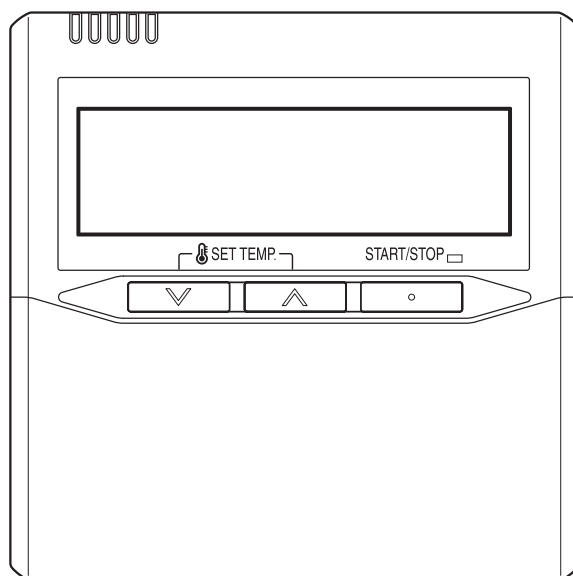


AIR CONDITIONER REMOTE CONTROLLER (WIRED TYPE) UTY-RNNYN

INSTALLATION MANUAL

For authorized service personnel only.



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1. SAFETY PRECAUTIONS

**WARNING**

This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.


- For the air conditioner to operate satisfactorily, install it as outlined in this installation manual.
- 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 mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user or damage to property.



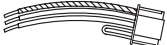




- When detecting the room temperature using the remote controller, please set up the remote controller according to the following conditions. If the remote controller is not located properly, the correct room temperature will not be detected, and thus abnormal conditions like "not cooled" or "not heated" 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 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 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.
- When installing the bus wire 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 this manual or the manual that is supplied with the air conditioner. Doing so may result in an improper operation.

Temperature sensor



2. ACCESSORIES

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

| Name and Shape | Q'ty | Application |
|---|------|---|
| Installation manual  | 1 | This manual |
| Operating manual  | 1 | Instruction book for operation |
| Connecting cable  | 1 | For connecting the remote controller cable to the wall mounted type indoor unit |
| Tapping screw (M4 x 16mm)  | 2 | For installing the remote controller |
| Binder  | 1 | For remote controller and remote controller cable binding |
| Tapping screw (M4 x 14mm)  | 1 | For installing the remote controller cable to the indoor unit |
| Cable clammer  | 1 | For installing the remote controller cable to the indoor unit |

3. ELECTRICAL REQUIREMENT

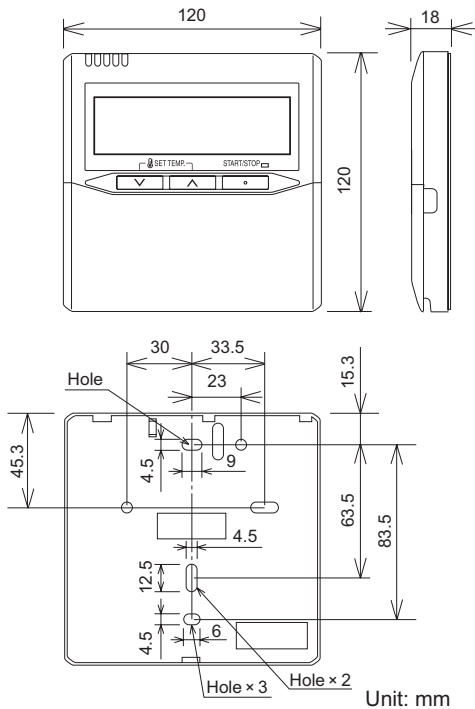
When connecting the remote controller use the following wiring.

| Cable | Cable size | Remarks |
|-------------------------|--|--|
| Remote controller cable | 22AWG Sheathed PVC cable, Polar 3 core | Use shield cable in accordance with local rules for cable. |

* We recommend that you purchase our service parts for the remote controller cable. Contact service personnel to purchase this.

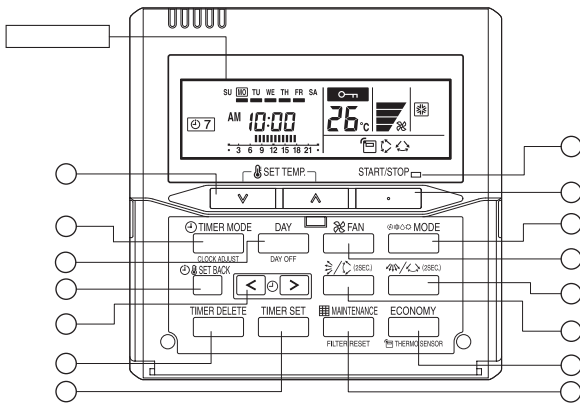
4. SELECTING AN INSTALLATION LOCATION

4.1. Dimensions

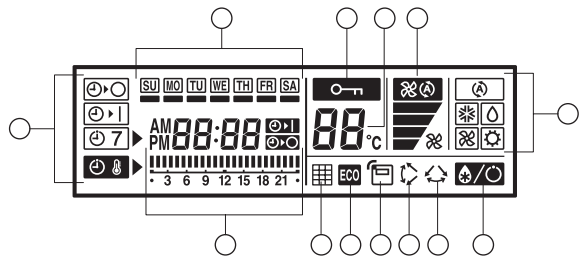


4.2. Name of parts

- With cover open



- Display panel



- ① "SET TEMP. ↓", "SET TEMP. ↑" (Set Temperature Button)
- ② "TIMER MODE / CLOCK ADJUST" (Timer Mode/Clock Adjust Button)
- ③ "DAY / DAY OFF" (Day/Day OFF Button)
- ④ "SET BACK" (Set Back Button)
- ⑤ "< ", "> " (Set Time Button)
- ⑥ "TIMER DELETE" (Timer Delete Button)
- ⑦ "TIMER SET" (Timer Set Button)
- ⑧ "START/STOP" (Start/Stop Button)
- ⑨ "MODE" (Mode Button)
- ⑩ "FAN" (Fan Control Button)
- ⑪ "Horizontal airflow direction and swing Button"
- ⑫ "Vertical airflow direction and swing Button"
- ⑬ "ECONOMY / THERMO SENSOR" (Economy/Thermo Sensor Button)
- ⑭ "MAINTENANCE / FILTER RESET" (Maintenance/Filter Reset Button)
- ⑮ Operation Lamp
- ⑯ Day Display
- ⑰ Operation Lock Display
- ⑱ Temperature Display
- ⑲ Fan Speed Display
- ⑳ Timer Mode Display
- ㉑ Operation Mode Display
- ㉒ Timer and Clock Display
- ㉓ Filter Display
- ㉔ Economy Display
- ㉕ Thermo Sensor Display
- ㉖ Vertical Swing Display
- ㉗ Horizontal Swing Display
- ㉘ Defrost Display

5. INSTALLING THE REMOTE CONTROLLER

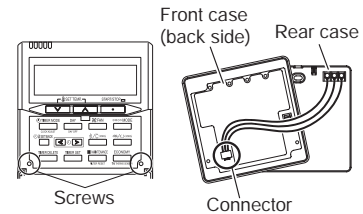
5.1. Installation

5.1.1. 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.

Fig. 1



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 Fig. 2.
- (3) Clamp the remote controller cable sheath with the binder as shown in Fig. 2.
- (4) Cut off the excess binder.
- (5) Install the rear case to the wall, box, etc., with 2 screws (Fig. 3).

Fig. 2

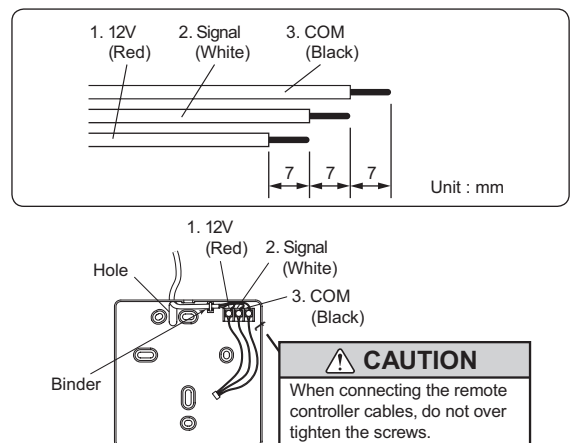
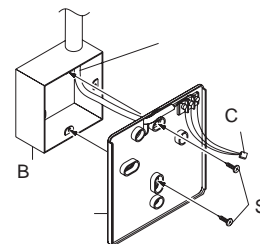
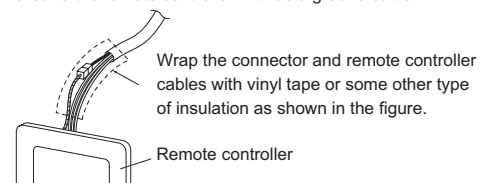


Fig. 3 [Example]



Ground the remote controller if it has a ground cable.



5.2. Setting the DIP switch

CAUTION

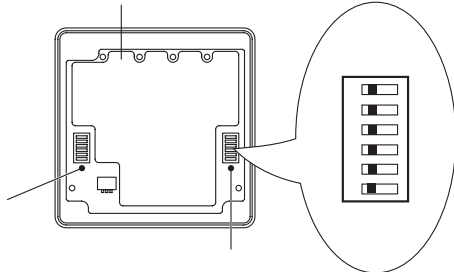
- Install the remote controller wires so as not to be direct touched with your hand.
- Do not touch the remote controller PC board and PC board parts directly with your hands.

Set the remote controller DIP switches.

Set DIP switch 1 - NO.6 to ON.

For the other switch, set it according to the situation.

[Example]



| | NO. | Switch state | | Detail |
|--------------|-----|--|------------|---|
| | | OFF | ON | |
| DIP switch 1 | 1 | ★ | | Cannot be used. (Do not change) |
| | 2 | ★ | | Dual remote controller setting * Refer to 6.2. Dual remote control in 6. INSTALLATION METHODS. |
| | 3 | ★ Follow the selection in 9.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)

5.3. Connection of Remote Controller Cable

CAUTION

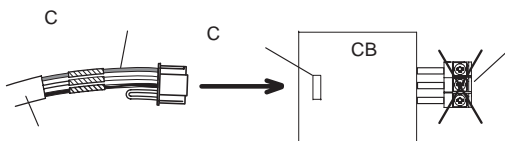
- When connecting the remote controller cable to the wall mounted type indoor unit, do not connect it to the outdoor unit or the indoor unit power terminal block. It may cause a failure.

There are 2 methods to connect the remote controller cable to the indoor unit. One is the connection using contained connecting cable and the other is the connection the remote controller cable is connected to the exclusive terminal block of the indoor unit. Exclusive terminal block for remote controller connection method is different depending on each model. Modify the remote controller cable as per below description and connect it. (For the details, refer to the installation manual of the indoor unit to be used.)

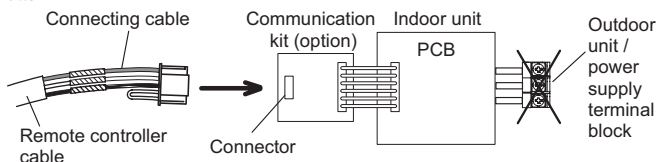
5.3.1. WHEN CONNECTING TO THE WALL MOUNTED TYPE CONNECTOR

Connect the remote controller cable to the connecting cable and insert it to the connector.

Pattern 1



Pattern 2



Modify the cable as per below methods.

- (1) Use a tool to cut off the terminal on the end of the remote controller cable and then remove the insulation from the cut end of the cable as shown in Fig. 1.
- (2) Connect the remote controller cable and connecting cable as shown in Fig. 2.
- (3) Be sure to insulate the connection between the cables.

Fig. 1

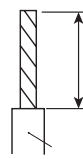
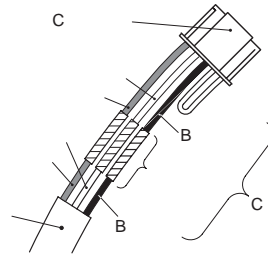
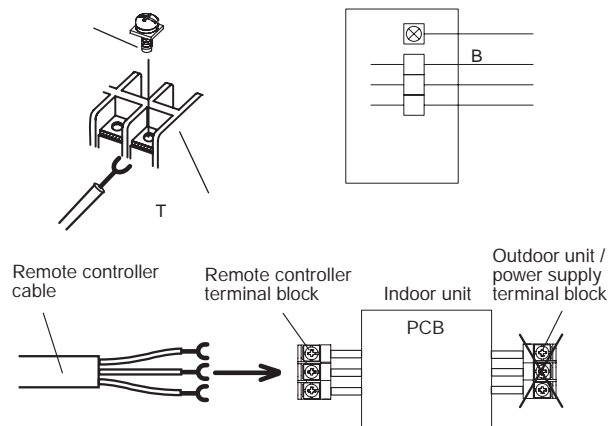


Fig. 2



5.3.2. WHEN CONNECTING TO THE EXCLUSIVE TERMINAL BLOCK

Connect the end of remote controller cable directly to the exclusive terminal block.



※ It may be failed if it is connected to the outdoor unit or the terminal block for power supply.

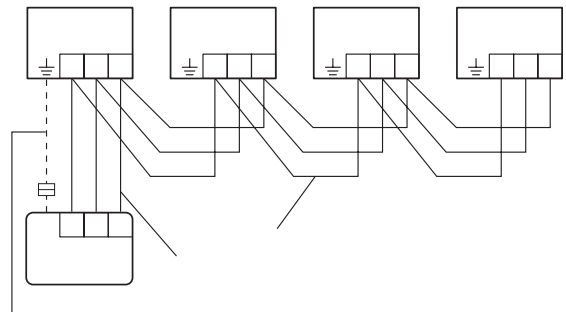
6. INSTALLATION METHODS

6.1. Group control

- A number of indoor units can be operated at the same time using a single remote controller.
- Depending on the model, some indoor units cannot be connected for group control. (Group control is available for the duct type, the cassette type and the ceiling type indoor unit.)
- Some functions may become unusable, depending on the combination of the indoor units that are connected in a group.

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

EXAMPLE: Single Type



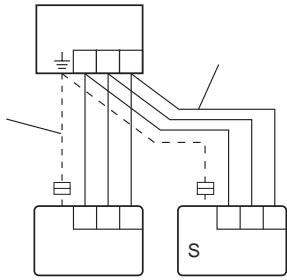
(2) Indoor unit address setting

Set each indoor unit address using the DIP switch of each indoor unit. (Refer to the installation manual for the indoor unit.)

6.2. Dual remote controllers

- Depending on the model, some indoor units cannot be connected for dual remote controllers. (Dual remote controllers are available for the duct type, the cassette type and the ceiling type indoor unit.)
- Two separate remote controllers can be used to operate the indoor units.
- The timer and self-diagnosis functions cannot be used on the slave 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 | Master unit DIP Switch 1-No. 2 | Slave unit DIP Switch 1-No. 2 |
|------------------------------|-----------------------------------|----------------------------------|
| 1 (Normal) | OFF | — |
| 2 (Dual) | OFF | ON |

7. TURNING ON THE POWER

CAUTION
• Recheck the wiring. Incorrect wiring will cause trouble.

- (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 (in 5. INSTALLING THE REMOTE CONTROLLER).
- (3) Check the indoor and outdoor unit wiring and circuit board switch settings, and then turn on the indoor and outdoor units. After “9C” has flashed on the set temperature display for several seconds, the clock display will appear in the center of the remote controller display.



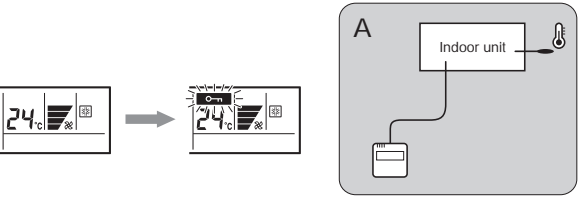
8. SETTING THE ROOM TEMPERATURE DETECTION LOCATION

- The detection location of the room temperature can be selected from the following 2 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 “ECONOMY / THERMO SENSOR” button is pressed, the lock display flashes because the function is locked at the factory.

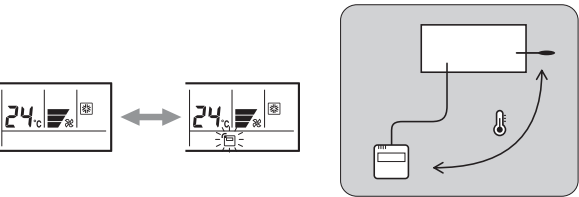


B. Indoor unit/remote controller setting (room temperature sensor selection)

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

When use this function, set “Indoor room temperature sensor switching function (Function Number:42)” of “9. FUNCTION SETTING” to “Yes(01)”.

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



CAUTION

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.

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.

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.

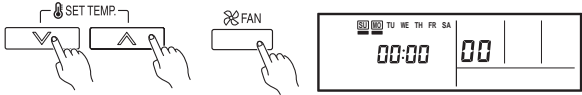
NOTES

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

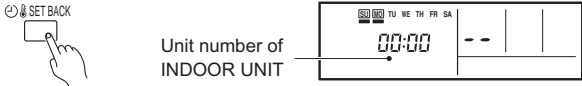
9. FUNCTION SETTING

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.)

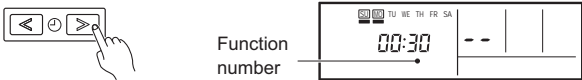
- (1) Press the “SET TEMP. V” button, “SET TEMP. ^” button and “FAN” button simultaneously for more than 5 seconds to enter the function setting mode.



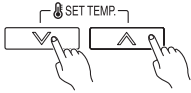
- (2) Press the “SET BACK” button to select the indoor unit number.



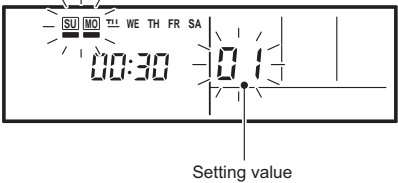
- (3) Press the “<” button or “>” buttons to select the function number.



- (4) Press the “SET TEMP. V” button, “SET TEMP. ^” button to select the setting value. The display flashes as shown to the right during setting value selection.



- (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. V” button, “SET TEMP. ^” button 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

| | Functions | Function Number | Compact Cassette | Slim Duct | Compact Wall Mounted | Wall Mounted |
|-----|---|-----------------|------------------|-----------|----------------------|--------------|
| 1) | Filter sign | 11 | ● | ● *1 | ● | ● |
| 2) | Ceiling height | 20 | ● | — | — | — |
| 3) | Outlet directions | 22 | ● | — | — | — |
| 4) | Static pressure | — | — | ● | — | — |
| 5) | Cooler room temperature correction | 30 | ● | ● | ● | ● |
| 6) | Heater room temperature correction | 31 | ● | ● | ● | ● |
| 7) | Auto restart | 40 | ● | ● | ● | ● |
| 8) | Indoor room temperature sensor switching function | 42 | ● | ● | ● | ● |
| 9) | Remote controller signal code | 44 | ● | ● | ● | ● |
| 10) | External input control | 46 | ● | ● | ● | ● |
| 11) | Room temperature control switching | 48 | ● | ● | ● | ● |

*1: It is effective only to install IR Receiver unit.

1) 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. If you do not wish the filter sign to be displayed, select the setting value for "No indication".

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| Standard | 11 | 00 |
| Long interval | | 01 |
| Short interval | | 02 |
| No indication | | 03 |

The filter sign interval time is different according to Indoor unit type as follows.

| Setting Description | Compact Cassette | Slim Duct | Compact Wall Mounted | Wall Mounted |
|---------------------|------------------|-----------|----------------------|--------------|
| Standard | 2,500 hours | | 400 hours | |
| Long interval | 4,400 hours | | 1,000 hours | |
| Short interval | 1,250 hours | | 200 hours | |

2) Ceiling height

Select the setting values in the table below according to the height of the ceiling.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| Standard (2.7m) | 20 | 00 |
| High ceiling (3.0m) | | 01 |

3) Outlet directions

Select the setting values in the table below for using a 3-way outlet.

(◀... Factory setting)

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

4) Static pressure

Select appropriate static pressure according to the installation conditions.
Please refer to the installation manual of each indoor unit for details.

5) 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.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|------------------------|-----------------|---------------|
| Standard | 30 | 00 |
| Slightly Lower control | | 01 |
| Lower control | | 02 |
| Warmer control | | 03 |

6) 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.

(◀... Factory setting)

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

7) Auto restart

Enable or disable automatic system restart after a power outage.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| Yes | 40 | 00 |
| No | | 01 |

* Auto restart is an emergency function such as for power failure etc.

Do not start and stop the indoor unit by this function in normal operation.

Be sure to operate by the control unit, or external input device.

8) Indoor room temperature sensor switching function

(Only for Wired remote controller)

The following settings are needed when use the control by Wired remote controller temperature sensor.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| No | 42 | 00 |
| Yes | | 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 unit sensor.

9) Remote controller signal code

Change the indoor unit Signal Code, depending on the remote controllers.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| A | 44 | 00 |
| B | | 01 |
| C | | 02 |
| D | | 03 |

10) External input control

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

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---------------------|-----------------|---------------|
| Operation/Stop mode | 46 | 00 |
| (Setting forbidden) | | 01 |
| Forced stop mode | | 02 |

11) Room temperature control switching

(Only for Wired remote controller)

This setting is used to set the room temperature control method when the wired remote controller is selected by the Indoor room temperature sensor switching function.

(◀... Factory setting)

| Setting Description | Function Number | Setting Value |
|---|-----------------|---------------|
| Control by the sensors of both the indoor unit and the wired remote controller. | 48 | 00 |
| Control only by the sensor of the wired remote controller | | 01 |

12) Setting record

Record any changes to the settings in the following table.

| Setting Description | Setting Value |
|---|---------------|
| Filter sign | |
| Ceiling height | |
| Outlet directions | |
| Static pressure | |
| Cooler room temperature correction | |
| Heater room temperature correction | |
| Auto restart | |
| Indoor room temperature sensor switching function | |
| Remote controller signal code | |
| External input control | |
| Room temperature control switching | |

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

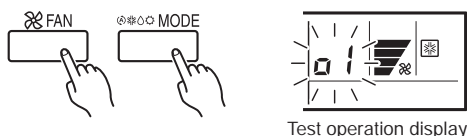
10. TEST OPERATION

- (1) If the operation lamp is on, press the START/STOP button to turn it off.
- (2) Press the "MODE" button and "FAN" button at the same time for more than 2 seconds to start the test operation.

The operation lamp will light up and "01" will be displayed on the set temperature display.

* Perform the test operation for 60 minutes.

* Pressing the START/STOP button will stop the test operation.



11. 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 IR receiver unit will output error codes by way of blinking patterns. See the lamp blinking patterns and error codes in the table below. An error display is displayed only during operation.

| Error display | | | Wired remote controller Error code | Description |
|------------------------|---------------------|----------------------|------------------------------------|---|
| OPERATION lamp (green) | TIMER lamp (orange) | ECONOMY lamp (green) | | |
| ●(1) | ●(1) | ◇ | 11 | Serial communication error |
| ●(1) | ●(2) | ◇ | 12 | Wired remote controller communication error |
| ●(1) | ●(5) | ◇ | 15 | Check run unfinished |
| ●(2) | ●(1) | ◇ | 21 | Unit number or Refrigerant circuit address setting error [Simultaneous Multi] |
| ●(2) | ●(2) | ◇ | 22 | Indoor unit capacity error |
| ●(2) | ●(3) | ◇ | 23 | Combination error |
| ●(2) | ●(4) | ◇ | 24 | •Connection unit number error (indoor slave unit) [Simultaneous Multi] •Connection unit number error (indoor unit or branch unit) [Flexible Multi] |
| ●(2) | ●(7) | ◇ | 27 | Master unit, slave unit set-up error [Simultaneous Multi] |
| ●(3) | ●(2) | ◇ | 32 | Indoor unit PCB model information error |
| ●(3) | ●(5) | ◇ | 35 | Manual auto switch error |
| ●(4) | ●(1) | ◇ | 41 | Inlet air temp. sensor error |
| ●(4) | ●(2) | ◇ | 42 | Indoor unit Heat Ex. Middle temp. sensor error |
| ●(5) | ●(1) | ◇ | 51 | Indoor unit fan motor error |
| ●(5) | ●(3) | ◇ | 53 | Drain pump error |
| ●(5) | ●(7) | ◇ | 57 | Damper error |
| ●(5) | ●(15) | ◇ | 5U | Indoor unit error |
| ●(6) | ●(2) | ◇ | 62 | Outdoor unit main PCB model information error or communication error |
| ●(6) | ●(3) | ◇ | 63 | Inverter error |
| ●(6) | ●(4) | ◇ | 64 | Active filter error, PFC circuit error |
| ●(6) | ●(5) | ◇ | 65 | Trip terminal L error |
| ●(6) | ●(10) | ◇ | 6A | Display PCB microcomputers communication error |

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|-------|------|---|----|---|
| ●(7) | ●(1) | ◇ | 71 | Discharge temp. sensor error |
| ●(7) | ●(2) | ◇ | 72 | Compressor temp. sensor error |
| ●(7) | ●(3) | ◇ | 73 | Outdoor unit Heat Ex. liquid temp. sensor error |
| ●(7) | ●(4) | ◇ | 74 | Outdoor temp. sensor error |
| ●(7) | ●(5) | ◇ | 75 | Suction Gas temp. sensor error |
| ●(7) | ●(6) | ◇ | 76 | •2-way valve temp. sensor error •3-way valve temp. sensor error |
| ●(7) | ●(7) | ◇ | 77 | Heat sink temp. sensor error |
| ●(8) | ●(2) | ◇ | 82 | •Sub-cool Heat Ex. gas inlet temp. sensor error •Sub-cool Heat Ex. gas outlet temp. sensor error |
| ●(8) | ●(3) | ◇ | 83 | Liquid pipe temp. sensor error |
| ●(8) | ●(4) | ◇ | 84 | Current sensor error |
| ●(8) | ●(6) | ◇ | 86 | •Discharge pressure sensor error •Suction pressure sensor error •High pressure switch error |
| ●(9) | ●(4) | ◇ | 94 | Trip detection |
| ●(9) | ●(5) | ◇ | 95 | Compressor rotor position detection error (permanent stop) |
| ●(9) | ●(7) | ◇ | 97 | Outdoor unit fan motor error |
| ●(9) | ●(9) | ◇ | 99 | 4-way valve error |
| ●(10) | ●(1) | ◇ | A1 | Discharge temp. error |
| ●(10) | ●(3) | ◇ | A3 | Compressor temp. error |
| ●(10) | ●(4) | ◇ | A4 | High pressure error |
| ●(10) | ●(5) | ◇ | A5 | Low pressure error |
| ●(13) | ●(2) | ◇ | J2 | Branch boxes error [Flexible Multi] |

Display mode ● : 0.5s ON / 0.5s OFF

◇ : 0.1s ON / 0.1s OFF

() : Number of flashing

Wired Remote Controller Display

