Cassette Type
SPLIT TYPE AIR CONDITIONER
INSTALLATION INSTRUCTION SHEET
(PART No. 9378590014-07)

⚠ CAUTION

R410A REFRIGERANT

This Air Conditioner contains and operates with refrigerant R410A and Polyol Ester oil.

THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL.

Refer to Commonwealth, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.

For authorized service personnel only.

⚠ DANGER	This mark indicates procedures which, if improperly performed, are most likely to result in the death of or serious injury to the user or service personnel.
⚠ WARNING	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
⚠ CAUTION	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

⚠ 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.

This air conditioner uses new refrigerant HFC (R410A).

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

① **Since the working pressure is 1.6 times higher than that of conventional refrigerant models, some of the piping and installation and service tools are special. (See the table below.) Especially, when replacing a conventional refrigerant model with a new refrigerant R410A model, always replace the conventional piping and flare nuts with the R410A piping and flare nuts.**

② **Models that use refrigerant R410A have a different charging port thread diameter to prevent erroneous charging with conventional refrigerant and for safety. Therefore, check beforehand. [The charging port thread diameter for R410A is 1/2 UNF 20 threads per inch.]**

③ **Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant models. Also, when storing the piping, securely seal the openings by pinching, taping, etc.**

④ **When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.**

Special tools for R410A

Tool name	Contents of change
Gauge manifold	Pressure is high and cannot be measured with a conventional gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended the gauge with seals –0.1 to 5.3 MPa (–76 cmHg to 53 kgf/cm²) for high pressure. –0.1 to 3.8 MPa (–76 cmHg to 38 kgf/cm²) 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 40 mg/10 m. Do not use copper pipes having a collapsed, deformed or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants.
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 that in the table even when it is available on the market.

Thicknesses of Annealed Copper Pipes (R410A)

Pipe outside diameter	Thickness
6.35 mm (1/4 in.)	0.80 mm
9.52 mm (3/8 in.)	0.80 mm
12.70 mm (1/2 in.)	0.80 mm
15.88 mm (5/8 in.)	1.00 mm
19.05 mm (3/4 in.)	1.20 mm

STANDARD PARTS

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

ACCESSORIES

Name and Shape	Q'ty	Application
Template (Carton top)	1	For installing indoor unit
Washer	8	For installing indoor unit
Coupler Heat Insulation	2	For indoor side pipe joint
Insulation	1	For installing drain pipe
Drain Hose Assy	1	For installing drain pipe
Hose Band Assy	1	For installing drain pipe
Drain Pipe Insulation	1	For installing drain pipe
Binder (Large)	3	For electrical wiring
Binder (Small)	1	For electrical wiring
Wired Remote Controller	1	
Remote Controller Cable(*1)	1	For connecting the remote controller
Tapping screw (ø4 × 16)	2	For installing the remote controller

(*1) This part is not furnished for AUT* series

OPTIONAL PARTS

Exterior	Parts name	Model No.	Summary
	Wired remote controller	UTB - * UD	Unit control is performed by **wired remote controller**
	Air outlet shutter plate	UTR - YDZC	Install the plate at outlet when carrying out 3-way direction operation.
	Wireless remote controller and I, R, receiver unit	UTY - LRH*A1	Unit control is performed by wireless remote controller.

For authorized service personnel only.

⚠ WARNING

① **For the air conditioner to operate satisfactorily, install it as outlined in this installation instruction sheet.**

② **Connect the indoor unit and outdoor unit with the air conditioner piping and cables available from our standards parts. This installation instruction sheet describes the correct connections using the installation set available from our standard parts.**

③ **Installation work must be performed in accordance with national wiring standards by authorized personnel only.**

④ **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.**

⑤ **Do not use an extension cable.**

⑥ **Do not turn on the power until all installation work is complete.**

⚠ CAUTION

This installation instruction sheet describes how to the indoor unit only.
To install the outdoor unit, refer to the installation instruction sheet 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.**
- **Let the customer keep this installation instruction sheet because it is used when the air conditioner is serviced or moved.**

CONNECTION PIPE REQUIREMENT

⚠ CAUTION

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

Diameter	Liquid	9.52 mm (3/8 in.)
	Gas	15.88 mm (5/8 in.)

- 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 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 15 mm or thicker and if the expected humidity exceeds 80%, use heat insulation that is 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 20 °C).

ELECTRICAL REQUIREMENT

Connection cable (mm²)	
MAX.	MIN.
2.5	1.5

- Use conformed cable with Type 245 IEC57.
- Install all electrical works in accordance to the standard.
- Install the disconnect device with a contact gap of at least 3 mm in all poles nearby the units. (Both indoor unit and outdoor unit)

⚠ CAUTION

Be sure to execute the electrical work according to the Lows of each country and the Installation Instructions.
In addition, be sure to set as exclusive line and use the rated voltage and circuit breaker.

SELECTING THE MOUNTING POSITION

Especially, the installation place is very important for the split type air conditioner because it is very difficult to move from place to place after the first installation.
Decide the mounting position together with the customer as follows:

⚠ 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.

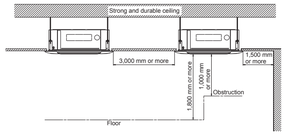
⚠ CAUTION

① **Do not install where there is the danger of combustible gas leakage.**

② **Do not install the unit near heat source of heat, steam, or flammable gas.**

③ **If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.**

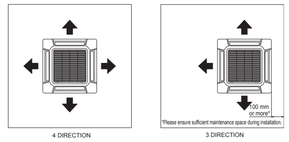
(1) Install the indoor unit on a place having a sufficient strength so that it withstands against the weight of the indoor unit.
(2) The inlet and outlet ports should not be obstructed; the air should be able to blow all over the room.
(3) Leave the space required to service the air conditioner.
(4) The ceiling rear height as shown in the figure.
(5) A place from where the air can be distributed evenly throughout the room by the unit.
(6) A place from where drainage can be extracted outdoors easily.
(7) Install the unit where noise and vibrations are not amplified.



This product can be installed at a height of up to 4.2 m (30Type : 3.6 m). However, if the heights of the ceiling is higher than 3.2 m or lower than 2.7 m, it is necessary to set the position from remote controller.
(See 8 FUNCTION SETTING.)

Discharge Direction Setting

- The discharge direction can be selected as shown below.



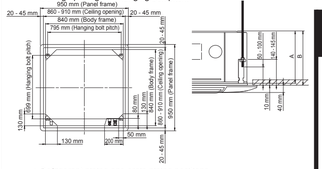
* Select the most appropriate airflow direction from 3 or 4 directions according to the shape of the room and the installation position.
* When changing the number of outlets, we recommend using the optional AIR OUTLET SHUTTER PLATE KIT to close the outlet.
* For the specific closing pattern, please refer to the attached AIR OUTLET SHUTTER PLATE KIT'S MANUAL. (Do so before installing the decorative panel as it will be installed on the body.)
* Be sure to make the function settings with the remote controller according to the number of airflow outlets and the installed ceiling height. (See 8 FUNCTION SETTING.)

INSTALLATION PROCEDURE

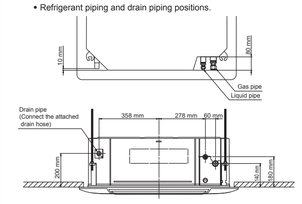
Install the air conditioner as follows:

1 PREPARATION BEFORE INSTALLATION

(1) Positions of the ceiling opening, hanging bolt pitch, piping and ducts. (unit: mm)
- Ceiling opening and hanging bolt pitch.

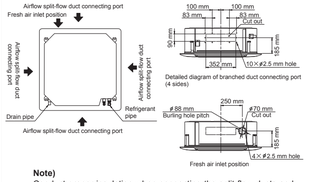


- Refrigerant piping and drain piping positions.

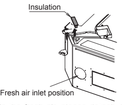


Model	A	B
24LB	246	256
30/36/45/54LB	288	298

- Airflow split-flow duct and fresh air inlet positions.



Note)
Conduct proper insulation when connecting the split-flow ducts and fresh air inlet.



When sucking in the fresh air, please detach the insulation affixed to the drain pan.

(2) Setting the positions of hanging bolt and ceiling opening.
- Use an installation template (packaging top surface) to set the positions of the hanging bolt and ceiling opening and drill holes.

(3) Hanging structure.
- Select a strong structure for the hanging location.
- If necessary, reinforce the hanging bolt with quakeproof columnar support material to prevent shaking.
- Use hanging bolts of M8-M10.

2 INDOOR UNIT INSTALLATION

⚠ WARNING

① **Install the air conditioner in a location which can withstand a load do at least five 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.**

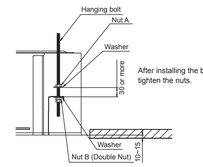
② **If the job is done with the panel frame only, there is a risk that the unit will come loose. Please take care.**

1. BODY INSTALLATION

1) Install the attached washer and nut (prepared on site) onto the hanging bolt.
2) Hook the body onto the hanging bolt.
3) Adjust the dimensions of the ceiling surface from the body.
After installing the decorative panel, you can make fine adjustment of the height of the body. For details, refer to the installation manual of the decorative panel.

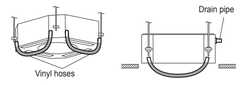
⚠ WARNING

- **Perform final tightening by tightening the double nut firmly.**
- **Be sure to install the body horizontally and adjust the height below the body and the ceiling surface properly.**



2. LEVELING

Using a level, 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.



3. INSTALLING DRAIN PIPE

⚠ WARNING

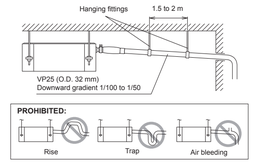
- **Do not insert the drain piping into the sewer where sulfurous gas occurs. (Heat exchange erosion may occur)**
- **Insulate the pats properly so that water will not drip from the connection parts.**
- **Check for proper drainage after the construction by using the visible portion of transparent drain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

⚠ CAUTION

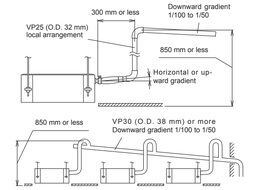
- **Do not apply adhesive agent on the drain port of the body. (Use the attached drain hose and connect the drain piping)**

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 (VP25) [outside diameter 32 mm] and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long, install supporters.
- Do not perform air bleeding.
- Always heat insulate the indoor side of the drain pipe.
- If it is impossible to have sufficient gradient of pipe, perform drain lift-up.

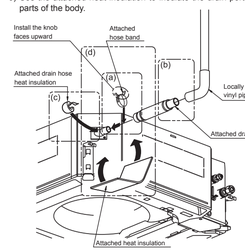
	Pipe size
Drain pipe	VP25 (O.D. 32 mm)

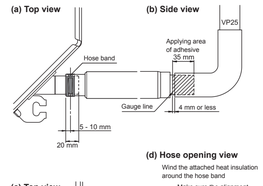


When lifting up drain:
- Height of inclined pipe should be less than 850 mm from the ceiling. A rise dimension over this range will cause leakage.
- Lift up the pipe vertically at the position of 300 mm or less from the unit.

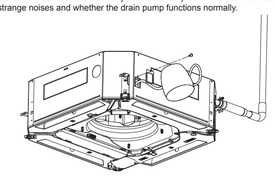


Working procedure
1) Install the attached drain hose to the drain port of the body. Install the hose band from the top of the hose within the graphic display area.
2) Use vinyl adhesive agent to glue the drain piping (PVC pipe VP25) which is prepared on site or elbow socket.
(Apply color adhesive agent 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 band parts of the body.





Note)
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.



3 CONNECTING THE PIPE

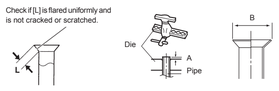
⚠ CAUTION

① **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.**

② **While welding the pipes, be sure to blow dry nitrogen gas through them.**

1. FLARING

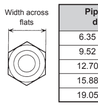
(1) Cut the connection pipe to the necessary length with a pipe cutter.
(2) Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs.
(3) Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool.
Use the special R410A flare tool, or the conventional flare tool.



Pipe outside diameter	Dimension A (mm)
	Flare tool for R410A, clutch type
6.35 mm (1/4 in.)	0 to 0.5
9.52 mm (3/8 in.)	
12.70 mm (1/2 in.)	
15.88 mm (5/8 in.)	
19.05 mm (3/4 in.)	

Pipe outside diameter	Dimension B $^{0}_{-0.4}$ (mm)
6.35 mm (1/4 in.)	9.1
9.52 mm (3/8 in.)	13.2
12.70 mm (1/2 in.)	16.6
15.88 mm (5/8 in.)	19.7
19.05 mm (3/4 in.)	24.0

When using conventional flare tools to flare R410A pipes, the dimension A should be approximately 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	Width across flats of Flare nut
6.35 mm (1/4 in.)	17 mm
9.52 mm (3/8 in.)	22 mm
12.70 mm (1/2 in.)	26 mm
15.88 mm (5/8 in.)	29 mm
19.05 mm (3/4 in.)	36 mm

2. BENDING PIPES

The pipes are shaped by your hands. 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 three times.

⚠ CAUTION

① **To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 150 mm or over.**

② **If the pipe is bent repeatedly at the same place, it will break.**

3. CONNECTION PIPES

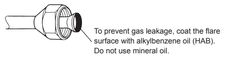
Indoor unit
(1) Detach the caps and plugs from the pipes.

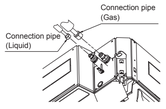
⚠ CAUTION

① **Be sure to apply the pipe against the port on the indoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.**

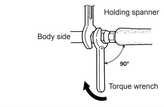
② **Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.**

(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, use a torque wrench to finally tighten it.



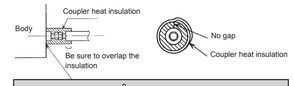
⚠ CAUTION

Hold the torque wrench at its grip, keeping it in the right angle with the pipe, in order to tighten the flare nut correctly.

Flare nut	Tightening torque
6.35 mm (1/4 in.) dia.	14 to 18 N·m (140 to 180 kgf·cm)
9.52 mm (3/8 in.) dia.	33 to 42 N·m (330 to 420 kgf·cm)
12.70 mm (1/2 in.) dia.	50 to 62 N·m (500 to 620 kgf·cm)
15.88 mm (5/8 in.) dia.	63 to 77 N·m (630 to 770 kgf·cm)
19.05 mm (3/4 in.) dia.	100 to 110 N·m (1,000 to 1,100 kgf·cm)

4 INSTALLING THE COUPLER HEAT INSULATION

After checking for gas leaks, insulate by wrapping insulation around the two 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.



⚠ CAUTION

Must fit tightly against body without any gap.

5 ELECTRICAL WIRING

⚠ WARNING

① **Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.**

② **Match the terminal board numbers and connection cable colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.**

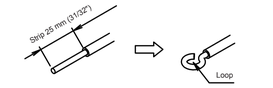
③ **Connect the connection cables firmly to the terminal board. Imperfect installation may cause a fire.**

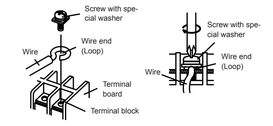
④ **Always fasten the outside covering of the connection cable with the cable clamp. (If the insulator is chafed, electric leakage may occur.)**

⑤ **Always connect the ground wire.**

A. For solid core wiring

(1) To connect the electrical terminal, follow the below diagram and connect after looping it around the end of the wire.
(2) Use the specified wires, connect them securely, and fasten them so that there is no stress placed on the terminals.
(3) 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.
(4) Do not tighten the terminal screws too much, otherwise, the screws may break.
(5) See the table 1 for the terminal screw tightening torques.





⚠ WARNING

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

B. For strand wiring

(1) Use ring terminals with insulating sleeves as shown in the figure below 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.
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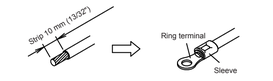
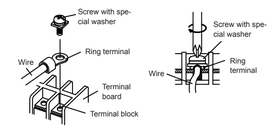




⚠ WARNING

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.

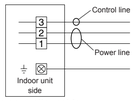
Table 1

Tightening torque	
M4 screw	12 to 18 N·m (12 to 18 kgf·cm)

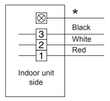
(Continued to the next page)

1. CONNECTION DIAGRAMS

Connection cable (to outdoor unit)

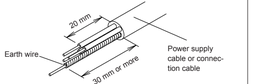


Wired remote controller cable



★ Ground the remote controller if it has a ground wire

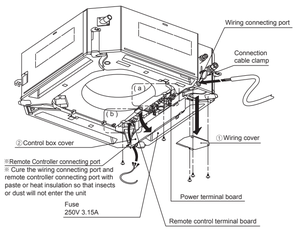
Keep the earth wire longer than the other wires.

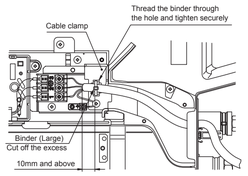


• Use a 4-core wire cable.

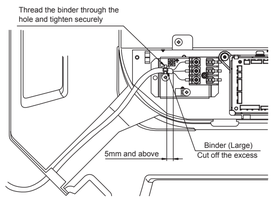
2. CONNECTION OF WIRING

(1) Remove the control box cover and install each connection wire. Please firmly tighten Connection cables and Remote Controller cables with the attached binder.



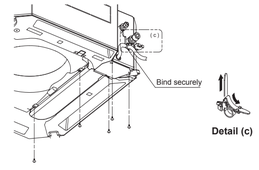


Detail (a)



Detail (b)

(2) Please fix the Connection Cable with Cable Clamp. And then install the Wire Cover with screws.



Detail (c)

(3) Install control box cover.

⚠ CAUTION

Do not bundle the remote controller cable, or wire the remote controller cable in parallel, with the indoor unit connection wire (to the outdoor unit) and the power supply cable. It may cause erroneous operation.

6 CASSETTE GRILLE INSTALLATION

- Operate according to the Installation instruction sheet CASSETTE GRILLE.
- Be sure to confirm there is no gap between the panel and main unit after installing the CASSETTE GRILLE.

7 REMOTE CONTROLLER SETTING

⚠ CAUTION

① **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 well set, the correct room temperature will not be detected, and thus the abnormal conditions like "not cooled" or "not heated" will occur even if the air-conditioner is running normally.**
- A location with an average temperature for the room being airconditioned.
- Not directly exposed to the outlet air from the air-conditioner.
- Out of direct sunlight.
- Away from the influence of other heat sources.

② **Do not touch the remote controller PC board and PC board parts directly with your hands.**

③ **Do not wire the remote controller cable and the bus wire together with or parallel to the connection cables, transmission cables, and power supply cables of the indoor and outdoor units. It may cause erroneous operation.**

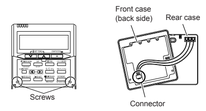
④ **When installing the bus wire near a source of electromagnetic waves, use shielded wire.**

⑤ **Do not set the DIP switches, either on the air conditioner or the remote controller, in any way other than indicated in this sheet or the manual that is supplied with the air conditioner. Doing so may result in an accident.**

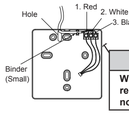
1. INSTALLING THE REMOTE CONTROLLER

Open the operation panel on the front of the remote controller, remove the two 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.



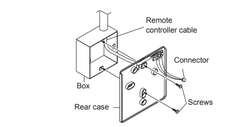
When remote controller cable is embedded
(1) Embed the remote controller cable and box.
(2) Pass the remote controller cable through the hole in the rear case and connect the remote controller cable to the remote controller terminal board specified in figure.
(3) Clamp the remote controller cable sheath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



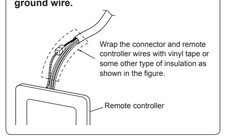
⚠ CAUTION

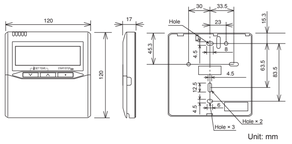
When connecting the remote controller wires, do not overtighten the screws.

[Example]



Ground the remote controller if it has a ground wire.





⚠ CAUTION

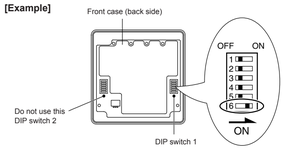
① **Install the remote controller wires so as not to be direct touched with your hand.**

② **Do not touch the remote controller PC board and PC board parts directly with your hands.**

2. SETTING THE DIP SWITCHES

Set the remote controller DIP switches.

[Example]



	NO.	SW state OFF	SW state ON	Detail
DIP switch 1	1	★		Cannot be used. (Do not change)
	2	★		Dual remote controller setting * Refer to 2. DUAL REMOTE CONTROLLERS in 9 SPECIAL INSTALLATION METHODS.
	3	Follow the selection in FUNCTION SETTING	Invalidity	Filter reset operation and filter display
	4	★		Cannot be used. (Do not change)
	5	★		Cannot be used. (Do not change)
	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.

(★ Factory setting)

8 FUNCTION SETTING AND TEST RUN

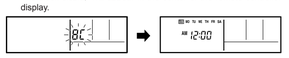
⚠ CAUTION

① **Confirm whether the wiring work for outdoor unit has been finished.**

② **Confirm whether the cap for electric control box on the outdoor unit is close.**

1. TURNING ON THE POWER

1. Check the remote controller wiring and DIP switch settings.
2. Install the front case.
* When installing the front case, connect the connector to the front case.
3. Check the indoor and outdoor unit wiring and circuit board switch settings, and then turn on the indoor and outdoor units. After "8C" has flashed on the set temperature display for several seconds, the clock display will appear in the center of the remote controller display. The clock display will appear in the center of the remote controller display.

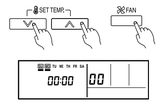


2. FUNCTION SETTING

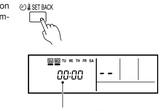
- This procedure changes to the function settings used to control the indoor unit according to the installation conditions. Incorrect settings can cause the indoor unit malfunction.
- After the power is turned on, perform the "FUNCTION SETTING" according to the installation conditions using the remote controller.
- The settings may be selected between the following two: Function Number or Setting Value
- Settings will not be changed if invalid numbers or setting values are selected.

Operation Method

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

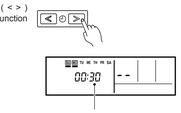


(2) Press the SET BACK button to select the indoor unit number.



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 to the right 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.

Setting the Ceiling Height

- Select the setting values in the table below according to the height of the ceiling. (The unit is factory-set to "00".)

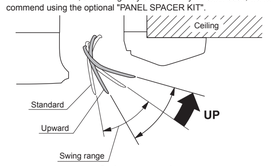
Setting Description [m]	Function Number	Setting Value
Standard 3.2 m	20	00
Low ceiling 2.7 m		01
High ceiling 30 Type 3.6m 36,45,54 Type 4.2m		02

The ceiling height values are for the 4-way outlet.
Do not change this setting in the 3-way or 2-way outlet mode.

- Set the vertical direction adjusting scope.

Setting Description	Function Number	Setting Value
Standard	23	00
Upward		01

• To prevent from draft, we recommend using "upward mode".
• In certain condition, the ceiling may become dirty. In such case, we recommend using the optional "PANEL SPACER KIT".



Outlet cross section

Setting the Outlet Directions

- Select the setting values in the table below for using a 3-way or 2-way outlet. (The unit is factory-set to "00".)

Setting Description	Function Number	Setting Value
4-way	22	00
3-way		01

Setting the Filter Sign

- The indoor unit has a sign to inform the user that it is time to clean the filter.
- Select the time setting for the filter sign display interval in the table below according to the amount of dust or debris in the room. (The unit is factory-set to "00".)
- If you do not wish the filter sign to be displayed, select the setting value for "No indication".

Setting Description	Function Number	Setting Value
Standard (2,500 hours)	11	00
Long interval (4,400 hours)		01
Short interval (1,250 hours)		02
No indication		03

Setting the Cooler Room Temperature Correction

- Depending on the installed environment, the room temperature sensor may require a correction. The settings may be selected as shown in the table below. (The unit is factory-set to "00".)

Setting Description	Function Number	Setting Value
Standard	30	00
Lower control		01

Setting the Heater Room Temperature Correction

- Depending on the installed environment, the room temperature sensor may require a correction. The settings may be changed as shown in the table below. (The unit is factory-set to "00".)

Setting Description	Function Number	Setting Value
Standard	31	00
Lower control		01
Slightly warmer control		02
Warmer control		03

Setting Other Functions

- The following settings are also possible, depending on the operating conditions. (The unit is factory-set to "00".)

Auto Restart

Setting Description	Function Number	Setting Value
Yes	40	00
No		01

Indoor Room Temperature Sensor Switching Function (Wired remote controller only)

Setting Description	Function Number	Setting Value
Yes	42	00
No		01

- If setting value is "00", room temperature is controlled by the indoor unit temperature sensor.
- If setting value is "01", room temperature is controlled by either indoor unit temperature sensor or remote controller sensor.

Setting record

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

Setting	Setting Value
Ceiling height	
Outlet directions	
Filter sign	
Cooler room temperature correction	
Heater room temperature correction	
Auto restart	
Indoor room temperature sensor switching function	

After completing the FUNCTION SETTING, be sure to turn off the power and turn it on again.

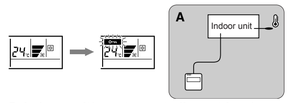
SETTING THE ROOM TEMPERATURE DETECTION LOCATION

The detection location of the room temperature can be selected from the following two examples. Choose the detection location that is best for the installation location.

A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.

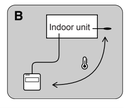
(1) When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.



B. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.

(1) Enable the room temperature sensor selection in FUNCTION SETTING, which will be described later.
(2) Press the THERMO SENSOR button for 5 seconds or more to select the temperature sensor of the indoor unit or the remote controller.



⚠ CAUTION

① **When select the "Remote controller setting" , if the detected temperature value between the temperature sensor of the indoor unit and the temperature sensor of the remote controller varies significantly, it is likely to return to the control status of temperature sensor of the indoor unit temporarily.**

② **As the temperature sensor of remote controller detects the temperature near the wall, when there is a certain difference between the room temperature and the wall temperature, the sensor will not detect the room temperature correctly sometimes.**
Especially when the outer side of the wall on which the sensor is positioned is exposed to the open air, it is recommended to use the temperature sensor of the indoor unit to detect the room temperature when the indoor and outdoor temperature difference is significant.

③ **The temperature sensor of the remote controller is not only used when there is a problem in the detection of the temperature sensor of the indoor unit.**

NOTES

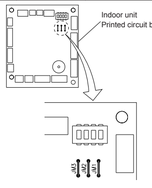
If the function to change the temperature sensor is used as shown in examples A (other than example B), be sure to lock the detection location. If the function is locked, the lock display "On" will flash when the THERMO SENSOR button is pressed.

[When using the wireless remote controller] (Option)

SWITCHING REMOTE CONTROLLER SIGNAL CODES

- Confirm the setting of the remote controller signal code and the printed circuit board setting.
If these are not confirmed, the remote controller cannot be used to operate for the air conditioner.

Jumper wire JM1	Jumper wire JM2	Remote controller signal code
Connect	Connect	A (Primary setting)
Disconnect	Connect	B
Connect	Disconnect	C
Disconnect	Disconnect	D



3. TEST RUN

CHECK ITEMS

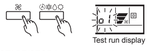
(1) Is operation of each button on the remote controller normal?
(2) Does each lamp light normally?
(3) Do not air flow direction louvers operate normally?
(4) Is the drain normal?
(5) Is there any abnormal noise and vibration during operation?

• Do not operate the air conditioner in the running state for a long time.

[OPERATION METHOD]

• For the operation method, refer to the operating manual.

(1) Stop the air conditioner operation.
(2) Press the MODE button and the FAN button simultaneously for 2 seconds or more to start the test run.



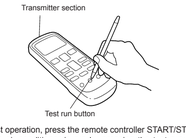
(3) Press the START/STOP button to stop the test run.

If "CO" appears in the unit number display, there is a remote controller error. Refer to the installation instruction sheet included with the remote controller.

Unit number	Error code	Content
C0	1d	Incompatible indoor unit is connected
C0	1C	Indoor unit ↔ remote controller communication error

[Using the wireless remote controller] (Option)

• For the operation method, refer to the operating manual.
• The outdoor unit may not operate depending on the room temperature. In this case, press the test run button on the remote controller while the air conditioner is running. (Point the transmitter section of the remote controller toward the air conditioner and press the test run button with the tip of a ball-point pen, etc.)



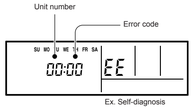
• To end test operation, press the remote controller START/STOP button. (When the air conditioner is run by pressing the test run button, the OPERATION indicator lamp and TIMER indicator lamp will simultaneously flash slowly.)

[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.
("EE" will appear in the set room temperature display.)



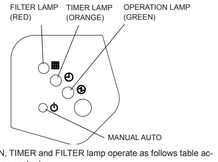
Ex. Self-diagnosis

Error code	Error contents
01 13 26 27	Indoor signal error
00	Wired remote controller error
02	Indoor room temperature sensor error
04	Indoor heat exchanger temperature sensor (middle) error
28	Indoor heat exchanger temperature sensor (inlet) error
09	Float switch operated
0C	Outdoor discharge pipe temperature sensor error
06	Outdoor heat exchanger temperature sensor (outlet) error
0A	Outdoor temperature sensor error
15	Compressor temperature sensor error
1d	2-way valve temperature sensor error
1E	3-way valve temperature sensor error
29	Outdoor heat exchanger temperature sensor (middle) error
20	Indoor manual auto switch error
2A	Power supply frequency detection error
17	IPM protection
18	CT error
1A	Compressor location error
1b	Outdoor fan error
1F	Connected indoor unit error
1C	Outdoor unit computer communication error
12	Indoor fan error
0F	Discharge temperature error
24	Excessive high pressure protection on cooling
2C	4-way valve error
16	Pressure switch error
2b	Compressor temperature error
19	Active filter error
25	PFC circuit error

TROUBLESHOOTING (Option)

[Troubleshooting with the indoor display]

Troubleshooting at the display is possible either on the wired or wireless remote controller.



The OPERATION, TIMER and FILTER lamp operate as follows table according to the error contents.

Error contents	OPERATION lamp	TIMER lamp	FILTER lamp
Indoor signal error	×	○	×
Wired remote controller error	×	(8 times)○	×
Indoor room temperature sensor error	(2 times)○	(2 times)○	×
Indoor heat exchanger temperature sensor (middle) error	(2 times)○	(3 times)○	×
Indoor heat exchanger temperature sensor (inlet) error	(2 times)○	(4 times)○	×
Float switch operated	(2 times)○	(6 times)○	×
Outdoor discharge pipe temperature sensor error	(3 times)○	(2 times)○	×
Outdoor heat exchanger temperature sensor (outlet) error	(3 times)○	(3 times)○	×
Outdoor temperature sensor error	(3 times)○	(4 times)○	×
Compressor temperature sensor error	(3 times)○	(8 times)○	×
2-way valve temperature sensor error	(3 times)○	×	(2 times)○
3-way valve temperature sensor error	(3 times)○	×	(3 times)○
Outdoor heat exchanger temperature sensor (middle) error	(3 times)○	×	(4 times)○
Indoor manual auto switch error	(4 times)○	(2 times)○	×
Power supply frequency detection error	(4 times)○	(4 times)○	×
IPM protection	(5 times)○	(2 times)○	×
CT error	(5 times)○	(3 times)○	×
Compressor location error	(5 times)○	(5 times)○	×
Outdoor fan error	(5 times)○	(6 times)○	×
Connected indoor unit error	(5 times)○	(7 times)○	×
Outdoor unit computer communication error	(5 times)○	(8 times)○	×
Indoor fan error	(6 times)○	2☆3 times)○	×
Discharge temperature error	(7 times)○	(2 times)○	×
Excessive high pressure protection on cooling	(7 times)○	(3 times)○	×
4-way valve error	(7 times)○	(4 times)○	×
Pressure switch error	(7 times)○	(5 times)○	×
Compressor temperature error	(7 times)○	(8 times)○	×
Active filter error	(8 times)○	2☆3 times)○	×
PFC circuit error	(8 times)○	(4 times)○	×

○: 0.5s ON/0.5s OFF (Flash) ×: OFF

9 SPECIAL INSTALLATION METHODS

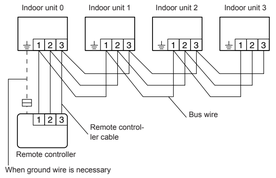
⚠ CAUTION

① **When setting DIP switches, do not touch any other parts on the circuit board directly with your bare hands.**

② **Be sure to turn off the main power.**

1. GROUP CONTROL SYSTEM

A number of indoor units can be operated at the same time using a single remote controller.
(1) Wiring method (indoor unit to remote controller)

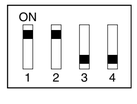


(2) DIP switch setting (indoor unit)
Set the unit number of each indoor unit using DIP switch on the indoor unit circuit board. (see following table and figure.)
DIP switch is normally set to make unit number No. 0.

Indoor unit

Unit number	DIP SWITCH No. 1	2	3	4
0	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

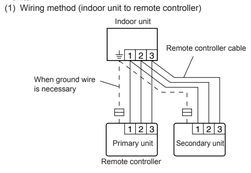
Example : No. 3



2. DUAL REMOTE CONTROLLERS

- Two 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 the remote controller DIP switch 1 No. 2 according to the following table.

Number of remote controllers	Primary unit DIP SW 1 No. 2	Secondary unit DIP SW 1 No. 2
1 (Normal)	OFF	–
2 (Dual)	OFF	ON

10 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 controller operations.
(2) Air filter removal and cleaning, and how to use the air louvers.
(3) Give the operating and installation manuals to the customer.
(4) If the signal code is changed, explain to the customer how it changed (the system returns to signal code A when the batteries in the remote controller are replaced).
*(4) is applicable to using wireless remote controller.

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