



VACUUM PROCESS

CAUTION

- Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for purging!
- Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

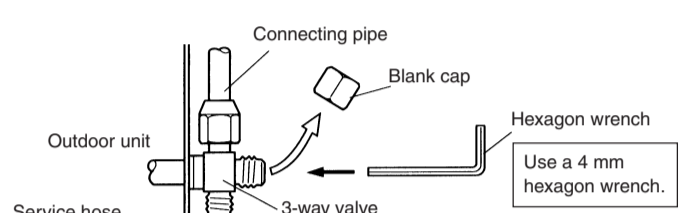
1. VACUUM

- Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
- Vacuum the indoor unit and the connecting pipes until the pressure gauge indicates -0.1 MPa (-76 cmHg).
- When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump for at least 15 minutes.
- Disconnect the service hoses and fit the cap to the charging valve to the specified torque.
- Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench (Torque : 6 to 7 N · m (60 to 70 kgf·cm)).
- Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque.

Table 6

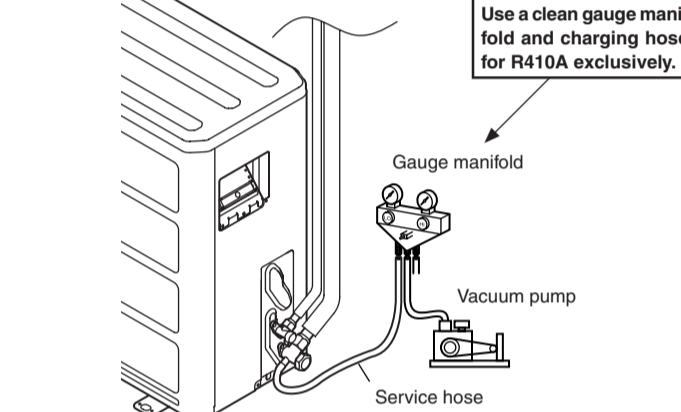
	Tightening torque
Blank cap (2-way valve)	20 to 25 N·m (200 to 250 kgf·cm)
Blank cap (3-way valve)	30 to 35 N·m (300 to 350 kgf·cm)
Charging port cap	10 to 12 N·m (100 to 120 kgf·cm)

Fig. 29



6 GAS LEAKAGE INSPECTION

CAUTION



POWER

WARNING

- The rated voltage of this product is 230 V A.C. 50 Hz.
- Before turning on verify that the voltage is within the 198 V to 264 V range.
- Always use a special branch circuit and install a special receptacle to supply power to the air conditioner.
- Use a special branch circuit breaker and receptacle matched to the capacity of the air conditioner. (Install in accordance with standard.)
- Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
- Install a leakage special branch circuit breaker in accordance with the related laws and regulations and electric company standards.

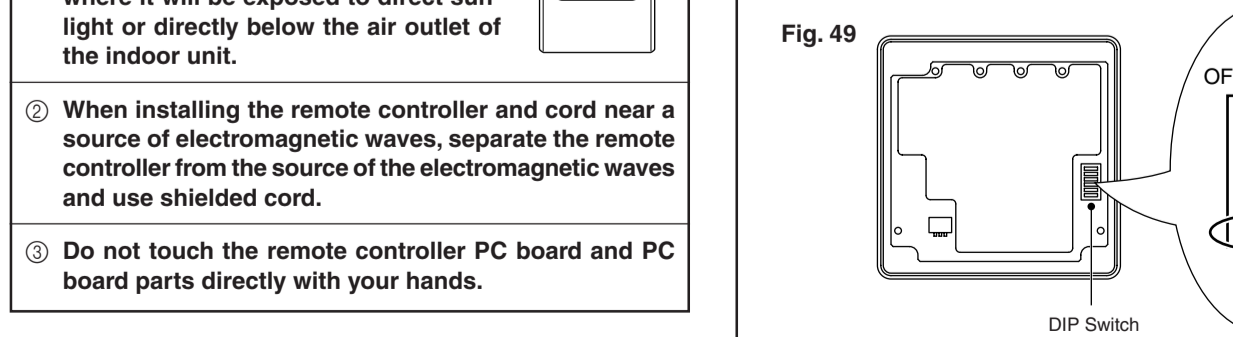
CAUTION

- The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.
- This air conditioner must be connected to a power source that has an electrical impedance of 0.159 Ω or less or has a supply current of 100 A or greater. If the power supply does not meet the specifications, contact the power company.

11 REMOTE CONTROLLER SETTING

CAUTION

- In order to detect the room temperature correctly when using the temperature sensor of the remote controller, do not install the remote controller in a place where it will be exposed to direct sunlight or directly below the air outlet of the indoor unit.
- When installing the remote controller and cord near a source of electromagnetic waves, separate the remote controller from the source of the electromagnetic waves and use shielded cord.
- Do not touch the remote controller PC board and PC board parts directly with your hands.



2. ADDITIONAL CHARGE

Refrigerant suitable for a piping length of 7.5 m is charged in the outdoor unit at the factory. When the piping is longer than 7.5 m, additional charge is necessary. For the additional amount, see the table below.

Pipe length	7.5 m (25 ft)	10 m (33 ft)	15 m (49 ft)	20 m (66 ft)	25 m (82 ft)
Heat & Cool (Reverse cycle)	None	100 g (3.5 oz)	300 g (10.6 oz)	500 g (17.6 oz)	700 g (24.7 oz)
Cooling model	None	50 g (1.8 oz)	150 g (5.3 oz)	250 g (8.8 oz)	350 g (12.3 oz)

Between 7.5 m and 25 m, when using a connection pipe other than that in the table, charge additional refrigerant with 40 g (1.4 oz)/1 m (3.3 ft) (Reverse cycle model), 20 g (0.71 oz)/1 m (3.3 ft) (Cooling model) as the criteria.

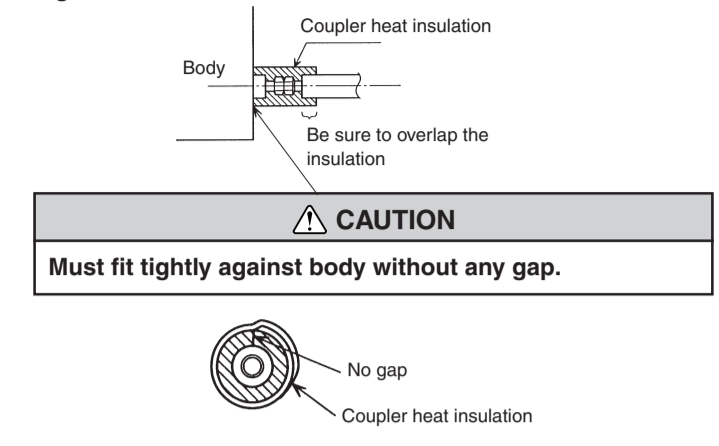
CAUTION

- When moving and installing the air conditioner, do not mix gas other than the specified refrigerant (R410A) inside the refrigerant cycle.
- When charging the refrigerant R410A, always use an electronic balance for refrigerant charging (to measure the refrigerant by weight).
- 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.
- Add refrigerant from the charging valve after the completion of the work.
- If the units are further apart than the maximum pipe length, correct operation can not be guaranteed.

INSTALLING THE COUPLER HEAT INSULATION

After checking for gas leaks, insulate by wrapping insulation around the two parts (large and small) 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.

Fig. 30



ELECTRICAL WIRING

HOW TO CONNECT WIRING TO THE TERMINALS

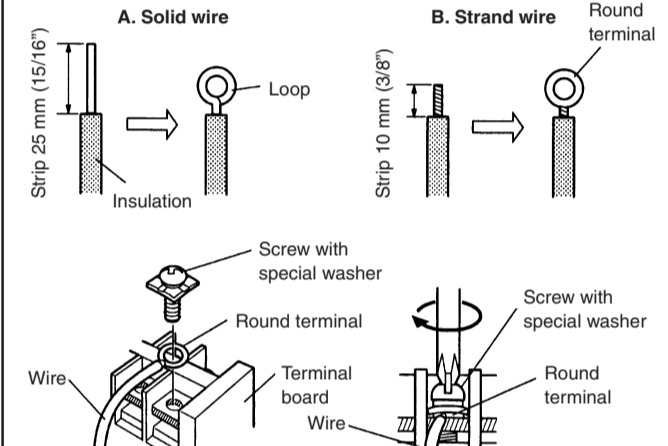
A. For solid core wiring (or F-cable)

- Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 25 mm (15/16") of expose the solid wire.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using pliers, bend the solid wire to form a loop suitable for the terminal screw.
- Shape the loop wire properly, place it on the terminal board and tighten securely with the terminal screw using a screwdriver.

B. For strand wiring

- Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 10 mm (3/8") of expose the strand wiring.
- Using a screwdriver, remove the terminal screw(s) on the terminal board.
- Using a round terminal fastener or pliers, securely clamp a round terminal to each stripped wire end.
- Position the round terminal wire, and replace and tighten the terminal screw using a screwdriver.

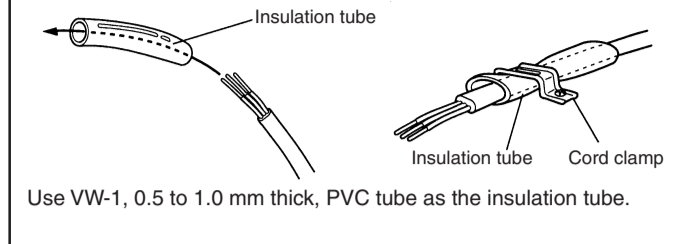
Fig. 31



HOW TO FIXED CONNECTION CORD AND POWER CORD AT THE CORD CLAMP

After passing the connection cord and power cord through the insulation tube, fasten it with the cord clamp.

Fig. 32



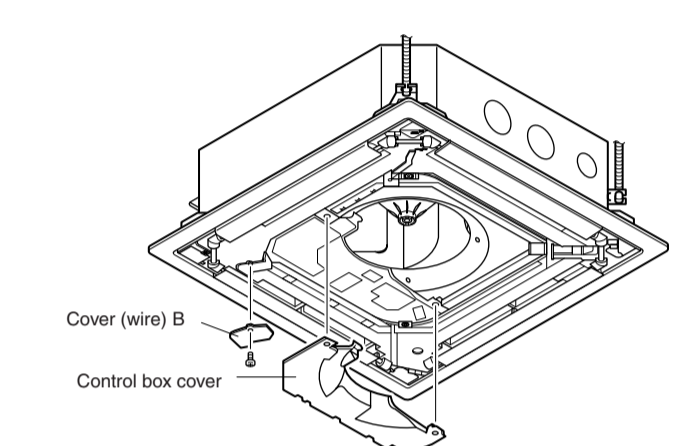
1. INDOOR UNIT SIDE

WARNING

- Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- Match the terminal board numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- Connect the connection cord firmly to the terminal board. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- Always connect the ground wire.

- Remove the control box cover and cover (wire) B and install the connection cord.

Fig. 33



- After wiring is complete, clamp the remote controller cord and connection cord with the cord clamp.
- Install the control box cover and cover (wire) B.

Fig. 34

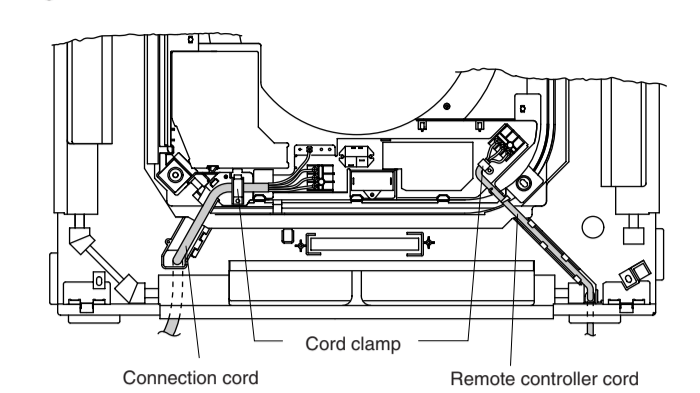
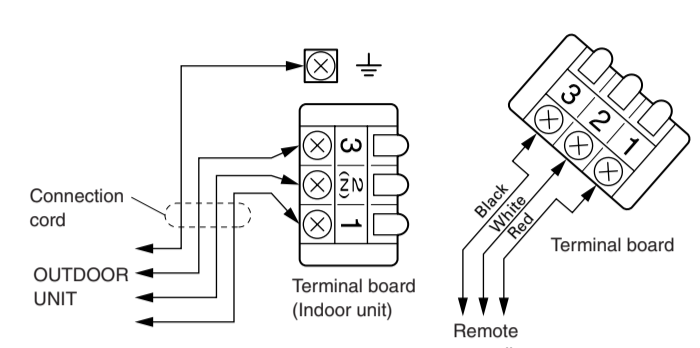


Fig. 35



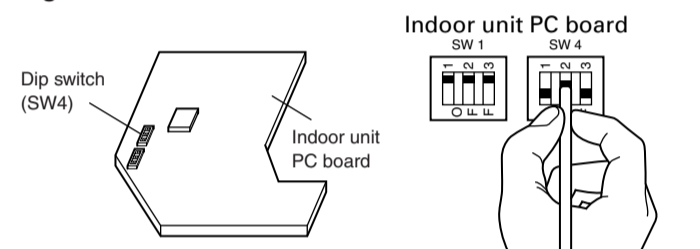
Ceiling height setting

Set the DIP switch for the ceiling height according to the table below.

Table 8

Ceiling height (m)	DIP-SW4		
	1	2	3
2.5 - 3.0	Normal	OFF	OFF
3.0 - 3.5	High ceiling 1	ON	OFF
More than 3.5	High ceiling 2	OFF	ON
Less than 2.5	Low ceiling	ON	ON

Fig. 36



CAUTION

- If the setting for a low ceiling is selected, the capacity of the air conditioner decreases slightly.
- Do not set any switches other than those specified in this sheet. The air conditioner may not operate correctly if any switches other than those specified are changed.

2. OUTDOOR UNIT SIDE

WARNING

- Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- Match the terminal board numbers and connection cord colors with those of the indoor unit side. Erroneous wiring may cause burning of the electric parts.
- Connect the connection cords and the power supply cord firmly to the terminal board. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord and the power supply cord with cord clamps. (If the insulator is chafed, electric leakage may occur.)
- Always connect the ground wire.

- Remove the terminal cover of the outdoor unit, and insert the end of the connection cord and the power supply cord into the terminal board.
- Fasten the connection cord and the power supply cord with the cord clamp, and install the terminal cover.

Fig. 37

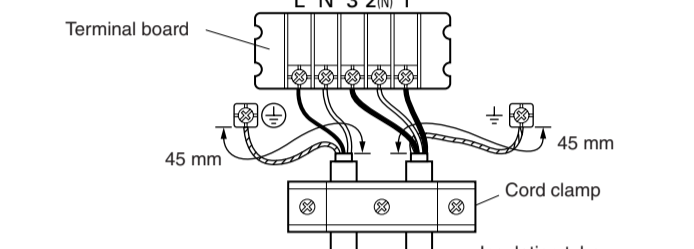
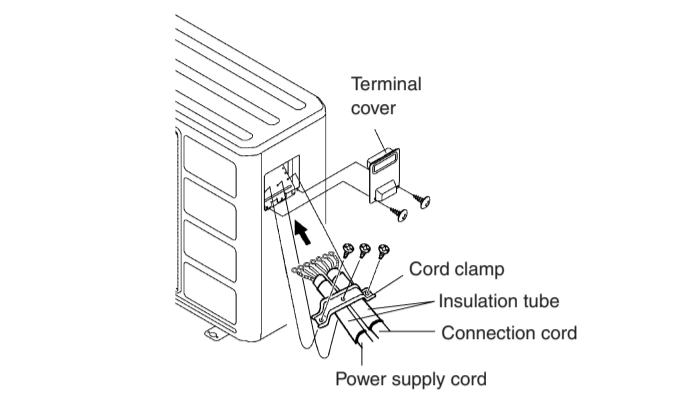
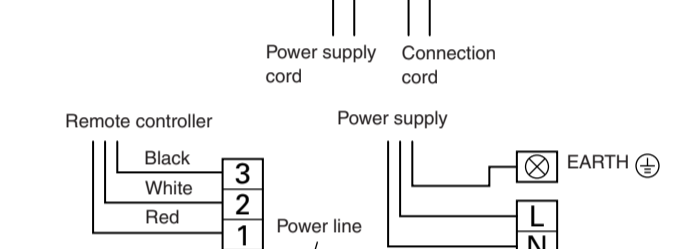


Fig. 36



CAUTION

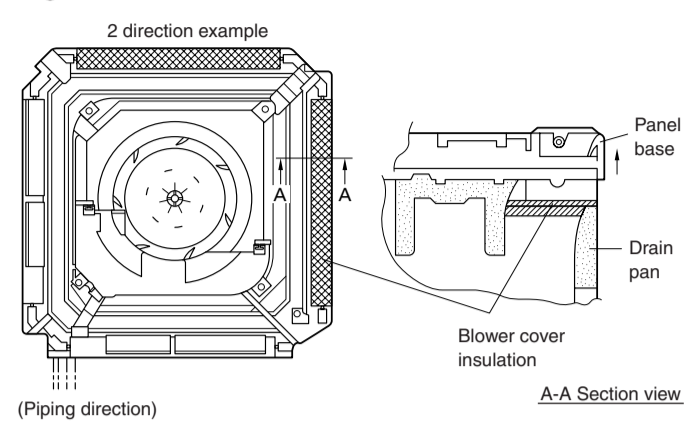
- When routing the ground wires, leave slack as shown in the illustrations.

GRILLE INSTALLATION

BLOWER COVER INSULATION

Install the blower cover insulation only when the outlet direction is not specified. Two blower cover insulations are packed with the indoor unit. Install the blower cover insulation at the diffuser position shown in Fig. 38. At this time, use the piping position as the criteria.

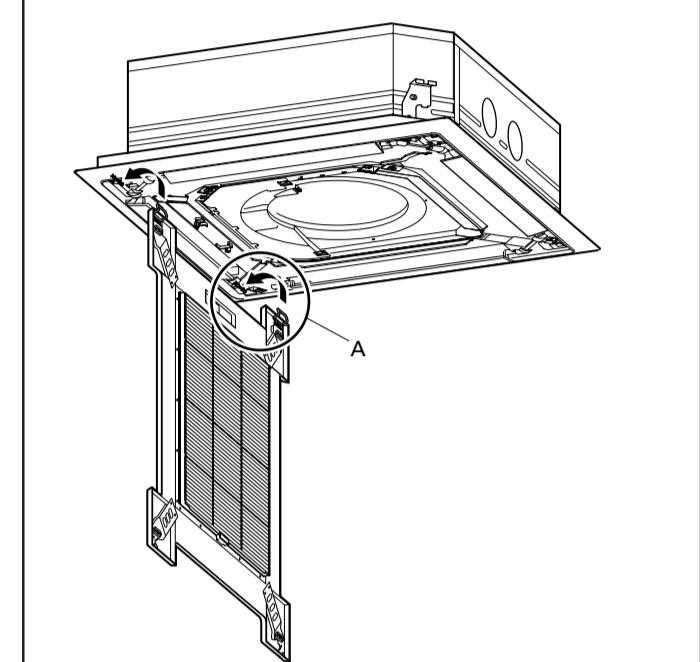
Fig. 38



INSTALLING THE INTAKE GRILLE

- Mount the grille hinge wire to the hook shaft as shown in Fig. 39.

Fig. 39



CAUTION

- Install the intake grille hook wire to the grille assembly. If it falls, it may cause injuries.

Fig. 44



Fig. 45



- Install the hook wire.
  - Pass the hook wire through the panel base from the rear side as shown in Fig. 42, and fasten to the reinforced metal fitting of the intake grille using a screw.

Fig. 42

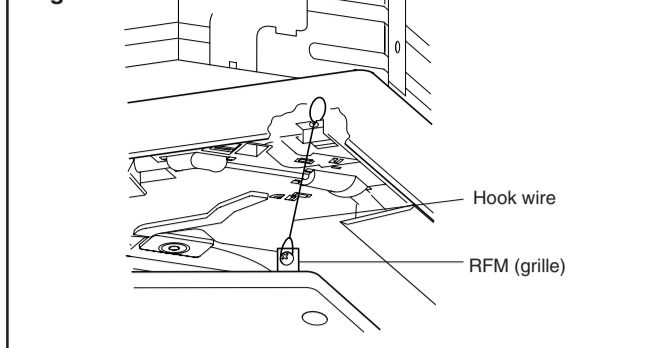
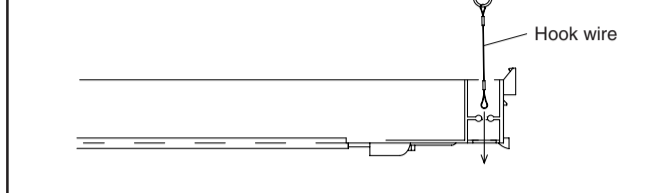
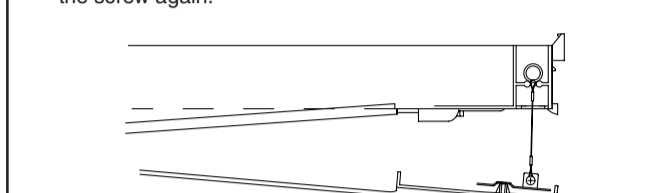


Fig. 43 Section view



- Loosen the screw, put the loop of the hook wire over it, and tighten the screw again.

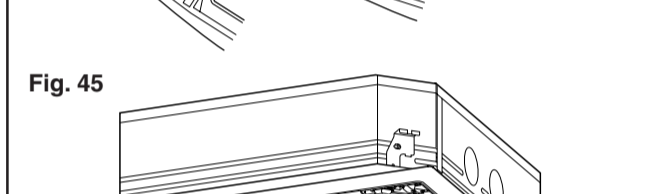


- Bring up the intake grille by pushing it up at an angle as shown in Figs. 44, 45, and fasten.

Fig. 44



Fig. 45



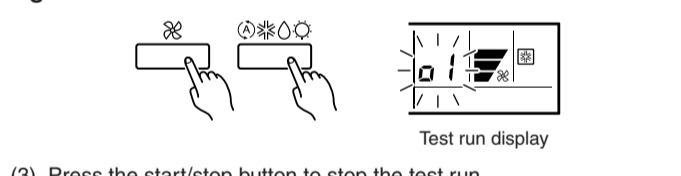
12 TEST RUN

CAUTION

Supply power to the crankcase heater for at least 12 hours before the start of operation in winter.

- Stop the air conditioner operation.
- Press the master control button and the fan control button simultaneously for 2 seconds or more to start the test run.

Fig. 53



[SELF-DIAGNOSIS]

When the error indication "E.EE" is displayed, follow the following items to perform the self-diagnosis. "E.EE" indicates an error has occurred.

1. REMOTE CONTROLLER DISPLAY

- Stop the air conditioner operation.
- Press the set temperature buttons  $\Delta$  /  $\nabla$  simultaneously for 5 seconds or more to start the self-diagnosis. Refer to the following tables for the description of each error code.

Fig. 54

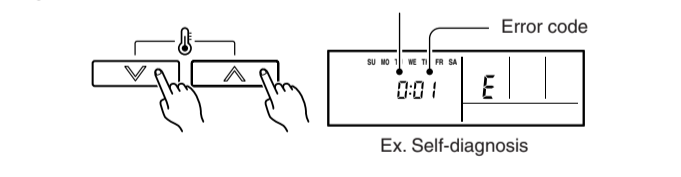


Table 9 Error contents

Error code	Error contents
00	Communication error (indoor unit → remote controller)
01	Communication error (indoor unit → outdoor unit)
02	Room temperature sensor open
03	Room temperature sensor short-circuited
04	Indoor heat exchanger temperature sensor open
05	Indoor heat exchanger temperature sensor short-circuited
06	Outdoor heat exchanger temperature sensor open
07	Outdoor heat exchanger temperature sensor short-circuited
08	Power source connection error
09	Float switch operated
0A	Outdoor temperature sensor open
0b	Outdoor temperature sensor short-circuited
0c	Discharge pipe temperature sensor open
0d	Discharge pipe temperature sensor short-circuited

NOTES

If the function to change the temperature sensor is used as shown in examples A and B (other than example C), be sure to lock the detection location. If the function is locked, the lock display  $\text{C-}$  will flash when the THERMO SENSOR button is pressed.

13 SPECIAL INSTALLATION METHODS

CAUTION

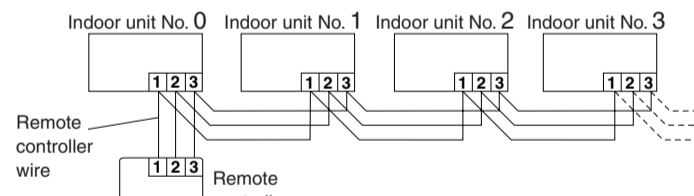
- When setting the rotary switch and DIP switches, do not touch any other parts on the circuit board directly with your bare hands.
- Be sure to turn off the main power.

1. GROUP CONTROL SYSTEM

A number of indoor units can be operated at the same time using a single remote controller.

- Wiring method (indoor unit to remote controller)

Fig. 56

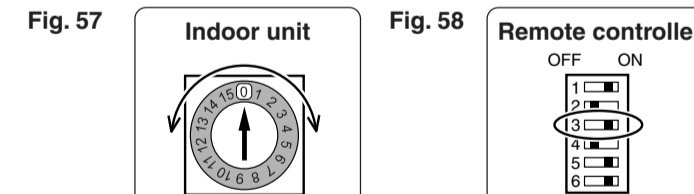


2. DUAL REMOTE CONTROLLERS (OPTIONAL)

Two separate remote controllers can be used to operate the indoor units.

- Wiring method (indoor unit to remote controller)

Fig. 57

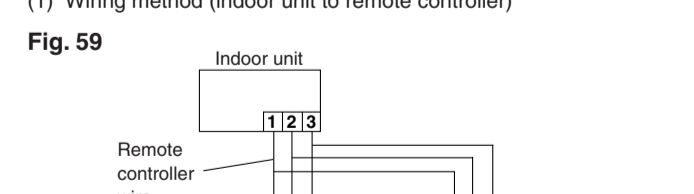


2. DUAL REMOTE CONTROLLERS (OPTIONAL)

Two separate remote controllers can be used to operate the indoor units.

- Wiring method (indoor unit to remote controller)

Fig. 59



3. CHECKING DRAINAGE

To check the drain, remove the water cover and fill with 2 to 3 l of water as shown in Fig. 55.

Fig. 55

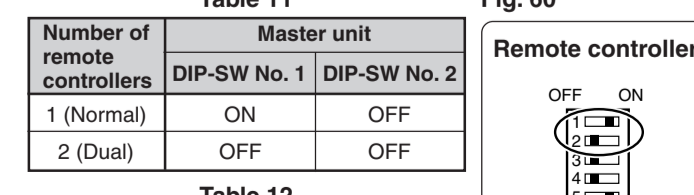


Table 11 Master unit

Number of remote controllers	DIP-SW No. 1	DIP-SW No. 2
1 (Normal)	ON	OFF
2 (Dual)	OFF	OFF

Table 12 Slave unit

Number of remote controllers	DIP-SW No. 1	DIP-SW No. 2
1 (Normal)	OFF	OFF
2 (Dual)	ON	ON

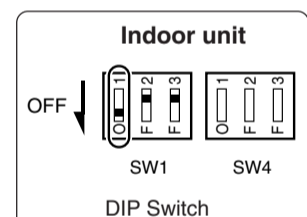
3. AUTO RESTART

- When the air conditioner power was temporarily turned off by a power failure etc., it restarts automatically after the power recovers. (Operated by setting before the power failure)

The auto restart function can be canceled.

- DIP switch setting (indoor unit) Change the DIP switch (SW1-1) on the indoor unit circuit board from ON to OFF. The auto restart function will be canceled.

Fig. 61



[DIP-SWITCH SETTING]

Indoor unit

NO.	SW state		Detail
	OFF	ON	
DIP-Switch 1	1	Invalidity	* Auto restart setting
	2	—	* Temperature correction
	3	—	* setting for heating
DIP-Switch 4	1	—	Remote controller setting
	2	—	* Air flow setting

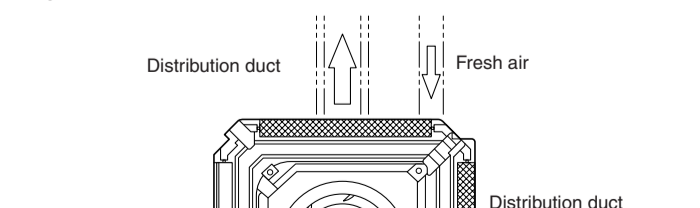
Remote controller

NO.	SW state		Detail	
	OFF	ON		
DIP-Switch	1	—	* Dual remote controller setting	
	2	*	—	
	3	One unit *	Multiple unit *	Group control setting
	4	Heat Cool mode	Cooling only mode	Model setting
	5	Invalidity	Validity *	* Auto changover setting
	6	Invalidity*	Validity	Memory backup setting

\*: Factory setting

OPENING THE DUCT CONNECTION HOLE

Fig. 62



- Open the holes and cut the insulation with a knife.
  - Be careful not to damage the internal parts.
  - Be careful not to cut yourself on the cutout in the metal plate.
- Please remove the insulation (inner box) left over after cutting.
- Connect the distribution duct.
  - When mounting the duct, block the gap so that there is no cold air leakage.
  - Insulate the duct and cut connection.

CAUTION

The air conditioner cannot take in fresh air by itself. When connecting a fresh air duct, always use a duct fan.