8.2 Simple wired remote controller (RCH-E3)
Models RCH-E3

Names and functions of sections

Remote controller sensor

Operation/Inspection lamp

During operation: Green
failure: Red

ON/OFF button

Button to start/stop the air conditioner

MODE button

Use to select the mode.

ⓊON/OFF

FAN SPEED button

Button to set the fan speed

TEMP button

Use to raise the setting temperature.

MODE   TEMP   FAN SPEED

TEMP button

Use to lower the setting temperature.

AIR CON No.

AIR CON No. button

Indicates the No. of air conditioner
which is connected.

Operation mode display

❄ : Cooling
◊ : Drying
≋ : Fan operation
☼ : Heating
◎ : Auto mode

Indoor unit No. display

VRF series outdoor unit No. display

Fan speed display

Central control display

Displayed when controlling the
unit with the central controller.

Ventilation display

This is lit during the ventilation
operation.

Control disable display

The lamp is lit for 3 seconds
when a disabled button is
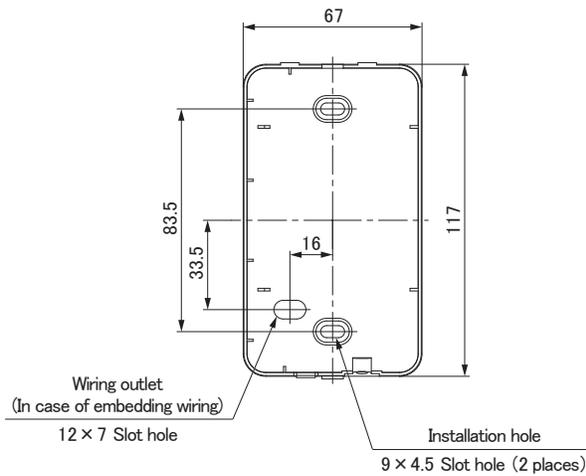pressed.

Setting TEMP display

Error code display

Installation of remote controller

DO NOT install the remote controller at the following places in order to avoid malfunction.

(1) Places exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places

(4) Hot surface or cold surface enough to generate condensation
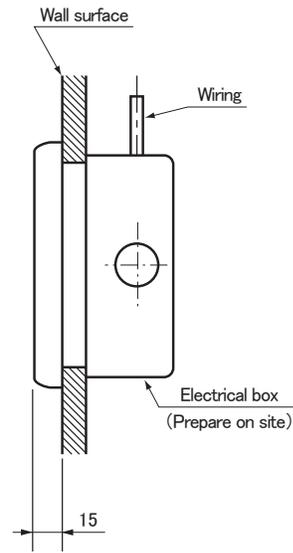(5) Places exposed to oil mist or steam directly
(6) Uneven surface
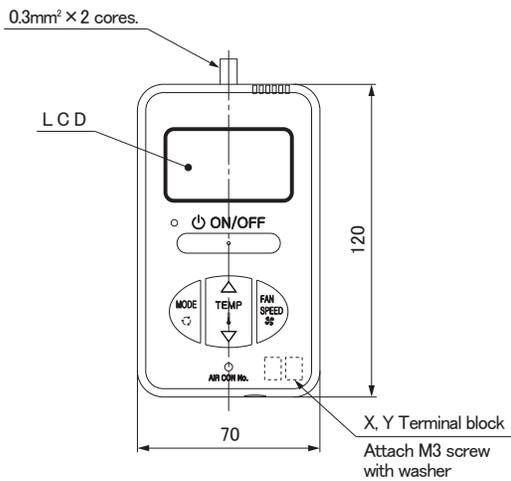
PJZ000Z272

Remote control installation dimensions

67

83.5

117

33.5

16

Wiring outlet
(In case of embedding wiring)
12 × 7 Slot hole

Installation hole
9 × 4.5 Slot hole（2 places）

Note: Installation screw for remote controller
M4 Screw（2 pieces）

In case of embedding wiring

Wall surface

Wiring

Electrical box
（Prepare on site）

15

In case of exposing wiring

0.3mm² × 2 cores.

L C D

ON/OFF

MODE
TEMP
FAN SPEED

AIR CON No.

120

70

X, Y Terminal block
Attach M3 screw
with washer

The remote controller wiring can be extracted from the upper center.
After the thin part in the upper side of the remote controller upper
case is scraped with a nipper or knife, remove burr with a file.

Thin part

Upper case

Sheath

Upper case

wiring

The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm

Sheath
Peeling length
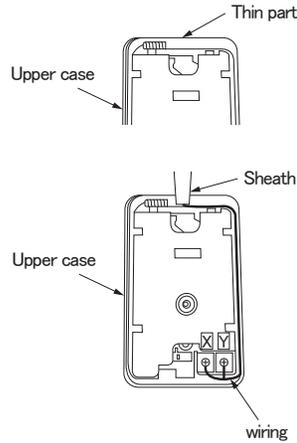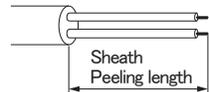
Wiring specifications

（1）Wiring of remote controller should use 0.3mm² × 2 core wires or cables.（on-site configuration）
（2）Maximum prolongation of remote controller wiring is 600m.
　　If the prolongation is over 100m, change to the size below.
　　But, the wiring in the remote controller case should be 0.3mm²（recommended）to 0.5mm².
　　Change the wire size outside of the case according to wire connecting. Waterproof treatment is
　　necessary at the wire
　　connecting section. Be careful about contact failure.

Length	Wiring thickness
100 to 200m	0.5mm² × 2 cores
Under 300m	0.75mm² × 2 cores
Under 400m	1.25mm² × 2 cores
Under 600m	2.0mm² × 2 cores

Unit:mm

Adapted to RoHS directive

Simple Remote Controller Installation Manual | PJZ012D069

Read together with indoor unit's installation manual.

⚠ WARNING

● **Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.**
Loose connection or hold will cause abnormal heat generation or fire.

● **Make sure the power supply is turned off when electric wiring work.**
Otherwise, electric shock, malfunction and improper running may occur.

⚠ CAUTION

● **DO NOT install the remote controller at the following places in order to avoid malfunction.**

(1) Places exposed to direct sunlight (4) Hot surface or cold surface enough to generate condensation
(2) Places near heat devices (5) Places exposed to oil mist or steam directly
(3) High humidity places (6) Uneven surface

● **DO NOT leave the remote controller without the upper case.**
In case the upper cace needs to be detached, protect the remote controller with a packaging box or bag in order to keep it away from water and dust.

| Accessories	Remote controller, wood screw (ϕ 3.5 × 16) 2 pieces
Prepare on site	Remote controller cord (2 cores) (Refer to [2. Installation and wiring of remote controller]) [In case of embedding cord] Electrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

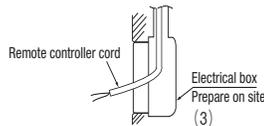## 1. Installation procedure

In case of embedding cord

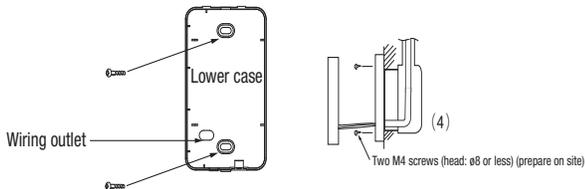(1) Make certain to remove the screw on the bottom surface of the remote controller.
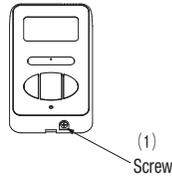
(1)
Screw

(2) Remove the upper case of the remote controller.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote controller and slightly twist it, and the case is removed.

Upper case

(2)
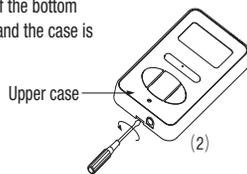
(3) Pre-bury the electrical box and remote controller cord.

Remote controller cord
Electrical box
Prepare on site
(3)

(4) Prepare two M4 screws (recommended length: 12 – 16mm), and install the lower case to the electrical box. Do not use a screw whose screw head is larger than the height of the wall around the screw hole.
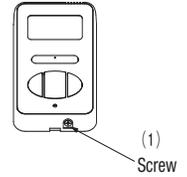
Lower case
Wiring outlet
(4)
Two M4 screws (head: ø8 or less) (prepare on site)

(5) Connect the remote controller cord to the terminal block.
Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)

(6) Mount the upper case for restoring to its former state so as not to crimp the remote controller cord, and secure with the removed screw.

In case of exposing cord

(1) Make certain to remove a screw on the bottom surface of the remote controller.

(1)
Screw

(2) Remove the upper case of the remote controller.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.
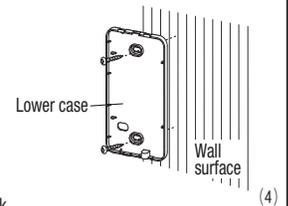
Upper case

(2)
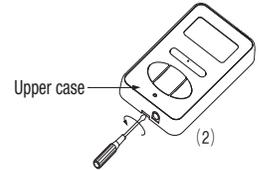
(3) The remote controller cord can be extracted from the upper center.
After the thin part in the upper side of the remote controller upper case is scraped with a nipper or knife, remove burr with a file.

Thin part

(3)
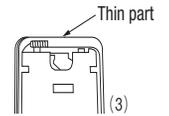
(4) The lower case of the remote controller is mounted to a flat wall with two accessory wood screws.

Lower case

Wall surface

(4)

(5) Connect the remote controller cord to the terminal block.
Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
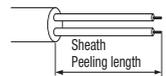The wiring route is as shown in the right.

(5)
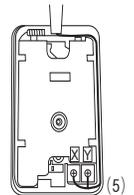
The wiring in the remote controller case should be 0.3 mm^2 (recommended) to 0.5 mm^2 at maximum.
Further, peel off the sheath.
The peeling length of each wiring is as follows:

| X wiring : 160mm |
| Y wiring : 150mm |

Sheath
Peeling length

(6) Mount the upper case for restoring to its former state so as not to crimp the remote controller cord, and secure with the removed screw.

(7) In the case of exposing installation, secure the remote controller cord to the wall surface with a cord clamp so as not to loosen the remote controller cord.

2. Installation and wiring of remote controller

(1) Wiring of remote controller should use 0.3mm^2 × 2 core wires or cables. (on-site configuration)
(2) Maximum prolongation of remote controller wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote controller case should be 0.3mm^2 (recommended) to 0.5mm^2.
Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
100 - 200m·················0.5mm^2 × 2 cores
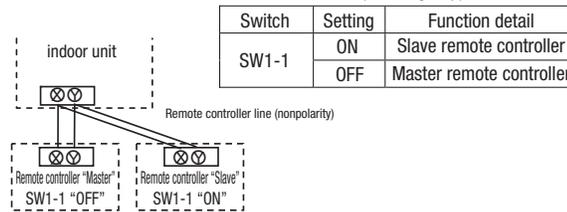Under 300m·················0.75mm^2 × 2 cores
Under 400m·················1.25mm^2 × 2 cores
Under 600m·················2.0mm^2 × 2 cores

3. Master/ slave setting when more than one remote controller are used

(1) Up to two remote controllers can be connected to one unit (or one group) of indoor unit.

Switch	Setting	Function detail
SW1-1	ON	Slave remote controller
	OFF	Master remote controller

indoor unit

Remote controller line (nonpolarity)

Remote controller "Master"
SW1-1 "OFF"

Remote controller "Slave"
SW1-1 "ON"

(2) Set the switch SW1-1 of the slave remote controller is "Slave" (ON). The factory default is set as "Master" (OFF).

(Note) • The remote controller thermistor enabled setting can be set only to the master remote controller.
   • Install the master remote controller at the position to detect room temperature.
   • The air conditioner operation follows the last operation of the remote controller in case of the master / slave setting.

SW1
ON
OFF
1 2 3 4 5 6 7 8 9 0

SW1-1:ON (Slave remote controller)
SW1-1:OFF(Master remote controller)
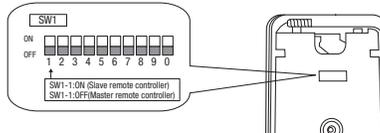
4. The indication when power source is supplied

(1) At the time of turning the power source on, after the light is on for the first 2 seconds, the display becomes as shown below.
   The number displayed on the upper side of LCD in the remote control is the software number, and this is not an error code.

06   72
88.0℃
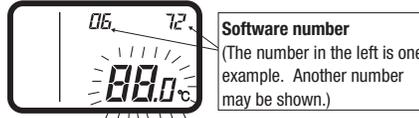
Software number
(The number in the left is one example. Another number may be shown.)

(2) Then, "88.0 °C" blinks on the remote controller until the communication between the remote controller and the indoor unit is established.

(3) In the case of connecting one remote controller with one unit (or one group) of indoor unit, make certain to set the master remote controller (factory default).
   If the slave remote control is set, a communication cannot be established.

(4) If a state where the communication between the remote controller and the indoor unit cannot be established continues about for 30 minutes, "E" is displayed. Confirm the wiring of the indoor unit and the outdoor unit and master/slave setting of the remote controller.

E

5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote controller operation.

(1) **Press AIR CON NO. button for over 5 seconds.**
   "88" blinks on the temperature setting indicator.
   ("88" blinks for approximately 2 seconds while data is read.)
   ↓
   Then, the return air temperature is displayed.
   (Example) return air temperature: "27 °C" (blinking)
   (Note) For the return air temperature, in the normal case, the return air temperature of the indoor unit is displayed; however, in the case that the remote control thermistor is effective, detected temperature by the remote controller thermistor is displayed.

27 ℃

(2) **Press ⏻ ON/OFF button.**
   End.

[In the case that the remote thermistor is ineffective and plural indoor units are connected to one remote controller]

(1) **Press AIR CON NO. button for over 5 seconds.**
   indoor unit No. indicator: "U 000" (blinking)
   (Among the connected indoor units, the lowest number is displayed.)

(2) **Press TEMP△ or TEMP▽ button.**
   Select the indoor unit No.

U000

27 ℃

(3) **Press ↻ MODE button.**
   Dectder the indoor unit No.
   (Example) indoor unit No. indicator: "U 000"
   "88" blinks on the temperature setting indicator. (blinking for approximately 2 to 10 seconds while data is read) Then, the return air temperature is displayed. When AIR CON NO. is pressed, return to the indoor unit selection display (example, "U 000").

(4) **Press ⏻ ON/OFF button.**
   End.

6. Function setting

Each function of the remote controller and the indoor unit is automatically set to the initial setting, which is the standard use, on the occasion of connecting the remote controller with the indoor unit. In the case of the standard use, the setting change is unnecessary. However, if you whould like to change the initial setting " ○ ", change the setting for only the item of the function number. Record the setting contents and stored them.

(1) Function setting item by switch on PCB

Switch No.	Setting	Setting detail	Initial setting
SW1-1	ON	Slave remote controller	
	OFF	Master remote controller	○
SW1-2	ON	Remote controller thermistor enabled	
	OFF	Remote controller thermistor disabled	○
SW1-3	ON	"MODE" button prohibited	
	OFF	"MODE" button enabled	○
SW1-4	ON	"ON/OFF" button prohibited	
	OFF	"ON/OFF" button enabled	○

Switch No.	Setting	Setting detail	Initial setting
SW1-5	ON	"TEMP" button prohibited	
	OFF	"TEMP" button enabled	○
SW1-6	ON	"FAN SPEED" button prohibited	※ Note 1
	OFF	"FAN SPEED" button enabled	※ Note 1
SW1-7	ON	Auto restart function enabled	
	OFF	Auto restart function disabled	○
SW1-8, 9, 0	ON	Not used	
	OFF		

SW1
```
ON
OFF
    1 2 3 4 5 6 7 8 9 0
```
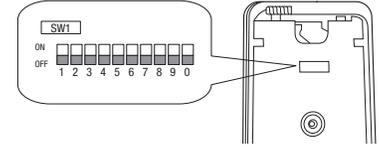
• As for the slave remote controller, function setting is impossible other than SW1-1.
• In the indoor unit with only one fan speed, "FAN SPEED" button cannot be enabled.

(2) Function setting item by button operation

Classification	Function No.	Function	Setting No.	Setting	Initial setting	Remarks
Remote controller function	01	Indoor unit fan speed	01	Fan speed: three steps	※ Note 1	The fan speed is three steps, ✳◼◼◼ - ✳◼◼ - ✳◼ .
			02	Fan speed: two steps (Hi-Lo)	※ Note 1	The fan speed is two steps, ✳◼◼◼ - ✳◼ .
			03	Fan speed: two steps (Hi-Me)		The fan speed is two steps, ✳◼◼◼ - ✳◼◼ .
			04	Fan: one step	※ Note 1	The fan speed is fixed to one step.
	03	Remote controller thermistor at the time of cooling	01	Remote controller thermistor: no offset	○	
			02	Remote controller thermistor: +3.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +3.0°C.
			03	Remote controller thermistor: +2.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +2.0°C.
			04	Remote controller thermistor: +1.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +1.0°C.
			05	Remote controller thermistor: -1.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at -1.0°C.
			06	Remote controller thermistor: -2.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at -2.0°C.
			07	Remote controller thermistor: -3.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offsett temperature at -3.0°C.
	04	Remote controller thermistor at the time of heating	01	Remote controller thermistor: no offset	○	
			02	Remote controller thermistor: +3.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +3.0°C.
			03	Remote controller thermistor: +2.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +2.0°C.
			04	Remote controller thermistor: +1.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +1.0°C.
			05	Remote controller thermistor: -1.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -1.0°C.
			06	Remote controller thermistor: -2.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -2.0°C.
			07	Remote controller thermistor: -3.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -3.0°C.
	05	Ventilation setting	01	No ventilator connection	○	
			02	Ventilator links air-conditioner		In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit.
	06	"Auto" operation setting	01	"Auto" operation enabled	※ Note 1	
			02	"Auto" operation disabled	※ Note 1	"Auto" operation disabled
Indoor unit function	07	Operation permission/prohibition	01	Disabled	○	
			02	Enabled		Operation permission/prohibition controller is enabled.
	08	External input	01	Level input	○	
			02	Pulse input		
	09	Fan speed setting	01	Standard	Note2	
			02	High speed 1	Note2	
			03	High speed 2	Note2	
	10	Fan remaining operation at the time of cooling	01	No remaining operation	○	After cooling stopped, no fan remaining operation
			02	0.5 hours		After cooling stopped, fan remaining operation for 0.5 hours
			03	1 hour		After cooling stopped, fan remaining operation for 1 hour
			04	6 hours		After cooling stopped, fan remaining operation for 6 hours
	11	Fan remaining operation at the time of heating	01	No remaining operation	○	After heating stopped or after heating thermostat OFF, no fan remaining operation
			02	0.5 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 0.5 hours
			03	2 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 2 hours
			04	6 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 6 hours
	12	Setting temperature offset at the time of heating	01	No offset	○	
			02	Setting temperature offset + 3.0 °C		The setting temperature at the time of heating is offset by +3.0 °C.
			03	Setting temperature offset + 2.0 °C		The setting temperature at the time of heating is offset by +2.0 °C.
			04	Setting temperature offset + 1.0 °C		The setting temperature at the time of heating is offset by +1.0 °C.
	13	Heating fan controller	01	Low fan speed	※ Note 1	At the time of heating thermostat OFF, operate with low fan speed.
			02	Setting fan speed		At the time of heating thermostat OFF, operate with the setting fan speed.
			03	Intermittent operation	※ Note 1	At the time of heatingr thermostat OFF, intermittently operate.
			04	Fan off		At the time of heating thermostat OFF, a fan will be stopped. When the remote controller thermistor is enabled, automatically set to "Fan off". Do not set at the time of the indoor unit thermistor.
	14	Return air temperature offset	01	No offset	○	
			02	Return air temperature offset +2.0 °C		Offset the return air temperature of the indoor unit by +2.0 °C.
			03	Return air temperature offset +1.5 °C		Offset the return air temperature of the indoor unit by +1.5 °C.
			04	Return air temperature offset +1.0 °C		Offset the return air temperature of the indoor unit by +1.0 °C.
			05	Return air temperature offset -1.0 °C		Offset the return air temperature of the indoor unit by -1.0 °C.
			06	Return air temperature offset -1.5 °C		Offset the return air temperature of the indoor unit by -1.5 °C.
			07	Return air temperature offset -2.0 °C		Offset the return air temperature of the indoor unit by -2.0 °C.

Note 1: The symbol " ※ " in the initial setting varies depending upon the indoor unit and the outdoor unit to be connected, and this is automatically determined as follows:

Swith No. Function No.	Function	Setting	Product model
SW1-6	"FAN SPEED" button	"FAN SPEED" button prohibited	Product model whose indoor fan speed is only one step
		"FAN SPEED" button enabled	Product model whose indoor fan speed is two steps or three steps
Remote controller function 01	Indoor unit fan speed	Fan speed: three steps	Product model whose indoor unit fan speed is three steps
		Fan speed: two steps (Hi-Lo)	Product model whose indoor unit fan speed is two steps
		Fan speed: two steps (Hi-Me)	
		Fan: one step	Product model whose indoor unit fan speed is only one step
Remote controller function 06	"Auto" operation setting	"Auto" operation enabled	Product model where "Auto" mode is selectable
		"Auto" operation disabled	Product model without "Auto" mode
Indoor unit function 13	Heating fan control	Low fan speed	Product model except FDUS
		Intermittent operation	FDUS

Note 2: Fan speed of "High speed" setting

Fan speed setting	Indoor unit fan speed setting		
	✳◼◼◼ - ✳◼◼ - ✳◼	✳◼◼◼ - ✳◼	✳◼◼◼ - ✳◼◼
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid
High speed 1 · 2	UHi — Hi — Mid	UHi — Mid	UHi — Hi

Initial setting of some indoor unit is "High speed".

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.
　But only master indoor unit is received the setting change of indoor unit function "07 Operation permission/ prohibition" and "08 External input".

7. How to set functions by button operation

(1) **Stop air-conditioning, and simultaneously press** `AIR CON NO.` **and** `⟳ MODE` **buttons at the same time for over three seconds.**
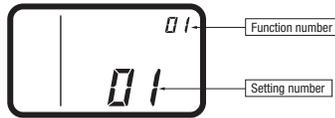The function number "01" blinks in the upper right.
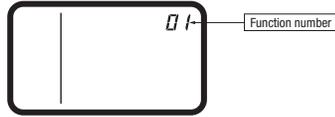
(2) **Press** `TEMP△` **or** `TEMP▽` **button.**
Select the function number.

(3) **Press** `⟳ MODE` **button.**
Decide the function number.

(4) **[In the case of selecting the remote controller function (01-06)]**
① The current setting number of the selected function number blinks
(Example)
  Function number: "01" (lighting)
  Setting number: "01" (blinking)

② **Press** `TEMP△` **or** `TEMP▽` **button.**
Select the setting number.
③ **Press** `⟳ MODE` **button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
  Function number: "01" (lighting for 3 to 20 seconds)
  Setting number: "01" (lighting for 3 to 20 seconds)
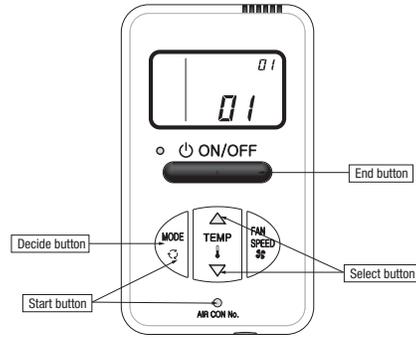

Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

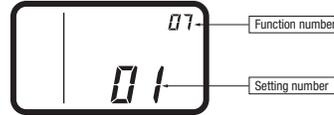**[In the case of selecting the indoor unit function (07-14)]**
① **"88" blinks on the temperature setting indicators.**
(blinking for approximately 2 to 10 seconds while data is read)
↓
After that, the current setting number of the selected function number blinks.
(Example)
  Function number: "07" (lighting)
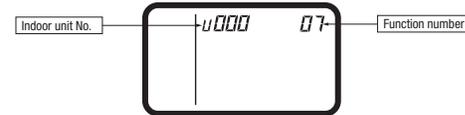 Setting number: "01" (blinking)

Proceed to ②.
[Note]
 a. In the case of connecting one remote control to plural indoor units, the display will be as follows:
Indoor unit No. display: "U 000" (blinking)
(Display the lowest number among the connected indoor units.)

 b. Press `TEMP△` **or** `TEMP▽` **button.**
Select the indoor unit No. to be set.
If "U ALL" is selected, the same setting can be set to all units.
 c. Press `⟳ MODE` **button.**
Decide the indoor unit No.
"88" blinks on the temperature setting indicators. (blinking for 2 to 10 seconds while data is read)
When `AIR CON NO.` button is pressed, go back to the indoor unit selection display (for example, "U 000" blinking).

② **Press** `TEMP△` **or** `TEMP▽` **button.**
Select the setting number

③ **Press** `⟳ MODE` **button.**
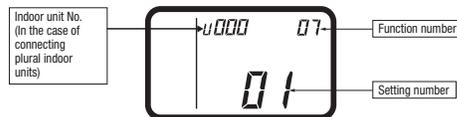The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
  Indoor unit No.: "U 000" (lighting for 3 to 20 seconds)
  Function number: "07" (lighting for 3 to 20 seconds)
  Setting number: "01" (lighting for 3 to 20 seconds)

Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

(5) **Press** `⏻ ON/OFF` **button.**
The setting is completed.

・ Even if `⏻ ON/OFF` button is pressed during setting, the setting is ended. However, any details where the setting has not been completed will be ineffective.
・ The setting contents are stored in the controller, and even if the power failure occur, this will not be lost.

[Confirmation method for current setting]
According to the operation, the "setting number" displayed first after selecting "function number" and pressing `⟳ MODE` button is the currently set content.
(However, in the case of selecting "U ALL" (all units), the setting number of the lowest number among the indoor units is displayed.)