins 1-2	0 V	Stop
	DC 12 V	Operation
External output 2 Pins 1-3	0 V	Normal
	DC 12 V	Error
External output 3 Pins 1-4	0 V	Indoor unit fan stop
	DC 12 V	Indoor unit fan operation
External output 4 Pins 1-5	0 V	External heater (single stage model; locally purchased) off (*2)
	DC 12 V	External heater (single stage model; locally purchased) on (*2)

\*1: Refer to "6.3. Function setting".

\*2: Refer to "5.8. Heater connection".

**5.8. Heater connection**

**WARNING**

For personal safety be sure to turn the electrical power "OFF" at the main entrance (Home Circuit Breaker Box) and at the unit control box circuit breakers before attempting any service or maintenance operations. Homeowners should never attempt to perform any maintenance which requires opening the indoor unit control box panel.

This indoor unit is not equipped with a shield that covers the line voltage electrical supply wires and the circuit breaker connections. Take precautions to prevent accidental electrical shock. Be sure to turn the electrical power "OFF" at the main entrance (Home Circuit Breaker Box) and at the control box circuit breakers before removing the front panel.

**5.8.1 Wiring diagram of heaters**

Breaker 1: Ground Fault Equipment Breaker (GFEB)  
Breaker 2: Maximum Circuit Breaker (MAX. CKT. BKR)

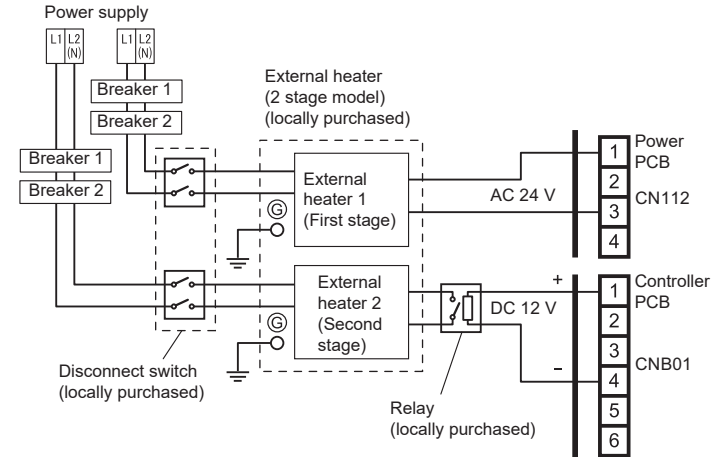
**NOTE:**

For details of the connection terminal functions, refer to the Design & Technical manual.

**Example of external heater 2 stage model**

**NOTE:**

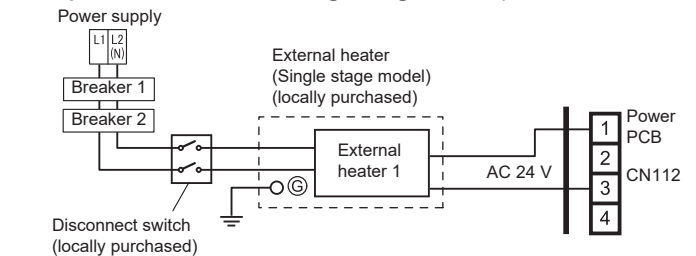
If the external heater 2 stage model is in-line, set the "function setting 60" to "10", "11" or "12". Refer to "6.3. Function setting".



For connection to each terminal, use the connector of the following optional parts.

- CN112: UTY-XWZXZK
- CNB01: UTY-XWZXZC

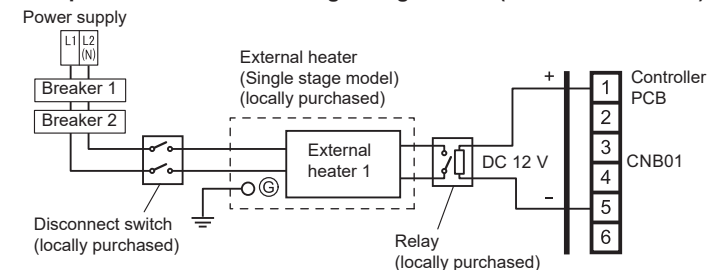
**Example of external heater single stage model (AC 24 V controlled)**



For connection to the terminal, use the connector of the following optional parts.

- CN112: UTY-XWZXZK

**Example of external heater single stage model (DC 12 V controlled)**



For connection to the terminal, use the connector of the following optional parts.

- CNB01: UTY-XWZXZC

**5.8.2 Indoor unit fan setting for external heater**

Fan setting when turning on output to the connected external heater can be set by changing Dip switch on controller PCB. For the Dip switch on the controller PCB, refer to "5.6.1 Connector and DIP switch position".

Dip switch [SET 2 SW3]	Fan setting when on is output to the external heater	Explanation
Off	Off	For the fan setting details, refer to the Design & Technical manual.
On (Factory setting)	On	

**NOTE:**

In the following cases, set the "DIP switch SET 2 SW3" to "off" and set the function setting "79" to "00: Disable". Refer to "5.6.1 Connector and DIP switch position" and "6.3. Function setting".

- When not using any external heaters.
- When the external heater is not in-line.

## 5.9. Remote sensor (optional parts)

For the installation method, please refer to the installation manual of the Remote sensor.

- Remove the existing connector and replace it with the remote sensor connector (ensure that the correct connector is used).
- The original connector should be insulated to ensure that it does not come into contact with other electrical circuitry.
- Use conduit hole when external output cable is used.

### CAUTION

To protect the cable insulation after opening a knockout hole, remove any burrs from the edge of the hole.

### Setting for room temperature correction

When a Remote sensor is connected, set the function setting of indoor unit as indicated below.

- Function number "30":  
Set the setting number to "00". (Default)
- Function number "31":  
Set the setting number to "02".

\* Refer to "6.3. Function setting" for details about function number and setting number

## 5.10. IR receiver unit (optional parts)

For the installation method, please refer to the installation manual of IR receiver unit.

- Use 7 pins for receiver unit cable.
- At first, connect the receiver unit cable to the controller PCB.
- Attach the core that comes between controller PCB and the clamp.
- Use conduit hole when external output cable is used.

### CAUTION

To protect the cable insulation after opening a knockout hole, remove any burrs from the edge of the hole.

## 6. FIELD SETTING

There are 3 methods for address setting by field setting as follows.

Please set by either of the methods.

Each setting method is described in below (1) to (3).

- IU AD, REF AD SW settings: This section (refer to "6.1. Setting the address")
- Remote controller settings: Refer to the wired or wireless remote controller manual for detailed setting information. (Set IU AD, REF AD SW to 0)
- Automatic address settings: Refer to the outdoor unit manual for detailed setting information. (Set IU AD, REF AD SW to 0)

### CAUTION

Be sure to turn off the power before performing the field setting.

Do not operate any switches other than prescribed, as it can cause the unit to operate improperly or malfunction.

Use an insulated screwdriver to set the DIP switches.

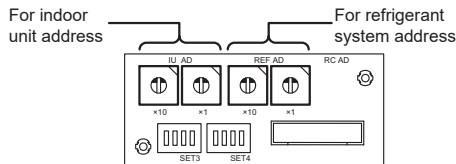
### 6.1. Setting the address

#### Manual address setting method

If the receiver unit is attached, the indoor unit address and the refrigerant system address can also be set up through the wireless remote controller.

### CAUTION

Use an insulated screwdriver to set the DIP switches.



<b>Indoor unit address</b>	<ul style="list-style-type: none"> <li>Rotary switch (IU AD × 1)...Factory setting "0"</li> <li>Rotary switch (IU AD × 10)...Factory setting "0"</li> </ul> <p>When connecting multiple indoor units to 1 refrigerant system, set the address at IU AD SW as shown in the table A.</p>
<b>Refrigerant system address</b>	<ul style="list-style-type: none"> <li>Rotary switch (REF AD × 1)...Factory setting "0"</li> <li>Rotary switch (REF AD × 10)...Factory setting "0"</li> </ul> <p>In the case of multiple refrigerant systems, set REF AD SW as shown in the table A for each refrigerant system. Set to the same refrigerant system address as the outdoor unit.</p>

- If working in an environment where the wireless remote controller can be used, the addresses can also be set using the remote controller.





- If setting the addresses using the wireless remote controller, set the indoor unit address and refrigerant system address to "00". (For information on setting using the wireless remote controller.)

- \* Do not set the indoor unit address (IU AD SW) at 64 to 99. It may result in failure.

Table A

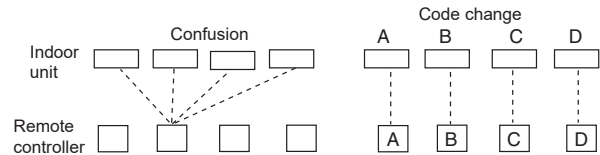
Refrigerant system	Rotary switch setting		Address	Rotary switch setting	
	REF AD SW × 10	× 1		Indoor unit	IU AD SW × 10
0	0	0	0	0	0
1	0	1	1	0	1
2	0	2	2	0	2
3	0	3	3	0	3
4	0	4	4	0	4
5	0	5	5	0	5
...	...	...	...	...	...
10	1	0	10	1	0
11	1	1	11	1	1
...	...	...	...	...	...
99	9	9	63	6	3

#### Setting example

Setting	Setting range	Type of switch
Indoor unit address	0 to 63	Setting example 2  IU AD × 10  IU AD × 1
Refrigerant system address	0 to 99	Setting example 63  REF AD × 10  REF AD × 1

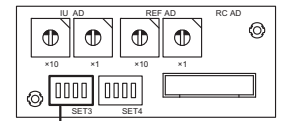
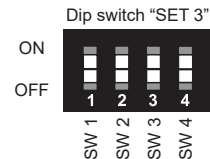
### 6.2. Custom code setting

- Selecting the custom code prevents the indoor unit mix-up. (Figure below) (Up to 4 codes can be set.)
- Perform the setting for both the indoor unit and the remote controller.



#### Setting method

Set the DIP switch SET 3 SW1, SW2, referring to the following table.



	Custom code			
	A (factory setting)	B	C	D
DIP switch SET3 SW1	OFF	ON	OFF	ON
DIP switch SET3 SW2	OFF	OFF	ON	ON

### 6.3. Function setting

- Function setting can be performed with the wired or wireless remote controller. (The remote controller is optional equipment)
- Refer to the wired or wireless remote controller manual for detailed setting information. (Set IU AD, REF AD SW to 0)
- Refer to "6.1. Setting the address" for indoor unit address and refrigerant system address settings.
- Turn the power of the indoor unit on before starting the setting.

- \* Turning on the power to the indoor units initializes EEV, so make sure the piping air tight test and vacuuming have been conducted before turning on the power.
- \* Also check again to make sure no wiring mistakes were made before turning on the power.

Function details

Function	Function number	Setting number	Default	Details
Filter indicator interval	11	00	Standard	Adjust the filter cleaning interval notification. If the notification is too early, change to setting 01. If the notification is too late, change to setting 02.
		01	Longer	
		02	Shorter	
Filter indicator action	13	00	Enable	Enable or disable the filter indicator. Setting 02 is for use with a central remote controller.
		01	Disable	
		02	Display only on central remote controller	
(Forbidden)	20	00	_____	_____
(Forbidden)	23	00	_____	_____
(Forbidden)	24	00	_____	_____
(Forbidden)	26	31	_____	_____
(Forbidden)	27	00	_____	_____
Cool air temperature trigger	30	00	Standard	Adjust the cool air trigger temperature. To lower the trigger temperature, use setting 01. To raise the trigger temperature, use setting 02.
		01	Adjust (1)	
		02	Adjust (2)	
Heat air temperature trigger	31	00	Standard	Adjust the heat air trigger temperature. To lower the trigger temperature by 6 degrees C, use setting 01. To lower the trigger temperature by 4 degrees C, use setting 02. To raise the trigger temperature, use setting 03.
		01	Adjust (1)	
		02	Adjust (2)	
		03	Adjust (3)	
Auto restart (*1)	40	00	Enable	Enable or disable automatic system restart after a power outage.
		01	Disable	
Cool Air Prevention	43	00	Super low	Restrain the cold airflow with making the airflow lower when starting heating operation. To correspond to the ventilation, set to 01.
		01	Follow the setting on the remote controller	
External control	46	00	Start/Stop	Allow an external controller to start or stop the system, or to perform an emergency stop. * If an emergency stop is performed from an external controller, all refrigerant systems will be disabled. * If forced stop is set, indoor unit stops by the input to the external input terminals, and Start/Stop by a remote controller is restricted.
		01	Emergency stop	
		02	Forced stop	
Error report target	47	00	All	Change the target for reporting errors. Errors can either be reported in all locations, or only on the central remote controller.
		01	Display only on central remote controller	
Fan setting when cooling thermostat off	49	00	Follow the setting on the remote controller	When set to 01, the fan stops when the thermostat is off in cooling operation. Connection of the wired remote controller (2-wire type or 3-wire type) and switching its thermistor are necessary.
		01	Stop	
Switching functions for external inputs and external outputs terminals (*2)	60	00	Mode 0	<ul style="list-style-type: none"> <li>Set this function when connecting the VRF system to a ventilator, economizer, humidifier, or other external device.</li> <li>The connection terminal functions can be changed depending on the type of external device. For details of the connection terminal functions, refer to the Design &amp; Technical manual.</li> <li>When an external heater is connected to this unit, "04 (Mode 4) and "06 (Mode 6)" cannot be used. Do not set them.</li> </ul>
		01	Mode 1	
		02	Mode 2	
		03	Mode 3	
		04*	Mode 4	
		05	Mode 5	
		06*	Mode 6	
		07	Mode 7	
		08	Mode 8	
		09	Mode 9	
		10	Mode 10	
		11	Mode 11	
12	Mode 12			

Function	Function number	Setting number	Default	Details
Control switching of external heaters	61	00	Auxiliary heater control 1	Sets the control method for the external heater being used. For details of the control method, refer to the Design & Technical manual.
		01	Auxiliary heater control 2	
		02	Heat pump prohibition control	
		03	Heater selection control using outdoor temperature 1	
		04	Heater selection control using outdoor temperature 2	
		05	Auxiliary heater control by outdoor temperature 3	
		06	Auxiliary heat pump control	
		07	Auxiliary heat pump control by outdoor temperature 1	
		08	Auxiliary heat pump control by outdoor temperature 2	
		09	Auxiliary heat pump control by outdoor temperature 3	
Operating temperature switching of external heaters (external heater 1)	62	00	Setting 0	<ul style="list-style-type: none"> <li>Sets the temperature conditions when the external heater is ON.</li> <li>For the temperature conditions, see "Temperature conditions when the external heater is ON". For a more detailed explanation, refer to the Design &amp; Technical manual</li> </ul>
		01	Setting 1	
		02	Setting 2	
		03	Setting 3	
		04	Setting 4	
		05	Setting 5	
		06	Setting 6	
		07	Setting 7	
		08	Setting 8	
		09	Setting 9	
		10	Setting 10	
		11	Setting 11	
		12	Setting 12	
		13	Setting 13	
		14	Setting 14	
		15	Setting 15	
		16	Setting 16	
17	Setting 17			
Auto mode type (*3)	68	00	Single setpoint auto mode (traditional)	<ul style="list-style-type: none"> <li>Switch the setting method of auto mode to single or dual (cooling/heating).</li> <li>For heat pump systems, it is necessary to set the master indoor unit (by wired remote controller).</li> </ul>
		01	Dual setpoint auto mode	
Deadband value (*3)	69	00	0°F (0°C)	Choose the minimum temperature between cooling and heating settings (deadband) for Dual setpoint auto mode (set in No. 68).
		01	1°F (0.5°C)	
		02	2°F (1.0°C)	
		03	3°F (1.5°C)	
		04	4°F (2.0°C)	
		05	5°F (2.5°C)	
		06	6°F (3.0°C)	
		07	7°F (3.5°C)	
		08	8°F (4.0°C)	
		09	9°F (4.5°C)	
(Forbidden)	70	00	_____	_____

Function	Function number	Setting number	Default	Details
Standby time for auxiliary equipment operation (external heater 1)	71	00	Disable	Sets the standby time until the auxiliary equipment operation starts during primary equipment operation.
		01	1 minutes	
		02	2 minutes	
		⋮	⋮	
		99	99 minutes	
Emergency heat	73	00	Disable	Enables or disable of emergency heat input.
Fan delay time	74	00	1 minutes	Sets the fan delay time when the heater is turned off.
		01	50 seconds	
		02	40 seconds	
		03	30 seconds	
External heater use in defrosting. (*4)	75	00	Disable	Enables or disables the external heater use in defrosting.
		01	Enable	
Operating temperature switching of external heaters (external heater 2)	77	00	Setting 0	<ul style="list-style-type: none"> <li>Sets the temperature conditions when the external heater is ON.</li> <li>For the temperature conditions, see "Heater 2 ON/OFF temperature".</li> <li>For a more detailed explanation, see the Design &amp; Technical manual</li> </ul>
		01	Setting 1	
		02	Setting 2	
		03	Setting 3	
		04	Setting 4	
Standby time for auxiliary equipment operation (external heater 2)	78	00	Disable	Sets the standby time until the auxiliary equipment operation starts during primary equipment operation.
		01	1 minute	
		02	2 minutes	
		⋮	⋮	
		99	99 minutes	
Minimum fan speed setting	79	00	Disable	<ul style="list-style-type: none"> <li>Setting the minimum fan speed when the external heaters are in-lined.</li> <li>When not using any external heaters or the external heater is not in-line, set to "00: Disable" and set the "DIP switch SET 2 SW3" to "off". Refer to "5.8.2 Indoor unit fan setting for external heater".</li> </ul>
		01	High	
		02	Med	
		03	Low	

- \*1: Auto restart is an emergency function such as for power failure etc. Do not start and stop the indoor unit by this function in normal operation. Be sure to operate by the control unit, converter or external input device.
- \*2: Inappropriate setting may cause an external device malfunction. Confirm whether all the settings have been performed appropriately according to the installing condition.
- \*3: Function number 68 and 69 will be usable provided that the corresponding operating device is connected.
- \*4: When using function number 75, inappropriate heater selection may cause cold air in defrosting.

## Temperature conditions when the external heater is ON/OFF

Temperature (t) = Room temperature - set temperature

		Set value of function: 61			
		00		01 to 09	
		ON	OFF	ON	OFF
Set value of function: 62	00	t < -5.4°F (-3°C)	t ≥ -1.8°F (-1°C)	t ≤ -0.9°F (-0.5°C)	t ≥ +0.9°F (+0.5°C)
	01	t < -3.6°F (-2°C)	t ≥ -1.8°F (-1°C)	t ≤ -1.8°F (-1°C)	t ≥ +0.9°F (+0.5°C)
	02	t < -3.6°F (-2°C)	t ≥ -1.8°F (-1°C)	t ≤ -3.6°F (-2°C)	t ≥ +0.9°F (+0.5°C)
	03	t < -5.4°F (-3°C)	t ≥ -1.8°F (-1°C)	t ≤ -5.4°F (-3°C)	t ≥ +0.9°F (+0.5°C)
	04	t < -7.2°F (-4°C)	t ≥ -1.8°F (-1°C)	t ≤ -7.2°F (-4°C)	t ≥ +0.9°F (+0.5°C)
	05	t < -9.0°F (-5°C)	t ≥ -1.8°F (-1°C)	t ≤ -9.0°F (-5°C)	t ≥ +0.9°F (+0.5°C)
	06	t < -5.4°F (-3°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -0.9°F (-0.5°C)	t ≥ 0°F (0°C)
	07	t < -3.6°F (-2°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -1.8°F (-1°C)	t ≥ 0°F (0°C)
	08	t < -3.6°F (-2°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -3.6°F (-2°C)	t ≥ 0°F (0°C)
	09	t < -5.4°F (-3°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -5.4°F (-3°C)	t ≥ 0°F (0°C)
	10	t < -7.2°F (-4°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -7.2°F (-4°C)	t ≥ 0°F (0°C)
	11	t < -9.0°F (-5°C)	t ≥ -0.9°F (-0.5°C)	t ≤ -9.0°F (-5°C)	t ≥ 0°F (0°C)
	12	t < -5.4°F (-3°C)	t ≥ 0°F (0°C)	t ≤ -0.9°F (-0.5°C)	t ≥ -0.9°F (-0.5°C)
	13	t < -3.6°F (-2°C)	t ≥ 0°F (0°C)	t ≤ -1.8°F (-1°C)	t ≥ -0.9°F (-0.5°C)
	14	t < -3.6°F (-2°C)	t ≥ 0°F (0°C)	t ≤ -3.6°F (-2°C)	t ≥ -0.9°F (-0.5°C)
	15	t < -5.4°F (-3°C)	t ≥ 0°F (0°C)	t ≤ -5.4°F (-3°C)	t ≥ -0.9°F (-0.5°C)
	16	t < -7.2°F (-4°C)	t ≥ 0°F (0°C)	t ≤ -7.2°F (-4°C)	t ≥ -0.9°F (-0.5°C)
17	t < -9.0°F (-5°C)	t ≥ 0°F (0°C)	t ≤ -9.0°F (-5°C)	t ≥ -0.9°F (-0.5°C)	

## Heater 2 ON/OFF temperature

		Set value of function: 61	
		00	01 to 09
Set value of function: 77	00	0°F (0°C)	0°F (0°C)
	01		1°F (0.5°C)
	02		2°F (1.0°C)
	03		3°F (1.5°C)
	04		4°F (2.0°C)

## 7. TEST RUN

### 7.1. Test run using outdoor unit (PCB)

Refer to the installation manual for the outdoor unit if the PCB for the outdoor unit is to be used for the test run.

### 7.2. Test run using remote controller

- Refer to the installation manual for the remote controller to perform the test run using the remote controller.
- When the air conditioner is being test run, the Operation and Timer indicator lamp blink slowly at the same time. (Only if an optional IR receiver unit is connected.)

## 8. CHECK LIST

Pay special attention to the check items below when installing the indoor unit(s). After installation is complete, be sure to check the following check items again.

Check items	If not performed correctly	Check box
Has the indoor unit been installed correctly?	Vibration, noise, indoor unit may drop	
Has there been a check for gas leaks (refrigerant pipes)?	No cooling, no heating	
Has heat insulation work been completed?	Water leakage	
Does water drain easily from the indoor units?	Water leakage	
Is the voltage of the power source the same as that indicated on the label on the indoor unit?	No operation, heat or burn damage	
Are the wires and pipes all connected completely?	No operation, heat or burn damage	
Is the indoor unit grounded (earthed)?	Short circuit	
Is the connection cable the specified thickness?	No operation, heat or burn damage	
Are the inlets and outlets free of any obstacles?	No cooling, No heating	
Does start and stop air conditioner operation by remote controller or external device?	No operation	
After installation is completed, has the proper operation and handling been explained to the user?	_____	

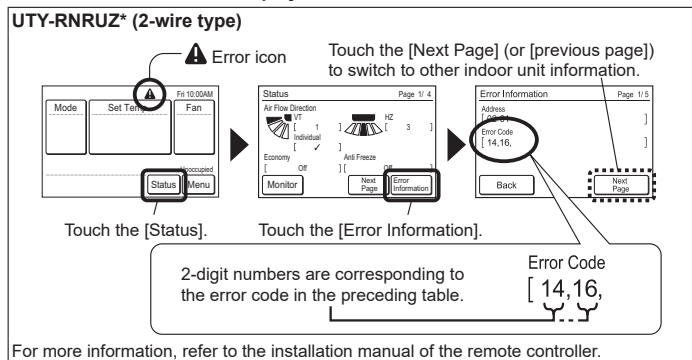
## 9. ERROR CODES

If you use a wired type remote controller, error codes will appear on the remote controller display. If you use a wireless remote controller, the lamp on the photodetector unit will output error codes by way of blinking patterns. Refer to the following table for lamp blinking patterns and error codes.

Error indications			Wired remote controller error code	Error contents
OPERATION lamp (green)	TIMER lamp (orange)	FILTER lamp (red)		
● (1)	● (2)	◇	12	Remote controller communication error
● (1)	● (4)	◇	14	Network communication error
● (1)	● (6)	◇	16	Peripheral unit communication error
● (2)	● (6)	◇	26	Indoor unit address setting error
● (2)	● (9)	◇	29	Connection unit number error in wired remote controller system
● (3)	● (1)	◇	31	Indoor unit power supply abnormal
● (3)	● (2)	◇	32	Indoor unit main PCB error
● (3)	● (9)	◇	39	Indoor unit power supply circuit error
● (3)	● (10)	◇	3A	Indoor unit communication circuit (wired remote controller) error
● (4)	● (1)	◇	41	Indoor unit room temp. thermistor error
● (4)	● (2)	◇	42	Indoor unit heat ex. temp. thermistor error
● (5)	● (1)	◇	51	Indoor unit fan motor 1 error
● (5)	● (2)	◇	52	Indoor unit coil (expansion valve) error
● (5)	● (3)	◇	53	Indoor unit water drain abnormal
● (9)	● (15)	◇	9U	Outdoor unit miscellaneous error
● (13)	● (1)	◇	J1	RB unit error

Display mode ● : 0.5 s ON / 0.5 s OFF  
 ◇ : 0.1 s ON / 0.1 s OFF  
 ( ) : Number of flashing

### Wired Remote Controller Display



For details on marking the ERROR CODES, please refer to the manual of "IR receiver unit" or "wired remote controller".