AIR CONDITIONER REMOTE CONTROLLER (WIRED TYPE) UTY-RNNUM

INSTALLATION MANUAL

For authorized service personnel only.

Contents

PART NO. 9373328148-02

1. SAFETY PRECAUTIONS

• Let the customer keep this installation manual because it is needed when the air conditioner or remote controller is serviced or moved.

⚠ 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.

  Temperature sensor

  • 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 together with or parallel to the connection cables, and power supply cables of the indoor unit and outdoor unit. It may cause erroneous operation.
• When installing cable near a source of electromagnetic waves, use shielded wire.
• Do not set the DIP switches, either on the air conditioner or the remote controller, in any way other than indicated in this manual or the manual that is supplied with the air conditioner. Doing so may result in improper operation.

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
Remote controller cable	1	For connecting the remote controller
Connecting cable (*1)	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)	1	For installing the remote controller cable to the indoor unit
Cable clamper (*1)	1	For installing the remote controller cable to the indoor unit
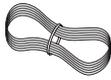
(*1) Use only if the remote controller cable must be modified for the indoor unit model.

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

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

4.1. Dimensions

4-3/4 (120)

23/32 (18)

4-3/4 (120)

SET TEMP. START/STOP

1-3/16 (30) 1-5/16 (33.5)

Hole

29/32 (23)

5/8 (15.3)

1-25/32 (45.3)

11/32 (9)

3/16 (4.5)

3/16 (4.5)

2-1/2 (63.5)

3-9/32 (83.5)

1/2 (12.5)

3/16 (4.5) 1/4 (6)

Hole × 2

Hole × 3
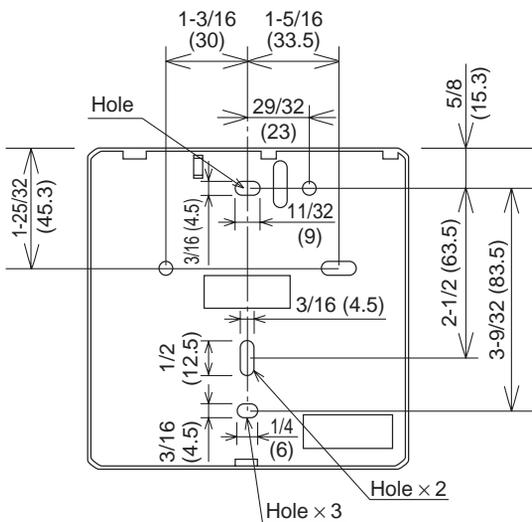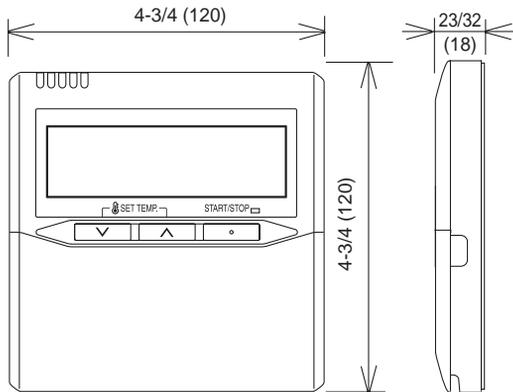
Unit: in. (mm)

4.2. Name of parts

● With cover open

Display panel

SU MO TU WE TH FR SA

AM 10:00 76°F

3 6 9 12 15 18 21

SET TEMP. START/STOP

① ⑮

② TIMER MODE DAY FAN MODE ⑧ ⑨

③ CLOCK ADJUST DAY OFF ⑩

④ SET BACK ⑪

⑤ < > ⑫

TIMER DELETE TIMER SET MAINTENANCE ECONOMY

⑥ FILTER RESET THERMO SENSOR ⑬

⑦ ⑭

● Display panel

⑯ ⑰ ⑱ ⑲

SU MO TU WE TH FR SA °F

⑳ AM 88:88 ㉑

PM

7

3 6 9 12 15 18 21 ECO

㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘
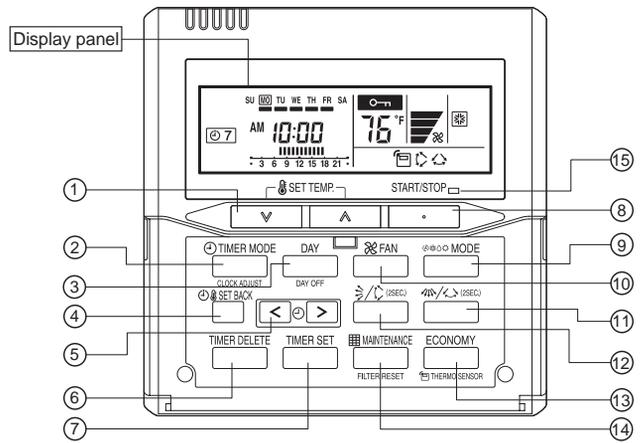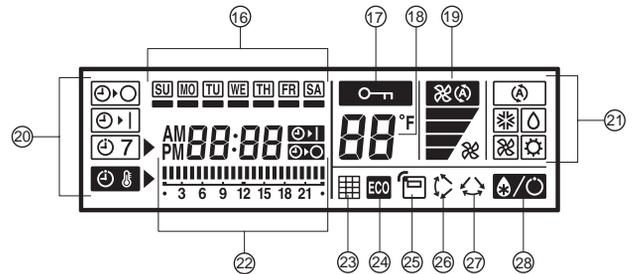
① "SET TEMP. ∨", "SET TEMP. ∧" (Set Temperature Button)
② "TIMER MODE / CLOCK ADJUST" (Timer Mode/Clock Adjust Button)
③ "DAY / DAY OFF" (Day/Day OFF Button)
④ "SET BACK" (Set Back Button)
⑤ "< ", " >" (Set Time Button)
⑥ "TIMER DELETE" (Timer Delete Button)
⑦ "TIMER SET" (Timer Set Button)
⑧ "START/STOP" (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

Front case (back side)
Rear case
Screws
Connector
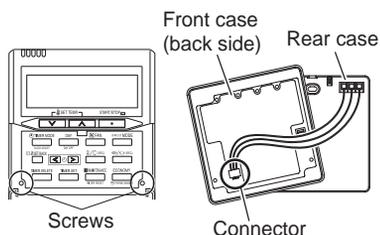
When remote controller cable is embedded
(1) Embed the remote controller cable and box.
(2) Pass the remote controller cable through the hole in the rear case and connect the remote controller cable to the remote controller terminal board specified in Fig. 2.
(3) Clamp the remote controller cable sheath 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

Hole
1. Red
2. White
3. Black
Binder

⚠ CAUTION
When connecting the remote controller cables, do not over tighten the screws.

Fig. 3 [Example]

Remote controller cable
Connector
Box
Rear case
Screws
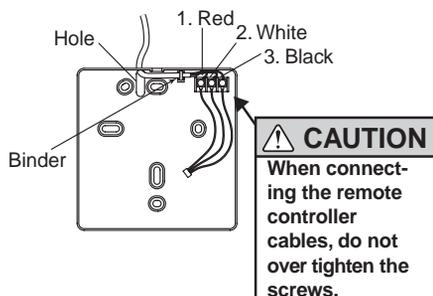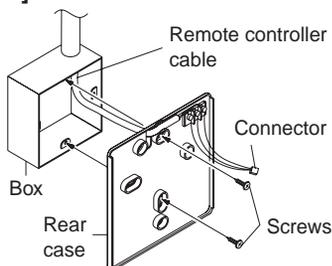
5.2. Setting the DIP switch

⚠ 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.

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]

Front case (back side)
OFF   ON
Do not use this DIP switch 2
DIP switch 1
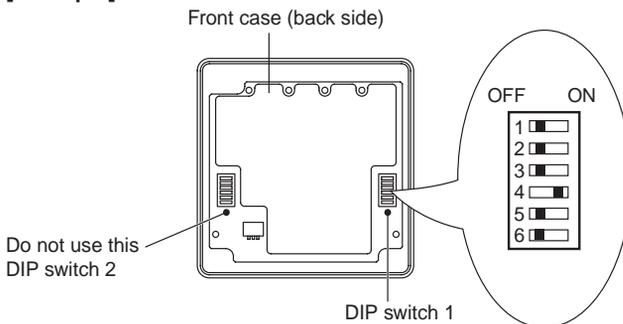
	NO.	Switch state		Detail
		OFF	ON	
DIP switch 1	1	★		Cannot be used. (Do not change)
	2	★		Dual remote controller setting * Refer to 6.2. Dual remote control in 6. INSTALLATION METHODS.
	3	★ Follow the selection in FUNCTION SETTING	Invalidity	Filter reset operation and filter display
	4		★	Cannot be 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.
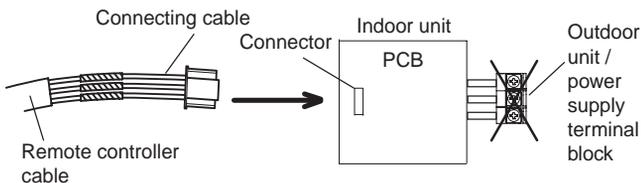
Modify the cable as per below methods.

(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.
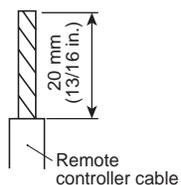
Fig. 1   **Fig. 2**
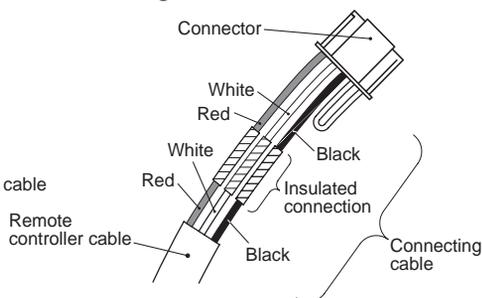
5.3.2. When connecting to the exclusive terminal block

Connect the end of remote controller cable directly to the exclusive terminal block.
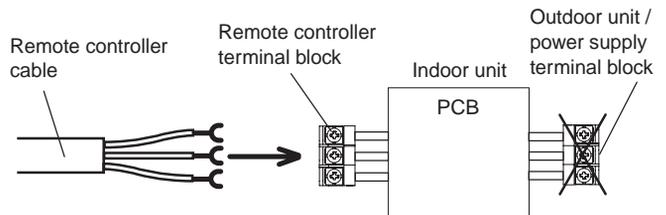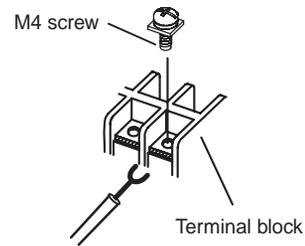
※ It may be failed if it is connected to the outdoor unit or the terminal block for power supply.

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. (Option is not available for U.S.A. wall mounted 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
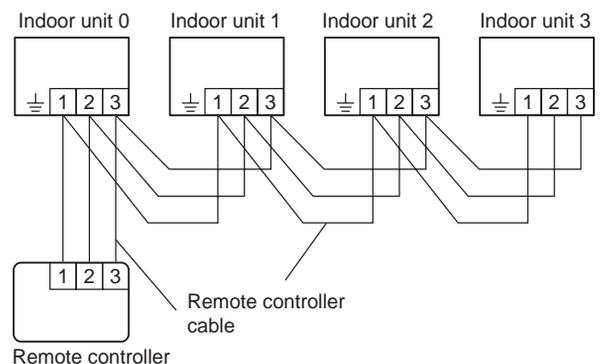
(2) Indoor unit address setting
   Set each indoor unit address using the DIP switch of each indoor unit.
   (Refer to the installation manual for the indoor unit.)

6.2. Dual remote control

- Depending on the model, some indoor units cannot be connected for dual remote controllers. (Option is not available for U.S.A. wall mounted type indoor unit.)
- 2 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)

Indoor unit

Remote controller cable

Master unit

Slave unit
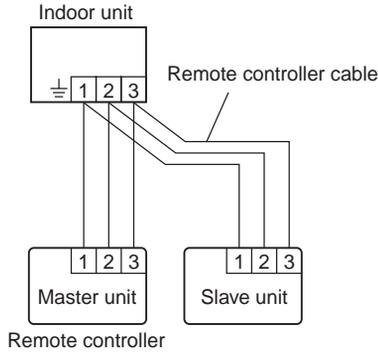
Remote controller

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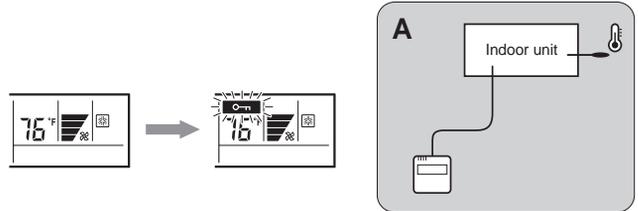
B. Indoor unit/remote controller setting (room temperature sensor selection)

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.
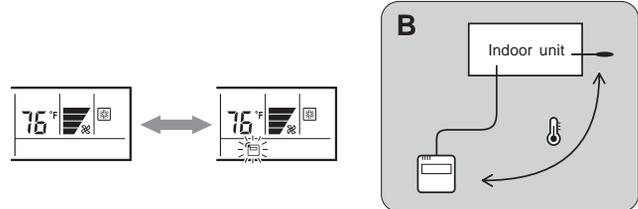
⚠ CAUTION

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.

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. ⋁" button, "🌡 SET TEMP. ⋀" button and "❄ FAN" button simultaneously for more than 5 seconds to enter the function setting mode.
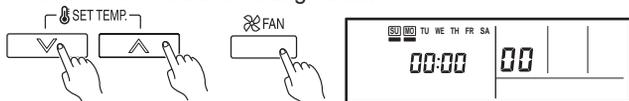
(2) Press the "🕐🌡 SET BACK" button to select the indoor unit number.

Unit number of INDOOR UNIT
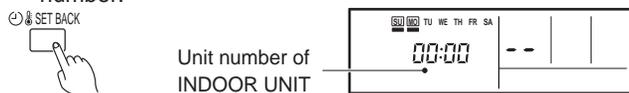
(3) Press the "≪ 🕐" button or "🕐 ≫" buttons to select the function number.

Function number
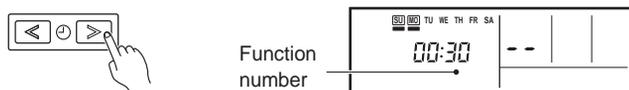
(4) Press the "🌡 SET TEMP. ⋁" button, "🌡 SET TEMP. ⋀" button to select the setting value. The display flashes as shown to the right during setting value selection.
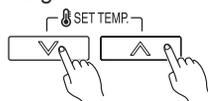
(5) Press the TIMER SET button to confirm the setting.
Press the TIMER SET button for a few seconds until the setting value stops flashing.
If the setting value display changes or if "- -" is displayed when the flashing stops, the setting value has not been set correctly.
(An invalid setting value may have been selected for the indoor unit.)

Setting value
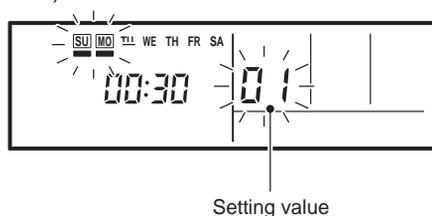
(6) Repeat steps 2 to 5 to perform additional settings.
Press the "🌡 SET TEMP. ⋁" button, "🌡 SET TEMP. ⋀" button and "❄ FAN" simultaneously again for more than 5 seconds to cancel the function setting mode. In addition, the function setting mode will be automatically canceled after 1 minute if no operation 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		00
Long interval	11	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 " o 1 " 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.
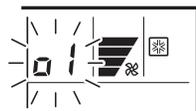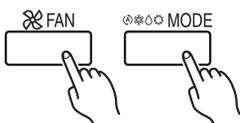
Test operation display

11. ERROR CODES

If you use a wired type remote control, error codes will appear on the remote control display. If you use a wireless remote control, 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	Mode	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)			
● (1)	● (1)	◇	11	Communication	Serial communication error
● (1)	● (2)	◇	12	Communication	Remote controller communication error
● (1)	● (5)	◇	15	Communication	Scan error
● (2)	● (1)	◇	21	Function setting	Initial setting error
● (2)	● (2)	◇	22	Function setting	Indoor unit capacity error
● (2)	● (3)	◇	23	Function setting	Connection disabled (series error)
● (2)	● (4)	◇	24	Function setting	Connection unit number error
● (3)	● (2)	◇	32	Indoor unit	Indoor unit main PCB error
● (3)	● (5)	◇	35	Indoor unit	Manual auto switch error
● (4)	● (1)	◇	41	Indoor unit	Room (temperature) thermistor error
● (4)	● (2)	◇	42	Indoor unit	Indoor unit Heat Ex. sensor error
● (5)	● (1)	◇	51	Indoor unit	Indoor unit fan motor error
● (5)	● (3)	◇	53	Indoor unit	Water Drain error
● (5)	● (15)	◇	5U	Indoor unit	Indoor unit error
● (6)	● (2)	◇	62	Outdoor unit	Outdoor unit main PCB error

● (6)	● (3)	◇	63	Outdoor unit	Inverter PCB error
● (6)	● (4)	◇	64	Outdoor unit	Active filter error,
● (6)	● (5)	◇	65	Outdoor unit	IPM error
● (6)	● (10)	◇	6A	Outdoor unit	Display panel error
● (7)	● (1)	◇	71	Outdoor unit	Discharge thermistor error
● (7)	● (2)	◇	72	Outdoor unit	Compressor thermistor error
● (7)	● (3)	◇	73	Outdoor unit	Outdoor unit Heat Ex. Sensor error
● (7)	● (4)	◇	74	Outdoor unit	Outdoor thermistor error
● (7)	● (5)	◇	75	Outdoor unit	Suction Gas thermistor error
● (7)	● (7)	◇	77	Outdoor unit	Heat sink thermistor error
● (8)	● (2)	◇	82	Outdoor unit	Sub-cool Heat Ex. gas thermistor error
● (8)	● (3)	◇	83	Outdoor unit	Liquid pipe thermistor error
● (8)	● (4)	◇	84	Outdoor unit	Current sensor error
● (8)	● (6)	◇	86	Outdoor unit	Pressure sensor error
● (9)	● (4)	◇	94	Outdoor unit	Trip detection
● (9)	● (5)	◇	95	Outdoor unit	Compressor motor control error
● (9)	● (7)	◇	97	Outdoor unit	Outdoor unit fan motor 1 error
● (9)	● (9)	◇	99	Outdoor unit	4-way valve error
● (10)	● (1)	◇	A1	Refrigerant system	Discharge temperature 1 error
● (10)	● (3)	◇	A3	Refrigerant system	Compressor temperature error
● (10)	● (5)	◇	A5	Refrigerant system	Pressure error 2
● (13)	● (2)	◇	J2	Branch box	Unit flow divider error

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

Wired remote controller display

Error code

SU MO TU WE TH FR SA
88:88 Er