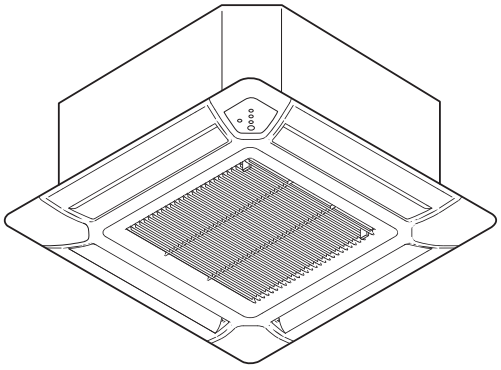
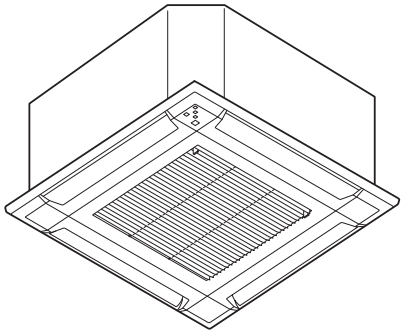
AIR CONDITIONER





INSTALLATION MANUAL

INDOOR UNIT (Compact cassette type)

For authorized service personnel only.

English

MANUEL D'INSTALLATION

UNITÉ INTÉRIEURE (Type cassette compacte)

Pour le personnel agréé uniquement.

Français

MANUAL DE INSTALACIÓN

UNIDAD INTERIOR (Tipo casete)

Únicamente para personal de servicio autorizado.

Español

FUJITSU GENERAL LIMITED

PART No. 9374318599-02

INSTALLATION MANUAL

PART No. 9374318599-02
INDOOR UNIT (Compact cassette type)

Contents

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 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 earthing (grounding) can cause accidental injury or death.
- Earth (Ground) 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 aluminium 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 Moist or Uneven Locations

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

...In an Area with High Winds

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

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

When Connecting Refrigerant Tubing

- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before 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 operating manual.

⚠ WARNING

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.

Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

2. ABOUT THIS PRODUCT

2.1. Precautions for using R410A refrigerant

The basic installation work procedures are the same as conventional refrigerant models.
However, pay careful attention to the following points:

- **Since the working pressure is 1.6 times higher than that of conventional refrigerant (R22) models, some of the piping and installation and service tools are special. (See the following table.)**
  Especially, when replacing a conventional refrigerant (R22) model with a new refrigerant R410A model, always replace the conventional piping and flare nuts with the R410A piping and flare nuts.
- **Models that use refrigerant R410A have a different charging port thread diameter to prevent erroneous charging with conventional refrigerant (R22) and for safety. Therefore, check beforehand.**
  [The charging port thread diameter for R410A is 1/2-20 UNF.]
- **Be careful that foreign matter (oil, water, etc.) does not enter the piping than with conventional refrigerant (R22) models. Also, when storing the piping, securely seal the openings by pinching, taping, etc.**
- **When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases. A always charge from the liquid phase where refrigerant composition is stable.**

2.2. Special tools for R410A refrigerant

Tool name	Contents of change
Gauge manifold	Pressure is high and cannot be measured with a R22 gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended the gauge with seals -30 inHg to 768 psi (-0.1 to 5.3 MPa) for high pressure. -30 inHg to 551 psi (-0.1 to 3.8 MPa) for low pressure.
Charge hose	To increase pressure resistance, the hose material and base size were changed.
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.

Copper pipes

It is necessary to use seamless copper pipes and it is desirable that the amount of residual oil is less than 0.004 oz/100 ft (40 mg/10 m). Do not use copper pipes having a collapsed, deformed or discolored portion (especially on the interior surface). Otherwise, the expansion value or capillary tube may become blocked with contaminants. As an air conditioner using R410A incurs pressure higher than when using R22, it is necessary to choose adequate materials. Thicknesses of copper pipes used with R410A are as shown in the table. (Refer to “3.1. Type of copper pipe and insulation material”) Never use copper pipes thinner than that in the table even when it is available on the market.

⚠ WARNING

Do not use the existing (for R22) piping and flare nuts.

- If the existing materials are used, the pressure inside the refrigerant cycle will rise and cause failure, injury, etc. (Use the special R410A materials.)

When installing and relocating the air conditioner, do not mix gases other than the specified refrigerant (R410A) to enter the refrigerant cycle.

- If air or other gas enters the refrigerant cycle, the pressure inside the cycle will rise to an abnormally high value and cause failure, injury, etc.

2.3. For authorized service personnel only.

⚠ WARNING

For the air conditioner to operate satisfactorily, install it as outlined in this installation manual.

Connect the indoor unit and outdoor unit with the air conditioner piping and cords available from your local distributor. This installation manual describes the correct connections using the installation set available from your local distributor.

Installation work must be performed in accordance with national wiring standards by authorized personnel only.

Do not turn on the power until all installation work is complete.

⚠ CAUTION

This installation manual describes how to install the indoor unit only.
To install the outdoor unit, refer to the installation manual included with the outdoor unit.

- **Be careful not to scratch the air conditioner when handling it.**
- **After installation, explain correct operation to the customer, using the operating manual.**
- **All Fujitsu General products are manufactured to metric units and tolerances. United States customary units are provided for reference only. In cases where exact dimensions and tolerances are required, always refer to metric units.**

2.4. Accessories

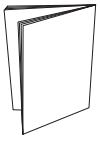
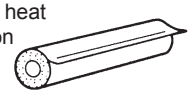
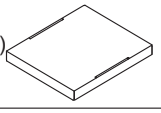
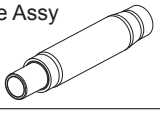
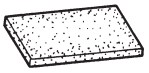
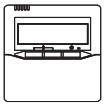
⚠ WARNING

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.

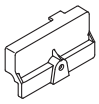
The following installation parts are furnished. Use them as required.

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
Operating Manual 	1	
Installation Manual 	1	(This book)
Coupler heat insulation (Small) 	1	For indoor side pipe joint (Liquid pipe)
Coupler heat insulation (Large) 	1	For indoor side pipe joint (Gas pipe)
Special nut A (Large flange) 	4	For installing indoor unit
Special nut B (Small flange) 	4	For installing indoor unit
Template (Carton top) 	1	For ceiling openings cutting Also used as packing
Drain Hose Assy 	1	For installing drain pipe 3/4 in. (19 mm) [O.D. 1-1/16 in. (27 mm)]
Hose Band Assy 	1	For installing drain pipe (3/4 in.)
Drain hose insulation 	1	For installing drain hose
Wired Remote Controller 	1	
Remote Controller Cable 	1	For connecting the remote controller
Tapping screw 	2	For installing the wired remote controller

2.5. Cassette grille accessories

Name and Shape	Q'ty	Application
Connector cover 	1	For covering connector
Tapping Screw (M5 × 12 mm) 	4	For mounting cassette grille
Tapping Screw (M4 × 12 mm) 	1	For mounting connector cover
L angle 	2	For mounting the Hook Wire to the Cassette grille
Hook wire 	2	For suspending the Cassette grille
Screw [pitch small] (M4 × 10 mm) 	2	For mounting the Hook Wire (for metals)
Screw [pitch large] (M4 × 10 mm) 	4	For mounting the L angle and Hook wire (for resins)

2.6. Optional parts

Parts name	Model No.	Application
Wireless Remote Controller	UTY-LNHUM	For air conditioner operation
Wired Remote Controller	UTY-RNNUM	For air conditioner operation
Simple Remote Controller	UTY-RSNUM	For air conditioner operation
Insulation kit for High humidity	UTZ-KXGC	Install when the condition under the roof is over 80% in humidity and over 30°C in temperature.
External connect kit	UTY-XWZX	For control input/output port
Fresh air intake kit	UTZ-VXAA	To take fresh air

3. GENERAL SPECIFICATIONS

This INSTALLATION MANUAL briefly outlines where and how to install the air conditioning system. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the system before beginning.

3.1. Type of copper pipe and insulation material

⚠ CAUTION

Refer to the Installation Manual for the outdoor unit for description of allowable pipe length and height difference.

Copper tubing for connecting the outdoor unit to the indoor unit and insulation material is available for purchase locally. When you purchase them, please specify the following.

- Deoxidized annealed copper pipe for refrigerant piping as shown in the table.

MODEL	Diameter	
	Liquid pipe	Gas pipe
AU7/9/12	1/4 in. (6.35 mm)	3/8 in. (9.52 mm)
AU18	1/4 in. (6.35 mm)	1/2 in. (12.70 mm)

- 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 70-80%, 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)].

3.2. Additional materials required for installation

A. Refrigeration (armored) tape
B. Insulated staples or clamps for connecting wire (See your local electrical codes.)
C. Putty
D. Refrigeration lubricant
E. Clamps or saddles to secure refrigerant piping

3.3. Operating range

	Cooling/Dry Mode	Heating Mode
Temperature	About 64 to 90 °F (18 to 32 °C)	About 60 to 88°F (16 to 31 °C)
Humidity	About 80% or less	—

3.4. Electrical requirement

Always make the air conditioner power supply a special branch circuit and provide a special switch and receptacle. Do not extend the power cable.

⚠ WARNING

Refer to local codes for acceptable cable type.

Cable	Cable size	Remarks
Connection cable	14AWG	3 cable + Earth (Ground) 1Φ 208/230 V

Max. Cable Length: Limit voltage drop to less than 2%. Increase cable gauge if voltage drop is 2% or more.

4. INSTALLATION WORK

Install the air conditioner as follows:

4.1. Selecting the installation location

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

⚠ WARNING

Install the air conditioner in a location which can withstand a load of at least 3 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.

MODEL	Withstandable weight (Unit weight x 3*)
AU7/9/12/18	117 Lbs (53kg)

*In accordance with UL standards.

⚠ 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 inflammables 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.**

⚠ CAUTION

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, outdoor unit, power supply 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.)

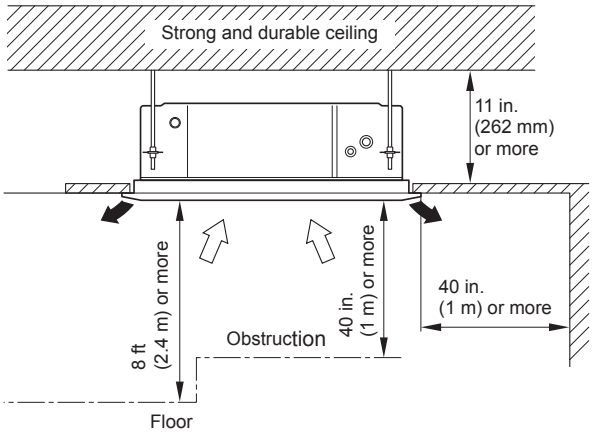
If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

Use the "Insulation kit for high humidity" (option), when the condition under the roof is over 80% in humidity and over 30°C in temperature. Otherwise, there is a risk of condensation on the ceiling.

Decide the mounting position with the customer as follows:

(1) Install the indoor unit in a location having sufficient strength to support 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) The ceiling rear height as shown in the figure.
(5) Locate where the air can be distributed evenly throughout the room by the unit.
(6) Locate where drainage can be extracted outdoors easily.
(7) Install the unit where noise and vibration is not amplified.

4.2. Installation dimensions

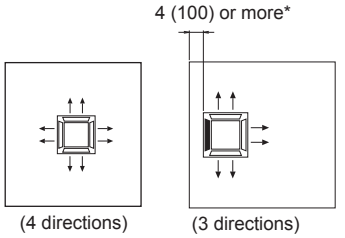


- This product can be installed at a height of up to 10 ft (3 m). However, 7000, 9000 Btu/h models cannot be installed in high ceilings.

Perform the Function Setting on the remote controller in accordance with the installed height. (See 10. FUNCTION SETTING)

Discharge direction setting

- The discharge direction can be selected as shown as follows.



*Please ensure sufficient Service access during installation.

Unit: in. (mm)

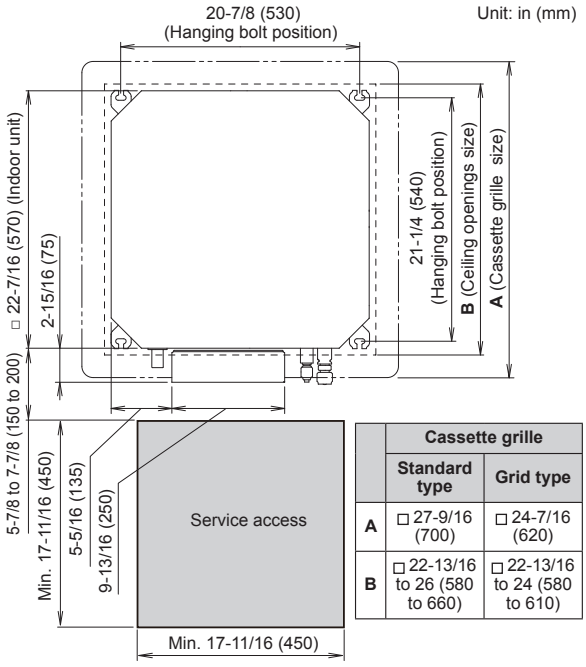
* For a 3-way outlet, make sure to perform the Function Setting on the remote controller. Also, make sure to use the optional shutter panel to block the outlet.
* The ceiling height cannot be set in the 3-way outlet mode. Therefore, do not change the setting in the “Ceiling height” at 10. FUNCTION SETTING and 12. TEST RUN.
* When the outlet is shut, be sure to install the optional Air outlet shutter plate kit.
For the details of installation, please refer to Installation Manual of kit.

4.3. Installation the unit

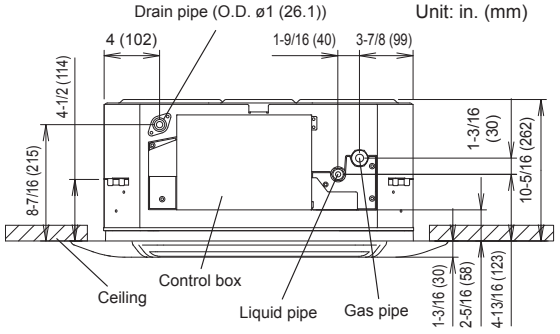
4.3.1. Position the ceiling hole and hanging bolts

Ceiling openings and hanger bolt installation diagram

⚠ 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.
If the unit is only attached to the ceiling panel frame there is a risk that the unit will come loose. Please take precaution.
When fastening the hangers, make the bolt positions uniform.
Perform final tightening by tightening the double nut firmly.



	Cassette grille	
	Standard type	Grid type
A	□ 27-9/16 (700)	□ 24-7/16 (620)
B	□ 22-13/16 to 26 (580 to 660)	□ 22-13/16 to 24 (580 to 610)



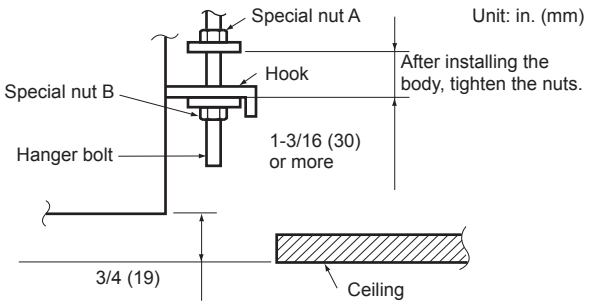
- Be sure to leave service access for future service at the designated position.

4.3.2. Body installation

(1) Install Special nut A, then Special nut B onto the hanger bolt.
(2) Raise the body and mount its hooks onto the hanger bolt between the special nuts.
(3) Turn Special nut B to adjust the height of the body.

Hanger bolt size	Used Nuts
M10	Accessories
M8	Locally purchased*
5/16 or 3/8 in.	

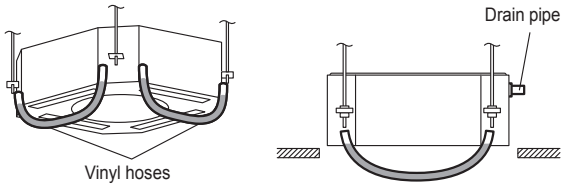
* Use a flange nut or with a washer.



4.3.3. Leveling

Using a level gauge, or vinyl hose filled with water, fine adjust so that the body is level.

Inclined installation so as the drain pipe side is higher may cause a malfunction of the float switch, and may cause water leakage.



5. INSTALLING DRAIN PIPES

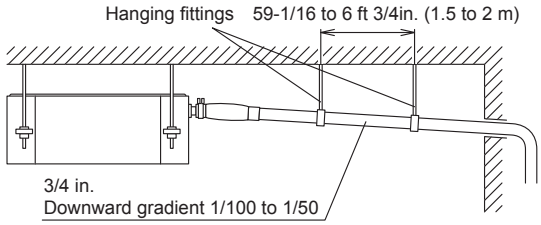
⚠ WARNING
Do not insert the drain piping into the sewer where sulfurous gas occurs. (Heat exchange erosion may occur)
Insulate the parts properly so that water will not drip from the connection parts.
Check for proper drainage after installation by using the visible portion of transparent drain port and the drain piping final outlet on the body.

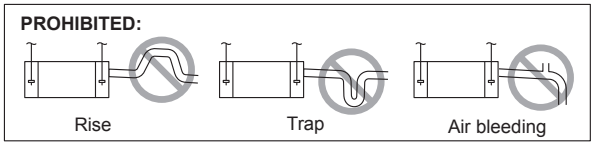
⚠ CAUTION
Do not apply adhesive agent on the drain port of the body. (Use the attached drain hose assembly to connect the drain piping)

Note: Install the drain pipe.

- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe [3/4 in. (O.D. 1-1/16 in)] and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long, install supporter.
- Do not perform air bleeding.
- Always heat insulate indoor section of drain pipe.
- If it is impossible to have sufficient gradient of pipe, perform drain lift-up.

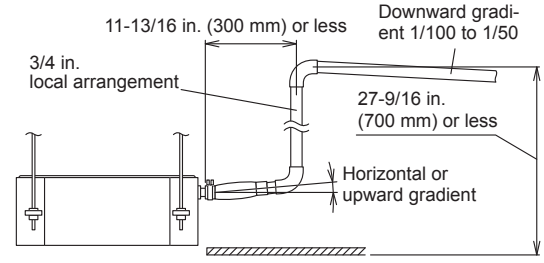
	Pipe size
Drain pipe	3/4 in. (O.D. 1-1/16 in.)

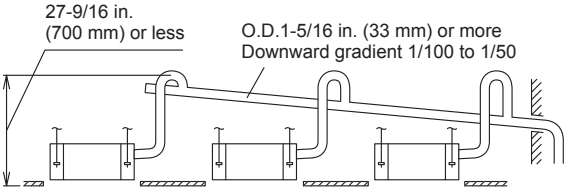




When lifting up drain:

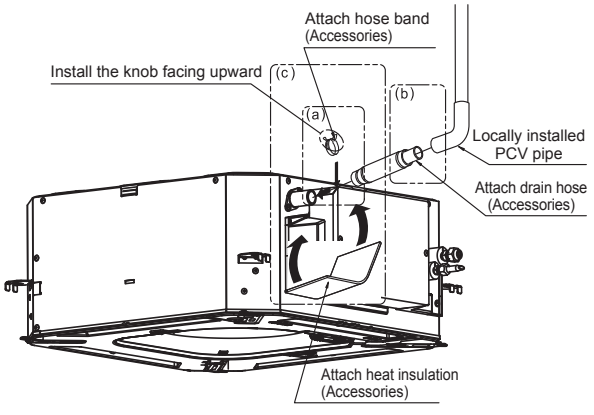
- Height of inclined pipe should be less than 27-9/16 in. (700 mm) from the ceiling. A rise dimension over this range will cause leakage.
- Lift up the pipe vertically at the position of 11-13/16 in. (300 mm) or less from the unit.

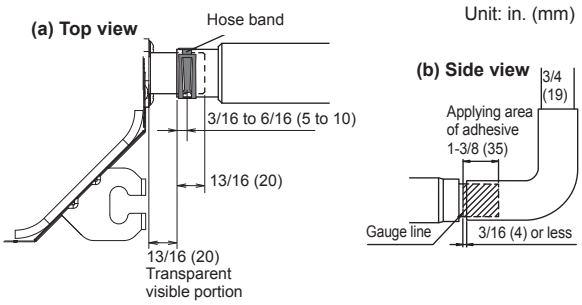


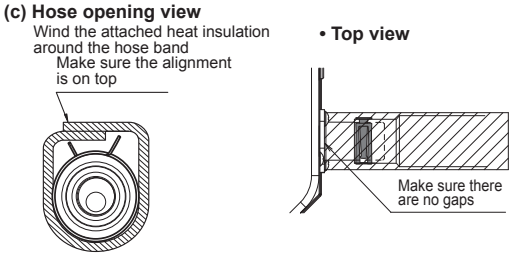


Installation procedure

1) Install the attached drain hose to the drain port of the body. Install the hose band from the top of the hose within the shown in the figure area.
2) Use PVC glue to glue the drain piping (PVC pipe [3/4 in. (O.D. 1-1/16 in.)]) to the drain hose assembly.
   (Apply color adhesive agent evenly until the gauge line and seal)
3) Check the drainage. (See separate diagram)
4) Install the heat insulation.
5) Use the attached heat insulation to insulate the drain port and hose band.





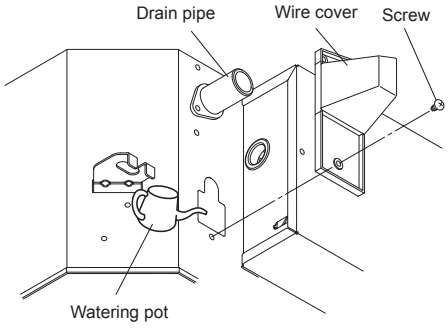


NOTES:

Check for drainage

Pour about 1 liter of water from the position shown in the diagram or from the airflow outlet to the dew tray. Check for any abnormalities such as strange noises and whether the drain pump functions normally

The drain pump operates when operating in the cooling mode.



6. PIPE INSTALLATION

⚠ CAUTION

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

While brazing the pipes, be sure to purge with dry nitrogen gas.

6.1. Selecting the pipe material

⚠ CAUTION

Do not use existing pipes.

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 0.004 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 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)

6.2. 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 70-80%, 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)].

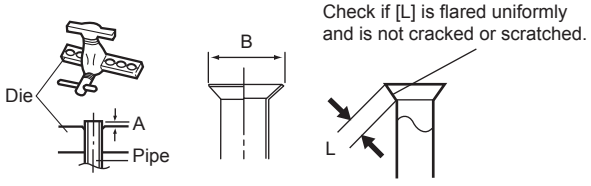
6.3. Flare connection

⚠ CAUTION
Do not use mineral oil on flared part. Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
While brazing the pipes, be sure to purge with nitrogen gas.

6.3.1. Flaring

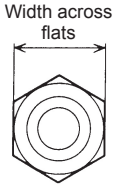
- Use special pipe cutter and flare tool exclusive for R410A.

(1) Cut the connection pipe to the necessary length with a pipe cutter.
(2) Hold the pipe downward so that cuttings will not enter the pipe and remove any burrs.
(3) Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool. Use the special R410A flare tool, or the conventional flare tool. Leakage of refrigerant may result if other flare nuts are used.
(4) Protect the pipes by pinching them or with tape to prevent dust, dirt, or water from entering the pipes.



Pipe outside diameter [in. (mm)]	Dimension A [in. (mm)] Flare tool for R410A, clutch type	Dimension $B^{0}_{-0.4}$ [in. (mm)]
1/4 (6.35)	0 to 0.020 (0 to 0.5)	3/8 (9.1)
3/8 (9.52)		1/2 (13.2)
1/2 (12.70)		5/8 (16.6)
5/8 (15.88)		3/4 (19.7)
3/4 (19.05)		15/16 (24.0)

When using conventional flare tools to flare R410A pipes, the dimension A should be approximately 0.020 in. (0.5 mm) more than indicated in the table (for flaring with R410A flare tools) to achieve the specified flaring. Use a thickness gauge to measure the dimension A.



Pipe outside diameter [in. (mm)]	Width across flats of Flare nut [in. (mm)]
1/4 (6.35)	11/16 (17)
3/8 (9.52)	7/8 (22)
1/2 (12.70)	1 (26)
5/8 (15.88)	1-1/8 (29)
3/4 (19.05)	1-7/16 (36)

6.3.2. Bending pipes

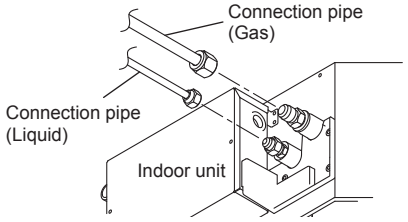
⚠ CAUTION
To prevent breaking of the pipe, avoid sharp bends.
If the pipe is bent repeatedly at the same place, it will break.

- If pipes are shaped by hand, 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 anymore.
- Do not bend or stretch the pipes more than 3 times.

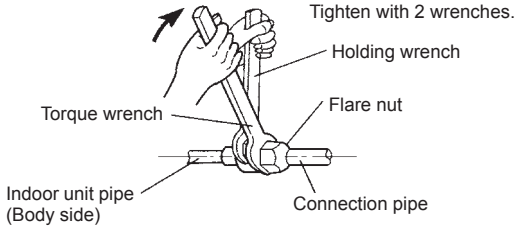
6.3.3. Pipe connection

⚠ CAUTION
Be sure to connect the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot tighten smoothly. If the flare nut is forced to turn, the threads will be damaged.
Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.
Hold the torque wrench at its grip, keeping it at a right angle with the pipe, in order to tighten the flare nut correctly.
Tighten the flare nuts with a torque wrench using the specified tightening method. Otherwise, the flare nuts could break after a prolonged period, causing refrigerant to leak and generate a hazardous gas if the refrigerant comes into contact with a flame
Connect the piping so that the control box cover can easily be removed for servicing when necessary.
In order to prevent water from leaking into the control box, make sure that the piping is well insulated.

(1) Remove the caps and plugs from the pipes.
(2) Centering the pipe against port on the indoor unit, turn the flare nut with your hand.



(3) When the flare nut is tightened properly by your hand, hold the body side coupling with a wrench, then tighten with a torque wrench. (See the following table for the flare nut tightening torques.)

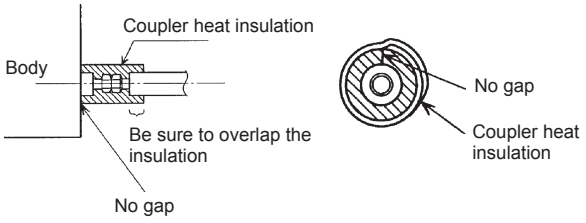


Flare nut [in. (mm)]	Tightening torque [lbf·ft (N·m)]
1/4 (6.35) dia.	11.8 to 13.3 (16 to 18)
3/8 (9.52) dia.	23.6 to 31.0 (32 to 42)
1/2 (12.70) dia.	36.1 to 45.0 (49 to 61)
5/8 (15.88) dia.	46.5 to 55.3 (63 to 75)
3/4 (19.05) dia.	66.4 to 81.1 (90 to 110)

6.4. Installing heat insulation

⚠ CAUTION
After checking for gas leaks (refer to the Installation Manual of the outdoor unit), perform this section.
Install heat insulation around both the large (gas) and small (liquid) pipes. Failure to do so may cause water leaks.
Must fit tightly against body without any gap.

After checking for gas leaks, insulate by wrapping insulation around the 2 parts (gas and liquid) of the indoor unit coupling, using the coupler heat insulation.
After installing the coupler heat insulation, wrap both ends with vinyl tape so that there is no gap.



7. 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 indoor unit and outdoor unit.
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.
For wiring, use the prescribed type of wires, connect them securely, making sure that there are no external forces of the wires applied to the terminal connections. Improperly connected or secured wires can cause serious accidents such as overheating the terminals, 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 outdoor unit or branch box. Erroneous wiring may cause burning of the electric parts.
Securely connect the connection cables to the terminal blocks. 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.
Connect the connection cables firmly to the terminal board. Imperfect installation may cause a fire.
Always fasten the outside covering of the connection cable with the cable clamp. (If the insulator is chafed, electric leakage may occur.)
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.
Install an earth (ground) leakage breaker. In addition, install the earth (ground) leakage breaker so that the entire AC main power supply is cut off at the same time. Otherwise, electric shock or fire could result.
Always connect the earth (ground) wire. Improper earthing (grounding) work can cause electric shocks.
Install the remote controller cable and bus wire 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.
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.

(1) Use ring terminals with insulating sleeves as shown in the following figure to connect to the terminal block.
(2) Securely clamp the ring terminals to the wires using an appropriate tool so that the wires do not come loose.
(3) Use the specified wires, connect them securely, and fasten them so that there is no stress placed on the terminals.
(4) 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.
(5) Do not tighten the terminal screws too much, otherwise, the screws may break.
(6) See table 1 for the terminal screw tightening torques.

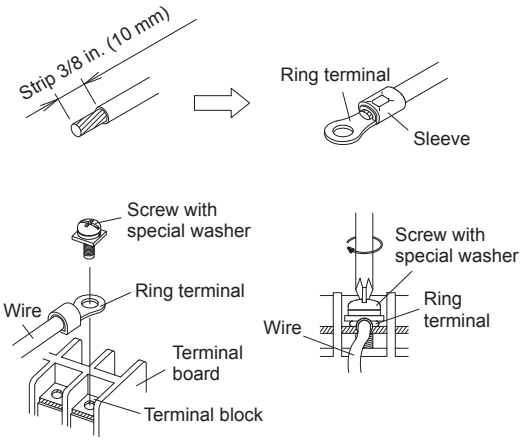


Table 1

Tightening torque	
M4 screw	**11 to 16 lbf·in (1.2 to 1.8 N·m)**

⚠ 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.

7.1. Wiring system diagram

⚠ WARNING

Disconnect switch for over current protection given in the system diagram is to be installed between the indoor unit and the outdoor unit, branch box.

⚠ CAUTION

Tighten the indoor unit connection cable and power supply indoor and outdoor unit, branch box terminal board connections firmly with the terminal board screws. Faulty connection may cause a fire.

If the indoor unit connection cable and power supply are wired incorrectly, the air conditioner may be damaged.

Connect the indoor unit connection cable by matching the numbers of the outdoor, branch box and indoor units terminal board numbers as shown in terminal label.

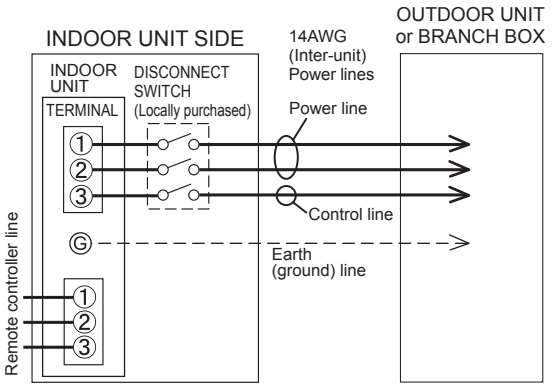
Earth (Ground) both the indoor, outdoor and branch box units by attaching a earth (ground) cable.

Unit must be earthed (grounded) in compliance with the applicable local and national cables.

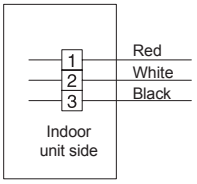
Be sure to refer to the diagrams for do correct field wiring. Wrong wiring causes malfunction of the unit.

Check local electrical rules and also any specific wiring instructions or limitations.

Connection cable to outdoor unit or BRANCH BOX



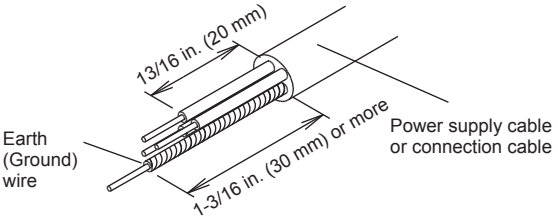
Wired remote controller cable



Disconnect Switch - Locally purchased if required by local code.
Select the correct capacity of disconnect switch according to the load.

7.2. Connection cable preparation

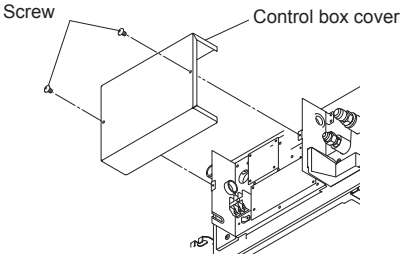
Keep the earth (ground) wire longer than the other wires.



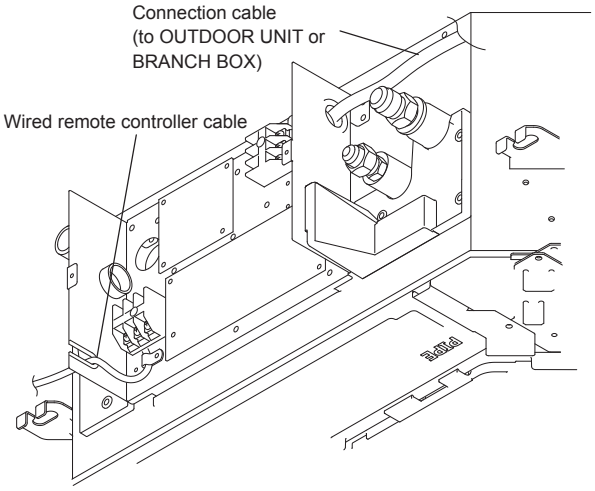
• Use a 4-core wire cable.

7.3. Connection of wiring

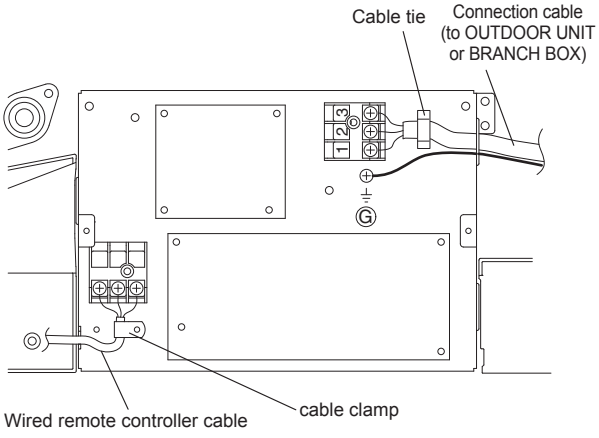
(1) Remove the control box cover and install each connection wire.



(2) After wiring is complete, secure the remote controller cable, connection cable, and power cable with the cable clamps.



- Connect the connection cable to the terminal board.
- Connect the remote controller cable to the terminal board.
- Fix the remote controller cable to the control box cover with a nylon clamp.



(3) Install control box cover.

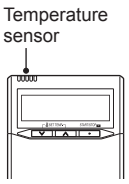
⚠ CAUTION

Do not wire the remote controller cable together with or parallel to the connection cables, and power supply cables of the INDOOR UNIT and OUTDOOR UNIT, BRANCH BOX. It may cause erroneous operation.

8. REMOTE CONTROLLER SETTING

⚠ CAUTION

When detecting the room temperature using the remote controller, please set up the remote controller according to the following conditions. If the remote controller is not located properly, the correct room temperature will not be detected, and thus abnormal conditions like "not cooling" or "not heating" will occur even if the air-conditioner is running normally.



- **Locate where an average temperature for the room being air conditioned will be sensed.**
- **Do not locate where it may be directly exposed to the outlet air from the air-conditioner.**
- **Locate out of direct sunlight.**
- **Locate away from the influence of other heat sources.**

Do not touch the remote controller PC board and PC board parts directly with your hands.

Do not wire the remote controller cable together with or parallel to the connection cables, and power supply cables of the INDOOR UNIT, OUTDOOR UNIT, and BRANCH BOX. It may cause erroneous operation.

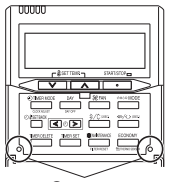
When installing cable near a source of electromagnetic waves, use shielded wire.

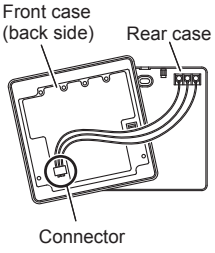
Do not set the DIP switches, either on the air conditioner or the remote controller, in any way other than indicated in the manual that is supplied with the air conditioner. Doing so may result in improper operation.

8.1. Installing the remote controller

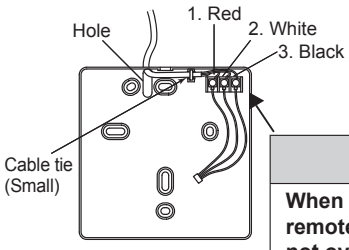
Open the operation panel on the front of the remote controller, remove the 2 screws indicated in the following figure, and then remove the front case of the remote controller.

When installing the remote controller, remove the connector from the front case. The wires may break if the connector is not removed and the front case hangs down.
When installing the front case, connect the connector to the front case.





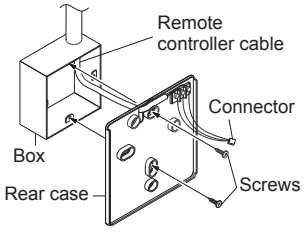
When remote controller cable is concealed
(1) Conceal the remote controller cable.
(2) Pass the remote controller cable through the hole in the rear case and connect the remote controller cable to the remote controller terminal board specified in figure.
(3) Clamp the remote controller cable sheath with the cable tie as shown in figure.
(4) Cut off the excess cable tie.
(5) Install the rear case to the wall, box, etc., with 2 screws as shown in the Example.

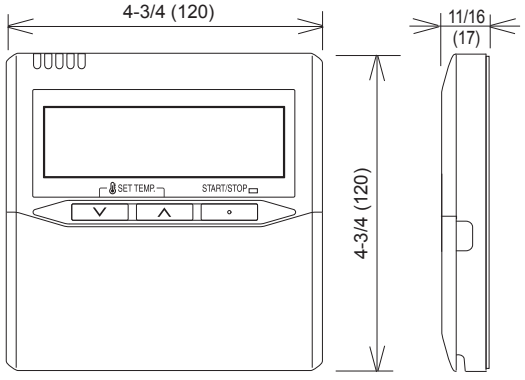


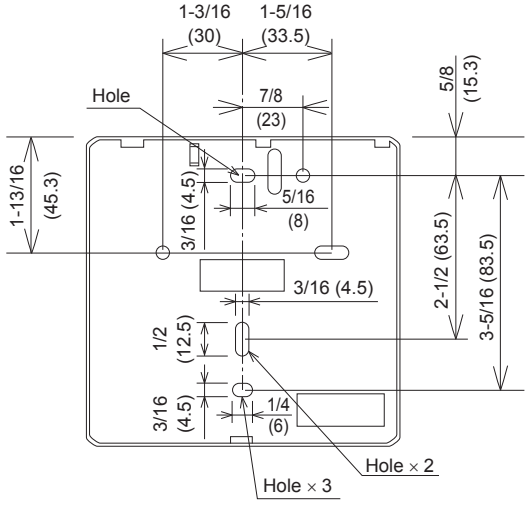
⚠ CAUTION

When connecting the remote controller wires, do not overtighten the screws.

[Example]







Unit: in. (mm)

⚠ CAUTION

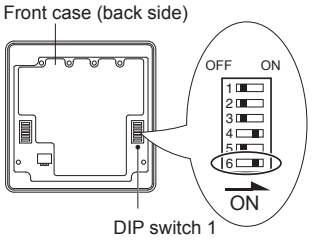
Install the remote controller wires so as not to be touched directly with your hand.

Do not touch the remote controller PC board and PC board parts directly with your hands.

8.2. Setting the DIP switches

Set the remote controller DIP switches.

[Example]



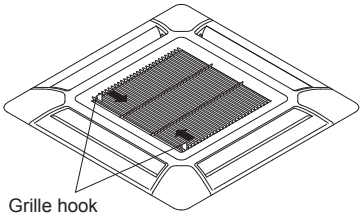
(★ Factory setting)

	NO.	SW state		Detail
		OFF	ON	
DIP-switch 1	SW 1	★		Cannot be used. (Do not change)
	SW 2	★		Dual remote controller setting * Refer to "DUAL REMOTE CONTROLLERS" in "10. SPECIAL INSTALLATION METHODS".
	SW 3	★		Use prohibited. (Do not change)
	SW 4		★	Use prohibited. (Do not change)
	SW 5	★		Use prohibited. (Do not change)
	SW 6	★ Invalidity	Validity	Memory backup setting * Set to ON to use batteries for the memory backup. If batteries are not used, all of the settings stored in memory will be deleted if there is a power failure.

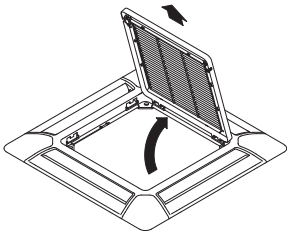
9. CASSETTE GRILLE INSTALLATION

9.1. Remove the intake grille

(1) Slide the 2 grille hooks.

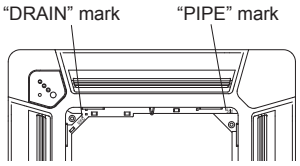


(2) Open the intake grille and remove.

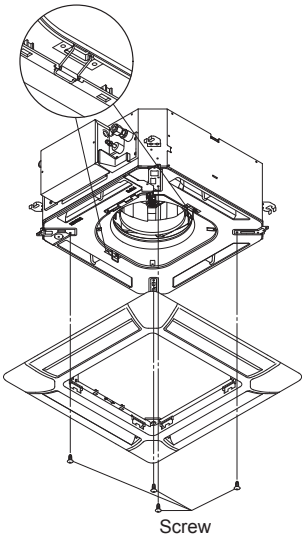


9.2. Install panel to unit

(1) Install the cassette grille on the indoor unit.

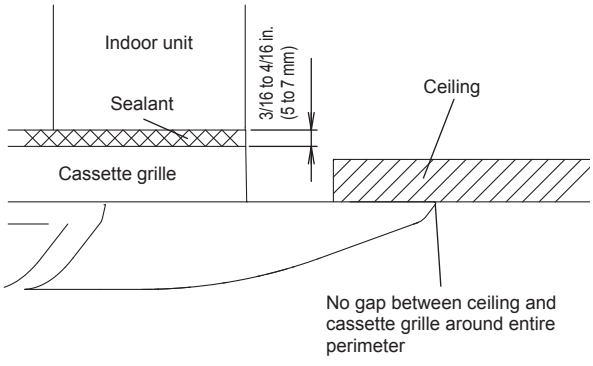


* Align the stamped marks on the cassette grille to the pipe and the drain of the indoor unit.

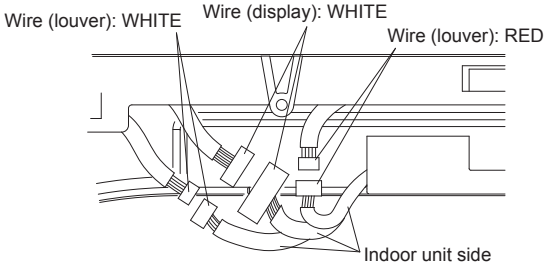


⚠ CAUTION

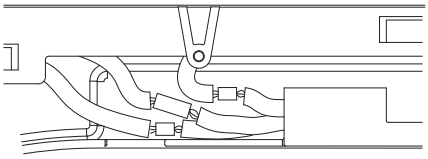
Use only the supplied screws to install the cassette grille.



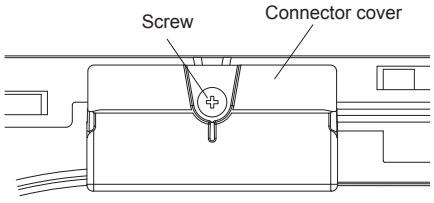
(2) Connect the connector.



• Arrange the wires as illustrated.



(3) Attach the connector cover.



9.3. Attach the intake grille

The installation is the reverse of "8.2. Remove the intake grille".
The intake grille can be rotated and installed 4 ways to suit the user's preference.

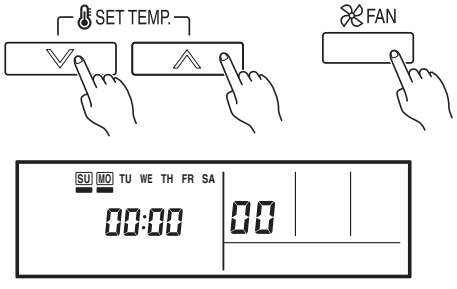
⚠ CAUTION
The louver angle cannot be changed if the power is not on. (If moved by hand, it may be damaged.)
The grille assembly is directionally relative to the air conditioner body.
Install so that there is no gap between the grille assembly and the air conditioner body.
The cassette grille is equipped with an accessory to prevent the grill to completely open. Be sure to read the Installation manual included with the cassette grille before installation.

10. FUNCTION SETTING

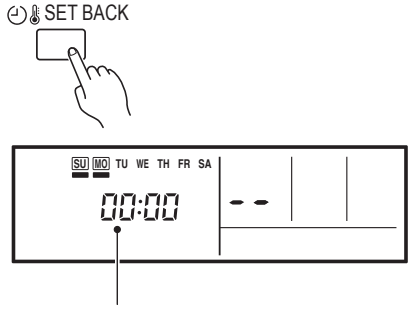
This procedure changes the function settings used to control the indoor unit according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction. This procedure should be performed by authorized installation or service personnel only.

Perform the "Function Setting" according to the installation conditions using the remote controller. (Refer to the indoor unit installation manual for details on the function numbers and setting values.)

(1) Press the SET TEMP. buttons (∨) (∧) and FAN button simultaneously for more than 5 seconds to enter the function setting mode.

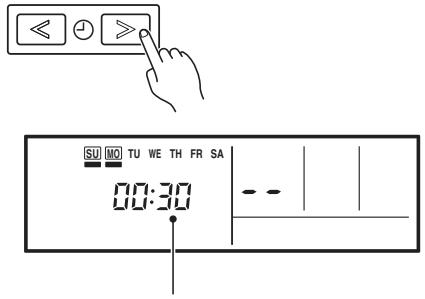


(2) Press the SET BACK button to select the indoor unit number.



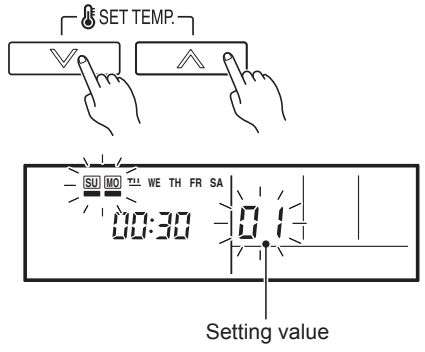
Unit number of INDOOR UNIT

(3) Press the Set time (< >) buttons to select the function number.



Function number

(4) Press the SET TEMP. buttons (∨) (∧) to select the setting value.
The display flashes as shown in the following during setting value selection.



Setting value

(5) Press the TIMER SET button to confirm the setting.

Press the TIMER SET button for a few seconds until the setting value stops flashing.
If the setting value display changes or if "- -" is displayed when the flashing stops, the setting value has not been set correctly.
(An invalid setting value may have been selected for the indoor unit.)

(6) Repeat steps 2 to 5 to perform additional settings.
Press the SET TEMP. buttons (∨) (∧) and FAN button simultaneously again for more than 5 seconds to cancel the function setting mode. In addition, the function setting mode will be automatically canceled after 1 minute if no operation is performed.

(7) After completing the function setting, be sure to turn off the power and turn it on again.

• Function Details

(1) Filter sign

Select appropriate intervals for displaying the filter sign on the indoor unit according to the estimated amount of dust in the air of the room.
If the indication is not required, select "No indication" (03).

(♦... Factory setting)

Function number	Setting value	Setting description	
11	00	Standard (2500 hours)	
	01	Long interval (4400 hours)	
	02	Short interval (1250 hours)	
	03	No indication	♦

(2) Ceiling height

Select the appropriate ceiling height according to the place of installation.

(♦... Factory setting)

Function number	Setting value	Setting description	
20	00	Standard (2.7 m [9 ft])	♦
	01	High ceiling (3.0 m [10 ft])	

The ceiling height values are for the 4-way outlet.
Do not change this setting in the 3-way outlet mode.
7000, 9000 Btu/h models cannot be installed in high ceilings. Do not change this setting.

(3) Outlet directions

Select the appropriate number of outlet directions according to the installation conditions.

(♦... Factory setting)

Function number	Setting value	Setting description	
22	00	4-way	♦
	01	3-way	

(4) Auto restart

Enable or disable automatic restart after a power interruption.

(♦... Factory setting)

Function number	Setting value	Setting description	
40	00	Enable	♦
	01	Disable	

* Auto restart is an emergency function such as for power outage etc. Do not attempt to use this function in normal operation. Be sure to operate the unit by remote controller or external device.

(5) Room temperature sensor switching

(Only for Wired remote controller)
When using the Wired remote controller temperature sensor, change the setting to "Both" (01).

(♦... Factory setting)

Function number	Setting value	Setting description	
42	00	Indoor unit	♦
	01	Both	

00: Sensor on the indoor unit is active.
01: Sensors on both indoor unit and wired remote controller are active.
* Remote controller sensor must be turned on by using the remote controller

(6) Remote controller custom code

(Only for wireless remote controller)
The indoor unit custom code can be changed.
Select the appropriate custom code.

(♦... Factory setting)

Function number	Setting value	Setting description	
44	00	A	♦
	01	B	
	02	C	
	03	D	

(7) External input control

"Operation/Stop" mode or "Forced stop" mode can be selected.

(♦... Factory setting)

Function number	Setting value	Setting description	
46	00	Operation/Stop mode	♦
	01	(Setting prohibited)	
	02	Forced stop mode	

(8) Room temperature sensor switching (Aux.)

To use the temperature sensor on the wired remote controller only, change the setting to "Wired remote controller" (01). This function will only work if the function setting 42 is set at "Both" (01)

(♦... Factory setting)

Function number	Setting value	Setting description	
48	00	Both	♦
	01	Wired remote controller	

Setting record

- Record any changes to the settings in the following table.

Setting	Setting value
(1) Filter sign	
(2) Ceiling height	
(3) Outlet directions	
(4) Auto restart	
(5) Room temperature sensor switching	
(6) Remote controller custom code	
(7) External input control	
(8) Room temperature sensor switching (Aux.)	

After completing the Function Setting, be sure to turn off the power and turn it on again.

• Temperature Correction

NOTE:
When changing Function 95, perform this setting before other Room temp. control settings (Function 30, 31, 92, 93).
If Function 95 is not set first, Room temperature control settings (Function 30, 31, 92, 93) will be reset and you must re-do them again.

(1) Heat Insulation condition (building insulation)

Heat insulation conditions differ according to the installed environment.
Standard insulation "00" allows system to rapidly respond to the cooling or heating load changes.
High insulation "01" is when the heat insulation structure of the building is high and does not require system to rapidly respond to cooling or heating load changes.
When High insulation "01" is selected;

- Overheating (overcooling) is prevented at the start-up.
- All room temp. control settings (Function 30, 31, 92, 93) will reset to No correction [0.0°F (0.0°C)].

(♦... Factory setting)

Function number	Setting value	Setting description	
95	00	Standard insulation	♦
	01	High insulation	

(2) Room temperature control for indoor unit sensor

Depending on the installed environment, correction of the room temperature sensor may be required.
Select the appropriate control setting according to the installed environment.
The temperature correction values show the difference from the Standard setting "00" (manufacturer's recommended value).

* When Function 95-01(High insulation) is set, the Standard setting "00" will be the same as No correction "01" [0.0°F (0.0°C)].

(♦... Factory setting)

Function number		Setting value	Setting description		
30 (For cooling)	31 (For heating)	00	Standard setting*	♦	
		01	No correction 0.0°F (0.0°C)		
		02	-1°F (-0.5°C)	More Cooling Less Heating	
		03	-2°F (-1.0°C)		
		04	-3°F (-1.5°C)		
		05	-4°F (-2.0°C)		
		06	-5°F (-2.5°C)		
		07	-6°F (-3.0°C)		
		08	-7°F (-3.5°C)		
		09	-8°F (-4.0°C)		
		10	+1°F (+0.5°C)	Less Cooling More Heating	
		11	+2°F (+1.0°C)		
		12	+3°F (+1.5°C)		
		13	+4°F (+2.0°C)		
		14	+5°F (+2.5°C)		
		15	+6°F (+3.0°C)		
		16	+7°F (+3.5°C)		
		17	+8°F (+4.0°C)		

In case of Slim duct type and Floor/Ceiling type models:
In floor console installations, select “01”.

(3) Room temperature control for wired remote controller sensor

Depending on the installed environment, correction of the wire remote temperature sensor may be required.
Select the appropriate control setting according to the installed environment.
To change this setting, set Function 42 to Both "01".
Ensure that the Thermo Sensor icon is displayed on the remote controller screen.

(♦... Factory setting)

Function number		Setting value	Setting description	
92 (For cooling)	93 (For heating)	00	No correction 0.0°F (0.0°C)	♦
		01	No correction 0.0°F (0.0°C)	
		02	-1°F (-0.5°C)	More Cooling Less Heating
		03	-2°F (-1.0°C)	
		04	-3°F (-1.5°C)	
		05	-4°F (-2.0°C)	
		06	-5°F (-2.5°C)	
		07	-6°F (-3.0°C)	
		08	-7°F (-3.5°C)	
		09	-8°F (-4.0°C)	
		10	+1°F (+0.5°C)	Less Cooling More Heating
		11	+2°F (+1.0°C)	
		12	+3°F (+1.5°C)	
		13	+4°F (+2.0°C)	
		14	+5°F (+2.5°C)	
		15	+6°F (+3.0°C)	
		16	+7°F (+3.5°C)	
		17	+8°F (+4.0°C)	

Setting record

- Record any changes to the settings in the following table.

Setting	Setting value	
(1) Heat insulation condition (building insulation)		
(2) Room temperature control for indoor unit sensor	Cooling	
	Heating	
(3) Room temperature control for wired remote controller sensor	Cooling	
	Heating	

After completing the Function Setting, be sure to turn off the power and turn it on again.

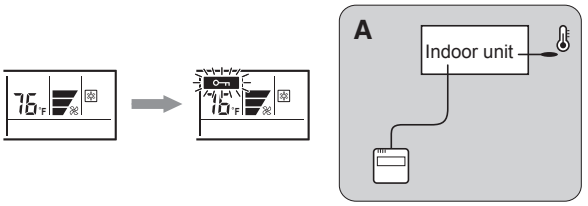
SETTING THE ROOM TEMPERATURE DETECTION LOCATION

The location of the sensor detecting the room temperature can be selected from the following 2 examples. Choose the best location depending on the installing condition.
Refer to “9.3. Function setting”.

A. Indoor unit sensor setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.
When using this function, the “Room temperature sensor switching
(Function number: 42)” is set at “Indoor unit (00)”

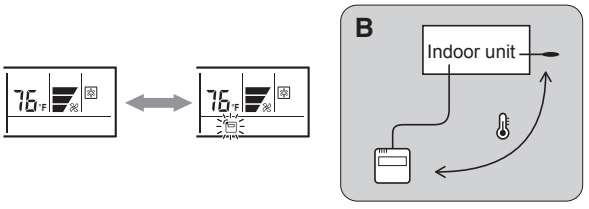
(1) When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.



B. Indoor unit/remote controller sensor setting

The temperature sensor of both the indoor unit and the remote controller is used to detect the room temperature.
When using this function, the “Room temperature sensor switching (Function number: 42)” is set at “Both (01)”

(1) Activate the sensor switching function as described in “Room temperature sensor switching (Function number: 42).”
(2) Press the THERMO SENSOR button for 5 seconds or more to select the temperature sensor of the indoor unit or the remote controller.



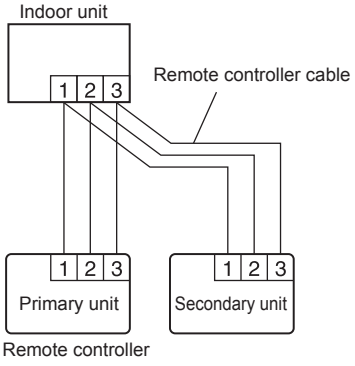
11. SPECIAL INSTALLATION METHODS

⚠ CAUTION
When setting DIP switches, do not touch any other parts on the circuit board directly with your bare hands.
Be sure to turn off the main power.

• Dual remote controllers

- 2 separate remote controllers can be used to operate the indoor units.
- The timer and self-diagnosis functions cannot be used on the secondary units.

(1) Wiring method (indoor unit to remote controller)



(2) Remote controller DIP switch 1 setting
Set SW2 on the remote controller DIP switch 1 according to the following table.

Number of remote controllers	Primary unit	Secondary unit
	SW2	SW2
1 (Normal)	OFF	–
2 (Dual)	OFF	ON

12. TEST RUN

Check items

(1) Is operation of each button on the remote control unit normal?
(2) Does each lamp light normally?
(3) Do airflow direction louvers operate normally?
(4) Is the drain normal?
(5) Do not have an abnormal noise and vibration during operation?

Do not operate the air conditioner in test run for a long time.

[Operation method]

Depending on your installation, choose from the following:

By the wireless remote controller (with "TEST RUN" button)
- To start test run, press the "START/STOP" button and the "TEST RUN" button on the remote controller.
- To end test run, press the remote controller "START/STOP" button.

By the indoor unit or IR receiver unit
- To start test run, press the "MANUAL AUTO" button of the unit for more than 10 seconds (forced cooling).
- To end test run, press the "MANUAL AUTO" button for more than 3 seconds or press the remote controller "START/STOP" button.

By the wired remote controller
- For the operation method, refer to the installation manual and the operating manual of the wired remote controller.

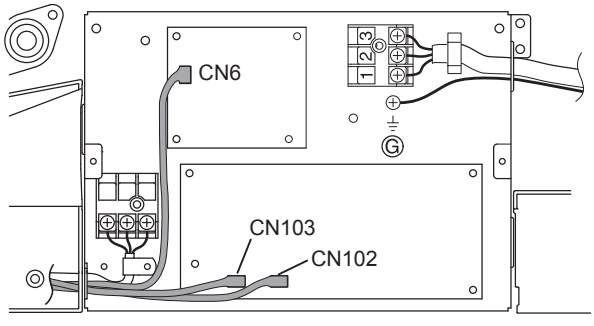
The Operation indicator lamp and Timer indicator lamp will simultaneously flash during the test run mode.
Heating test run will begin in a few minutes when HEAT is selected by the remote controller [reverse cycle model only].

13. OPTIONAL KIT INSTALLATION

⚠ WARNING

Refer to local codes for acceptable cable type.

This air conditioner can be connected with the following optional kits.
- Fresh air intake kit
- External input/output kit.



Option type	Connector No.
Fresh air intake	CN6
External input	CN102
External output	CN103

14. CUSTOMER GUIDANCE

Explain the following to the customer in accordance with the operating manual:

(1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
(2) Air filter removal and cleaning, and how to use the air louvers.
(3) Give the operating manual to the customer.
(4) If the wireless remote controller custom code is changed from A to B, C, or D, it will change back to A when the batteries in the remote controller are replaced. Explain to the customer how to program the wireless remote controller for the correct custom code.

15. ERROR CODES

If you use a wired 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. See the lamp blinking patterns and error codes in the following table. An error display is displayed only during operation.

Error display			Wired remote controller Error code	Mode	DESCRIPTION	Remark
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)				
● (1)	● (1)	◇	11	Communication	Serial communication error	• When the indoor unit cannot receive the signal from the branch unit • When the branch unit cannot receive the signal from the indoor unit
● (1)	● (2)	◇	12	Communication	Remote controller communication error	• Wired remote controller communication error
● (1)	● (5)	◇	15	Communication	Scan error	• Check operation incompletion error (normally, operation disabled)
● (2)	● (1)	◇	21	Function setting	Initial setting error	• Wiring mistake
● (2)	● (2)	◇	22	Function setting	Indoor unit capacity error	• Indoor unit capacity error
● (2)	● (3)	◇	23	Function setting	Connection disabled (series error)	• Combination error
● (2)	● (4)	◇	24	Function setting	Connection unit number error	• Connection unit number error (indoor unit) • Connection unit number error (branch unit)
● (3)	● (2)	◇	32	Indoor unit	Indoor unit main PCB error	• Indoor unit PCB Model information error
● (3)	● (5)	◇	35	Indoor unit	Manual auto switch error	• Manual auto switch error
● (4)	● (1)	◇	41	Indoor unit	Room error	• Inlet thermistor error
● (4)	● (2)	◇	42	Indoor unit	Indoor unit Heat Ex. sensor error	• Indoor unit Heat Ex. Middle thermistor error
● (5)	● (1)	◇	51	Indoor unit	Indoor unit fan motor 1 error	• Main fan motor lock error • Main fan motor revolution speed error
● (5)	● (3)	◇	53	Indoor unit	Water Drain error	• Drain pump error
● (5)	● (15)	◇	5U	Indoor unit	Indoor unit error	• Indoor unit error
● (6)	● (2)	◇	62	Outdoor unit	Outdoor unit main PCB error	• Outdoor unit PCB Model information error • Outdoor unit PCB microcomputer communication error
● (6)	● (3)	◇	63	Outdoor unit	Inverter PCB error	• Inverter error
● (6)	● (4)	◇	64	Outdoor unit	Active filter error, PFC circuit error	• Voltage error stoppage permanently • Voltage error (can restore) • Over current protected operation stoppage permanently • PFC hardware error
● (6)	● (5)	◇	65	Outdoor unit	IPM error	• Trip terminal L error
● (6)	● (10)	◇	6A	Outdoor unit	Display panel error	• Microcomputers communication error
● (7)	● (1)	◇	71	Outdoor unit	Discharge thermistor error	• Discharge thermistor 1 error
● (7)	● (2)	◇	72	Outdoor unit	Compressor thermistor error	• Compressor thermistor 1 error
● (7)	● (3)	◇	73	Outdoor unit	Outdoor unit Heat Ex. Sensor error	• Outdoor unit Heat Ex. liquid thermistor error
● (7)	● (4)	◇	74	Outdoor unit	Outdoor thermistor error	• Outdoor thermistor error
● (7)	● (5)	◇	75	Outdoor unit	Suction Gas thermistor error	• Suction Gas thermistor error
● (7)	● (7)	◇	77	Outdoor unit	Heat sink thermistor error	• Heat sink thermistor error
● (8)	● (2)	◇	82	Outdoor unit	Sub-cool Heat Ex. gas thermistor error	• Sub-cool Heat Ex. gas inlet thermistor error • Sub-cool Heat Ex. gas outlet thermistor error
● (8)	● (3)	◇	83	Outdoor unit	Liquid pipe thermistor error	• Liquid pipe thermistor 1 error
● (8)	● (4)	◇	84	Outdoor unit	Current sensor error	• Current sensor 1 error (stoppage permanently)
● (8)	● (6)	◇	86	Outdoor unit	Pressure sensor error	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch 1 error
● (9)	● (4)	◇	94	Outdoor unit	Trip detection	• Trip detection
● (9)	● (5)	◇	95	Outdoor unit	Compressor motor control error	• Rotor position detection error (stoppage permanently)
● (9)	● (7)	◇	97	Outdoor unit	Outdoor unit fan motor 1 error	• Duty error
● (9)	● (9)	◇	99	Outdoor unit	4-way valve error	• 4-way valve error
● (10)	● (1)	◇	A1	Refrigerant system	Discharge temperature 1 error	• Discharge temperature 1 error
● (10)	● (3)	◇	A3	Refrigerant system	Compressor temperature error	• Compressor 1 temperature error
● (10)	● (5)	◇	A5	Refrigerant system	Pressure error 2	• Low pressure error
● (13)	● (2)	◇	J2	Branch box	Unit flow divider error	• EEPROM access error • Equipment type information error • Serial communication error to outdoor unit • Branch units serial communication error • Serial communication error to indoor unit • Liquid pipe thermistor error • Gas pipe thermistor error • Expansion valve full closure operation error • Remote control communication error • Branch unit error

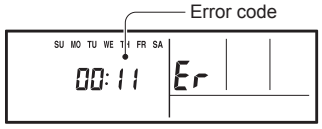
• Display mode ● : 0.5s ON / 0.5s OFF, ( ): Number of flashing, ◇ : 0.1s ON / 0.1s OFF

[Troubleshooting at the remote controller LCD]

This is possible only on the wired remote controller.

[Self-diagnosis]

If an error occurs, the following display will be shown.
(“Er” will appear in the set room temperature display.)



Example: Self-diagnosis