

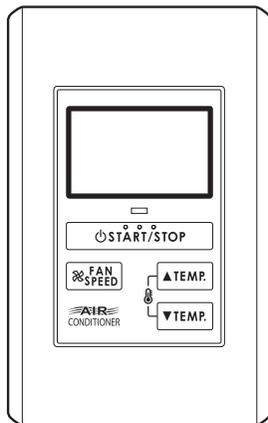
# VRF SYSTEM SIMPLE REMOTE CONTROLLER (WIRED TYPE) UTY-RHK\*

English

中文

# INSTALLATION MANUAL

For authorized service personnel only.



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# 1. SAFETY PRECAUTIONS

- The "SAFETY PRECAUTIONS" indicated in the manual contain important information pertaining to your safety. Be sure to observe them.
- For details of the operation methods, refer to the operating manual.
- Request the user to keep the manual on hand for future use, such as for relocating or repairing the unit.

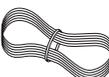
 <b>WARNING</b>	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
<ul style="list-style-type: none"> <li>• Perform electrical work by an authorized service personnel in accordance with the installation manual and the electrical wiring regulations or implementation regulations of the country. Also do not install this unit by yourself. Improper electric work will cause electric shock or a fire.</li> </ul>	
<ul style="list-style-type: none"> <li>• Perform installation work in accordance with the installation manual. Request an authorized service personnel to perform installation work. Do not install this unit by yourself. Improper installation will cause injury, electric shock, fire, etc.</li> </ul>	
<ul style="list-style-type: none"> <li>• In the event of a malfunction (burning smell, etc.), immediately stop operation, turn off the electrical breaker, and consult authorized service personnel.</li> </ul>	
<ul style="list-style-type: none"> <li>• Install a leakage circuit breaker to power supply cable in accordance with the related laws and regulations and electric company standards.</li> </ul>	
<ul style="list-style-type: none"> <li>• Use a power source exclusively for this unit. Never share the power source with other electrical equipment. Doing so will cause fire and electric shock.</li> </ul>	
<p>Do not install the unit in the following areas:</p> <ul style="list-style-type: none"> <li>• Do not install the unit near a source of heat, steam, or flammable gas.</li> <li>• Area filled with mineral oil or containing a large amount of splashed oil or steam, such as a kitchen. It will deteriorate plastic parts, causing the parts to fall or the unit to leak water.</li> <li>• Area that generates substances that adversely affect the equipment, such as sulfuric gas, chlorine gas, acid, or alkali. It will cause the copper pipes and brazed joints to corrode, which can cause refrigerant leakage.</li> <li>• Area containing equipment that generates electromagnetic interference. It will cause the control system to malfunction, preventing the unit from operating normally.</li> <li>• Area that can cause combustible gas to leak, contains suspended carbon fibers or flammable dust, or volatile inflammables such as paint thinner or gasoline. If gas leaks and settles around the unit, it can cause a fire.</li> <li>• Do not use the unit for special purposes, such as storing food, raising animals, growing plants, or preserving precision devices or art objects. It can degrade the quality of the preserved or stored objects.</li> <li>• Install the unit in a well-ventilated place avoiding rains and direct sunlight.</li> </ul>	

<ul style="list-style-type: none"> <li>• Do not operate this unit when your hands are wet. Touching the unit with wet hands will cause an electric shock.</li> </ul>
<ul style="list-style-type: none"> <li>• If children may approach the unit, take preventive measures so that they cannot reach the unit.</li> </ul>

 <b>CAUTION</b>	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user or damage to property.
<ul style="list-style-type: none"> <li>• Pay abundant care when transporting this unit because it is a precision device. Improper transportation will cause trouble.</li> </ul>	
<ul style="list-style-type: none"> <li>• Do not touch the switches with sharp objects. Doing so will cause injury, trouble, or electric shock.</li> </ul>	
<ul style="list-style-type: none"> <li>• Do not expose this unit directly to water. Doing so will cause trouble, electric shock, or heating.</li> </ul>	
<ul style="list-style-type: none"> <li>• Do not set vessels containing a liquid on this unit. Doing so will cause heating, fire, or electric shock.</li> </ul>	
<ul style="list-style-type: none"> <li>• Dispose of the packing materials safely. Tear and dispose of the plastic packing bags so that children cannot play with them. There is the danger of suffocation if children play with the original plastic bags.</li> </ul>	

## 2. ACCESSORIES

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

Name of Shape	Q'ty	Application
Installation manual 	1	This manual
Operating manual 	1	Instruction book for operation
(*) Remote controller cable (10m) 	1	For connecting the remote controller
Screw (M4 x 16mm) 	2	For installing the remote controller
Binder 	1	For remote controller and remote controller cable binding

(\*) UTY-RHKYT does not contain cables.

## 3. ELECTRICAL REQUIREMENT

When connecting the remote controller use the following wiring.

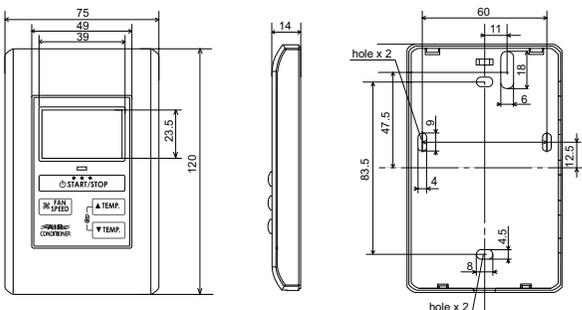
Use	Size	Wire type	Remarks
Remote controller cable	0.33 mm <sup>2</sup>	22AWG Polar 3 core, Twisted pair	Use shield cable in accordance with local rules for cable.

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

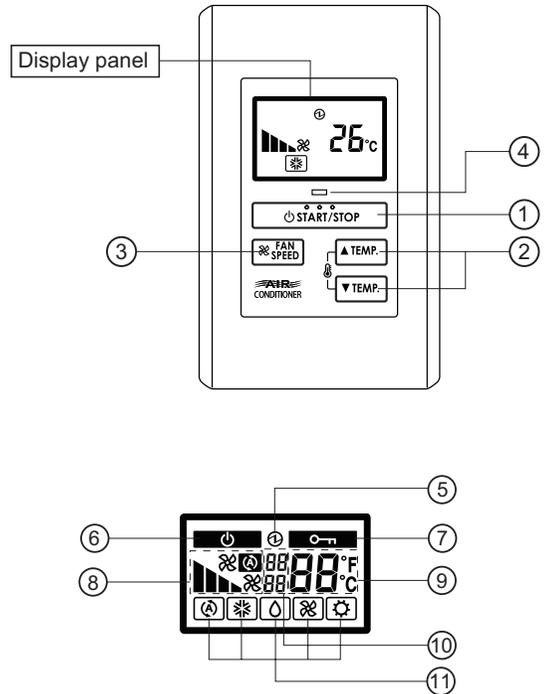
## 4. SELECTING AN INSTALLATION LOCATION

### 4.1. Dimensions

Unit : mm



### 4.2. Name of parts



- ① “⏻ START/STOP” (START/STOP Button)
- ② “⌚ ▲ TEMP.”, “⌚ ▼ TEMP.” (Set Temperature Button)
- ③ “⌚ FAN SPEED” (Fan Control Button)
- ④ Operation Lamp Display
- ⑤ Electric energy Display
- ⑥ Standby Display
- ⑦ Operation Lock Display
- ⑧ Fan Speed Display
- ⑨ Temperature Display
- ⑩ Error Display
- ⑪ Operation Mode Display

## 5. INSTALLING THE REMOTE CONTROLLER

### ⚠ WARNING

- Always use the accessories and specified installation work parts. Check the state of the installation parts. Not using the specified parts will cause units to fall off, water leakage, electric shock, fire, etc.
- Install at a place that can withstand the weight of the unit and install positively so that the unit will not topple or fall.
- When installing this unit, make sure that there are no children nearby. Otherwise, injury or electric shock could result.
- After installing this unit, perform the test operation to confirm that the unit is operating properly. Then, explain the operation of this unit to the customer.
- Before starting installation work, turn off the power of this unit and the connection destination. Do not turn on the power again until installation is completed. Otherwise, it will cause electric shock or fire.
- Use the accessories or specified power cable and connection cables. Do not modify power cable and connection cables other than those specified, do not use extension cords, and do not use independent branch wiring. The allowable current will be exceeded and cause electric shock or fire.
- Install the connection cables securely to the terminal block. Confirm that external force is not applied to the wire. Use connection cables made of the specified wire. If intermediate connection or insertion fixing are imperfect, it will cause electric shock, fire, etc.
- When connecting the power cable and transmission cable, layout the wiring so that the cover of this unit is securely fixed. If the cover is imperfectly fixed, it may cause fire or overheating of the terminals.
- Perform ground work positively. Do not connect the ground wire to a telephone ground wire, water pipe, or conductor rod.
- Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- When performing cable wiring work, be sure that it does not touch the user. Doing so will cause injury or electric shock.
- If any cable is damaged, do not repair or modify it yourself. Improper work will cause electric shock or fire.

### ⚠ CAUTION

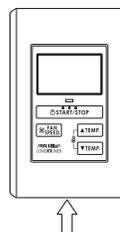
- Do not set the DIP switch or rotary switch of this unit except as specified in this installation manual or the instruction manual supplied with the air conditioner. Setting the switches other than specified will cause an accident or trouble.
- Use an insulated screwdriver to set the DIP switches.
- Before opening the case of this unit, completely discharge static electricity charged on you body. Not doing so will cause trouble.
- Do not touch the circuit board and circuit board parts directly with your hands. Otherwise, injury or electric shock could result.
- Tightening the mounting screws too tight will damage the case of this unit.

### ⚠ CAUTION

- Be careful so that the front cover does not fall after the front cover screws are removed. Otherwise, injury could result.
- When performing wiring work, be careful not to damage the cable or injure yourself. Also, connect the connectors securely. Loose connectors will cause trouble, heating, fire, or electric shock.
- Install the indoor and outdoor units, power cable, signal cable and remote control cable 1 m away from television and radio to avoid distorted images and noise.
- Perform wiring so that water does not enter this unit along the external wiring. Always install a trap to the wiring or take other countermeasures. Otherwise it will cause trouble or electric shock or fire.
- Confirm the name of each unit and name of each terminal block of the unit and connect the wiring in accordance with the directions given in the manual so that there is no incorrect wiring. Incorrect wiring will damage the electric parts and cause smoke and fire.
- When installing the connection cable near a source of electromagnetic waves, use shielded cable. Otherwise, a breakdown or malfunction could result.

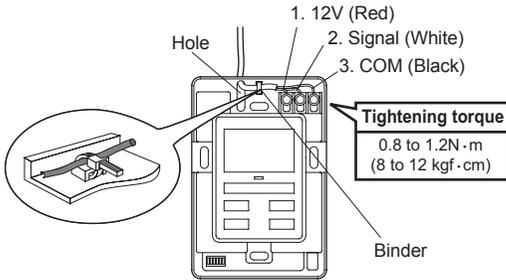
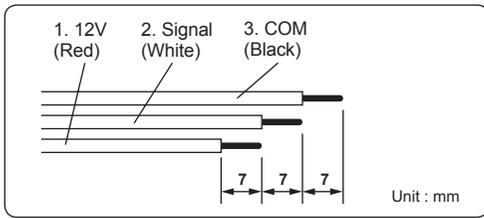
### 5.1. Installation

Insert the end of a flat blade screwdriver at the ↑ of the groove at the side of the rear case and remove the rear case top by turning the screwdriver.



- (1) Pass the remote controller cable through the hole in the rear case and connect the remote controller cable to the remote controller terminal block specified in Fig. 1.
- (2) Clamp the remote controller cable sheath with the binder as shown in Fig. 1.
- (3) Cut off the excess binder.
- (4) Install the rear case to the wall, box, etc., with two screws. (Fig. 2)

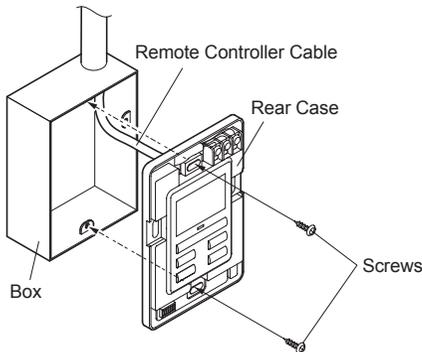
Fig. 1



**CAUTION**  
Be careful to avoid breaking the cable by over-tightening the binder.

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

Fig. 2 [Example]



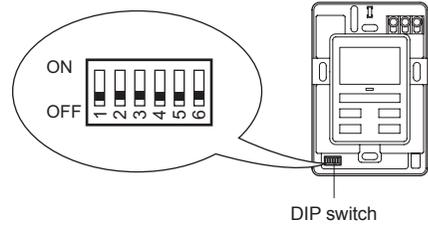
**Ground the remote controller if it has a ground cable.**

Wrap the connector and remote controller cables with vinyl tape or some other type of insulation as shown in the figure.

## 5.2. Setting the DIP switch

Set the remote controller DIP switches. (Fig. 1)

Fig. 1 [Example]



	NO.	Switch state		Detail
		OFF	ON	
DIP switch	1	★ Fixed at OFF		Cannot be used
	2	★ MASTER	SLAVE	Refer to 6 INSTALLATION METHODS.
	3	★ Fixed at OFF		Cannot be used
	4	★ Fixed at OFF		Cannot be used
	5	★ Fixed at OFF		Cannot be used
	6	★ Fixed at OFF		Cannot be used

(★ Factory setting)

## 5.3. Connection of Remote Controller Cable

**CAUTION**

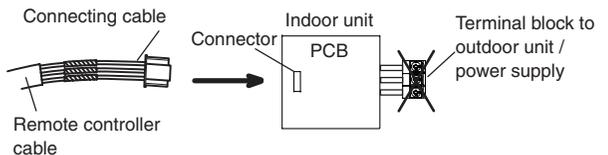
- When connecting the remote controller cable to the indoor unit, do not connect it to the outdoor unit or the power terminal block. It may cause a failure.

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.)

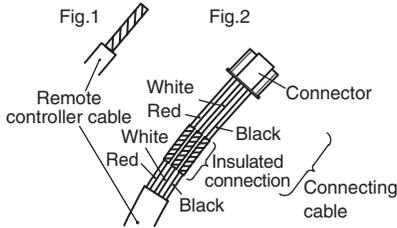
### 5.3.1. When connecting to the connector

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



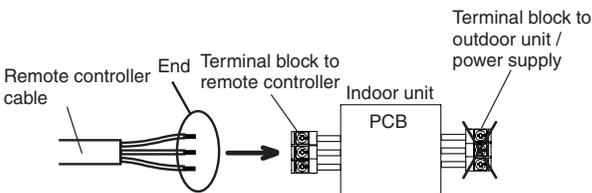
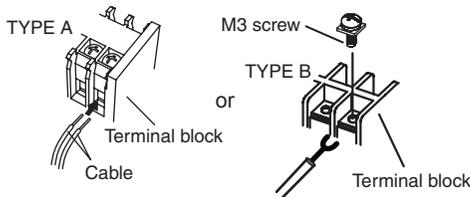
Modify the cable as per below methods.

- (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.



### 5.3.2. When connecting to exclusive terminal block

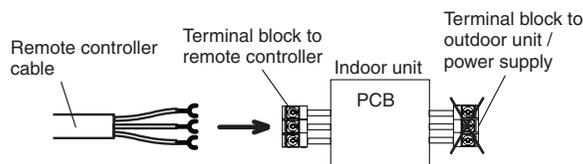
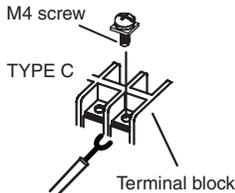
- (1) When connecting to the exclusive terminal block of TYPE A or TYPE B (Fixing screw of M3)  
Cut the Y-type terminal at the end of remote controller cable and connect it.



- ※ Y-type terminal may be damaged if it is inserted to the exclusive terminal block strongly.
- ※ It may be failed if it is connected to the outdoor unit or the terminal block for power supply.

- (2) When connecting to the exclusive terminal block of TYPE C (Fixing screw M4)

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

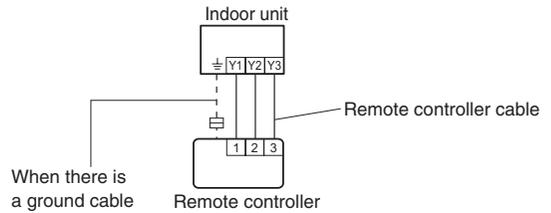


- ※ It may be failed if it is connected to the outdoor unit or the terminal block for power supply.

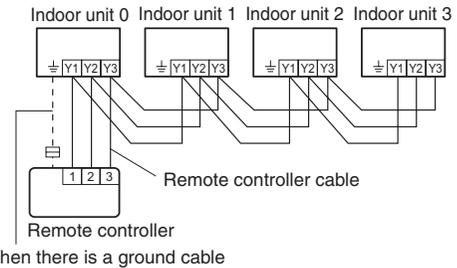
## 6. INSTALLATION METHODS

### 6.1. Group control

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



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



- (2) Indoor unit rotary switch setting

Set each remote switch address in order from 0 using the rotary switch of each indoor unit.

(Refer to the installation manual for the indoor unit.)

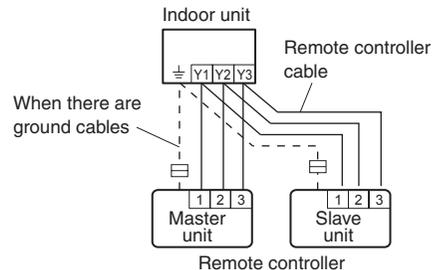
Up to 16 indoor units can be connected.

### 6.2. Dual remote control

- Two remote controllers can be used to operate the indoor units.
- The self-diagnosis functions cannot be used on the slave units.
- The remote controller (UTB- \* LA) and remote controller (UTB- \* U \* , UTB- \* P \* , UTB- \* R \*) cannot be connected at the same time.

- (1) Wiring method

(indoor unit to remote controller)



## (2) Remote controller DIP switch setting

Set the remote controller DIP switch No. 2 according to the following table.

Number of remote controllers	Master unit	Slave unit
	DIP switch No. 2	DIP switch No. 2
1 (Single)	OFF	-
2 (Dual)	OFF	ON

- Group control and dual remote control can be used together.
- When connecting two remote controllers, the simple remote controller can also be connected together with another type of remote controller.

## 7. TURNING ON THE POWER

### ⚠ CAUTION

- Recheck the wiring. Incorrect wiring will cause trouble.

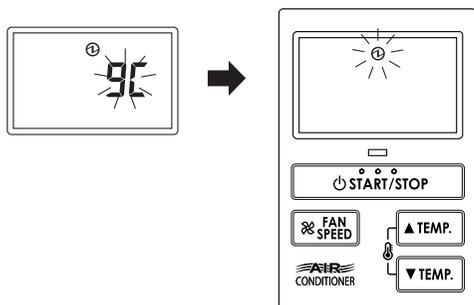
- (1) Check the remote controller wiring and DIP switch settings.
- (2) Install the front case.

\* 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 second, the ① mark will be displayed in the center of the remote controller display.

- \* For the wiring and circuit board switch settings method, refer to the installation manual for the indoor unit and outdoor unit.



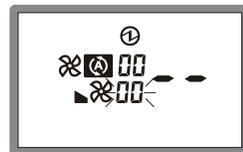
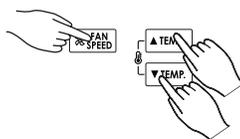
## 8. ADDRESS SETTING

Address setting method of indoor unit can be selected from 3 options (outdoor unit, indoor unit and remote controller). Refer to the installation manual of outdoor unit or indoor unit when set up from the outdoor unit or the indoor unit.

- “Indoor unit address” and “Refrigerant circuit address” can be set using the Simple remote controller.
- This function can be set in all indoor units when the Simple remote controller is connected.
- “Remote controller address” cannot be set in this function. Ensure to set with the Rotary switch of PCB of the indoor unit.
- When setting the address of indoor unit, refer to installation manual of indoor unit.
- When setting the address of outdoor unit automatically, refer to installation manual of outdoor unit.
- When setting the address with a remote controller, refer to installation manual of indoor unit for setting details of indoor unit.

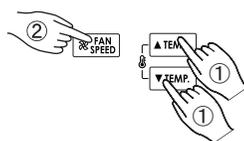
### Switching selection of address setting mode

- (1) Press the “⏏ ▲ TEMP.” button, “⏏ ▼ TEMP.” button and “⊗ FAN SPEED” button for more than 5 seconds simultaneously. Then shift to Address setting mode.

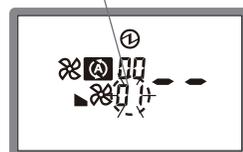


Address setting mode initial display

- (2) Press the “⏏ ▲ TEMP.” button or “⏏ ▼ TEMP.” button and select the Remote controller address (Select the relevant indoor unit). Then press “⊗ FAN SPEED” button.



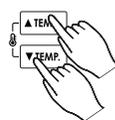
Remote controller address



Ex. When Remote controller address “01” is selected.

### Indoor unit address setting

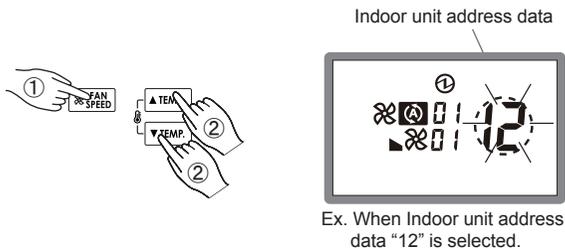
- (3) “Address code” display blinks. Then display Address code “01” by pressing the “⏏ ▲ TEMP.” button or “⏏ ▼ TEMP.” button.



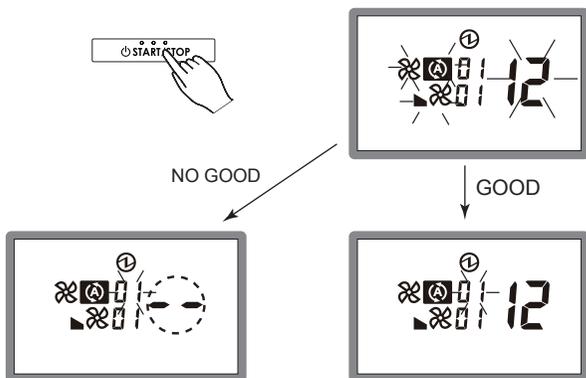
Address code



- (4) When the "Address data" blinks by pressing the "FAN SPEED" button set the Indoor unit address data by pressing the "▲TEMP." button or "▼TEMP." button. (Range of setting is 00-63.)



- (5) Fix the Indoor unit address data by pressing the "START/STOP" button. (Data is transferred to the indoor unit).

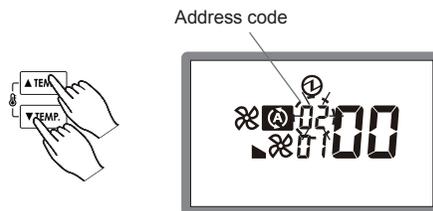


- When Indoor unit address data is not set in the indoor unit. (-- is displayed).
- Set the Indoor unit address data again as per procedures 3-5 above.

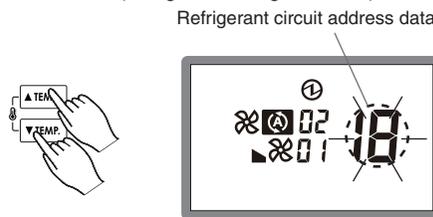
When Indoor unit address data is set in the indoor unit properly.

### Refrigerant circuit address setting

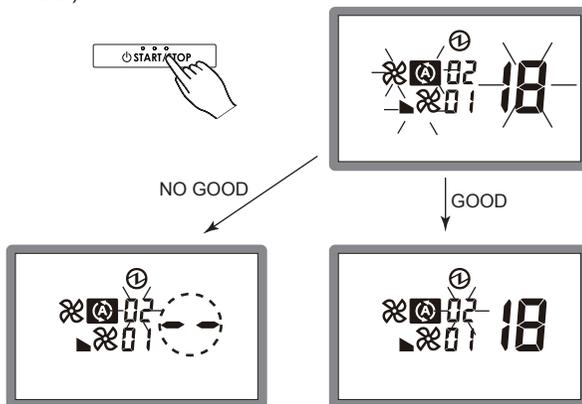
- (6) When the "Address code" blinks set the Address code "02" by pressing the "▲TEMP." button or "▼TEMP." button.



- (7) "Address data" display blinks. Then set the Refrigerant circuit address data by pressing the "▲TEMP." button or "▼TEMP." button. (Range of setting is 00-99.)



- (8) Fix the Refrigerant circuit address data by pressing the "START/STOP" button. (Data is transferred to the indoor unit).

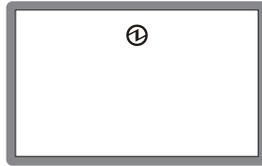
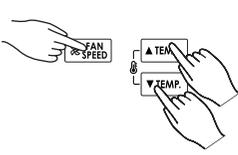


- When Refrigerant circuit address data is not set in the indoor unit. (-- is displayed).
- Set the Refrigerant circuit address data again as per procedure 8 above.

When Refrigerant circuit address data is set in the indoor unit properly.

## Completion of address setting mode

- (9) Address setting mode is released and returns to normal display if the “ ▲ TEMP.” button, “ ▼ TEMP.” button and “ FAN SPEED” button are pressed for more than 5 seconds simultaneously.



Normal mode display

\* Address setting mode is released automatically if no key is pressed for 60 seconds even the above buttons are not pressed.

(Switch to Address setting mode as per procedure 1 above. It is automatically released when Address setting)

- (10) After completing the ADDRESS SETTING, be sure to turn off the power and turn it on again.

## 9. FUNCTION SETTING

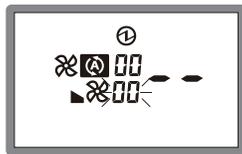
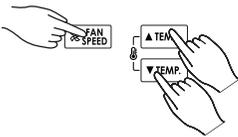
This procedure changes the function settings used to control the indoor unit according to the installation conditions. Incorrect settings can cause the indoor unit to malfunction. This procedure should be performed by authorized installation or service personnel only.

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 numbers.
- Prepare for setting of indoor unit referring to installation manual of indoor unit before start of functional setting.

### Start of Function setting mode

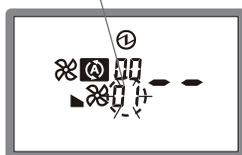
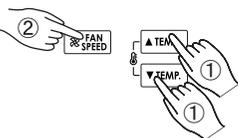
- (1) Press the “ ▲ TEMP.” button, “ ▼ TEMP.” button and “ FAN SPEED” for more than 5 seconds simultaneously. Then shift to Function setting mode.



Function setting mode initial display

- (2) Press the “ ▲ TEMP.” button or “ ▼ TEMP.” button and select the Remote controller address (Select the relevant indoor unit). Then press “ FAN SPEED” button.

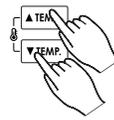
Remote controller address



Ex. When Remote controller address “01” is selected.

## Function number and setting number setting

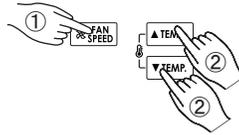
- (3) “Function number” display blinks. Then display Number by pressing the “ ▲ TEMP.” button or “ ▼ TEMP.” button.



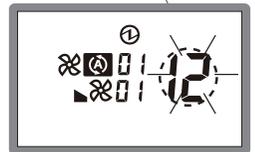
Function number



- (4) When the “Setting number” blinks by pressing the “ FAN SPEED” button set the Setting number by pressing the “ ▲ TEMP.” button or “ ▼ TEMP.” button.

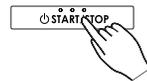


Setting number

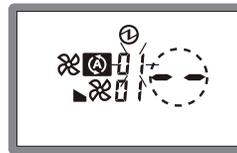


Ex. When Setting number “12” is selected.

- (5) Fix the setting by pressing the “ START/STOP” button. (Data is transferred to the indoor unit.)



NO GOOD



GOOD



- (– is displayed,) if not set the indoor unit.
- Set again as per procedures 3-5 above.

When set properly in the indoor unit.