

# INSTALLATION AND OPERATION MANUAL

## K70D036ZAA

### HOW TO INSTALL THE REMOTE CONTROLLER (OPTIONAL PART)

Remote controller wiring can be extended to a maximum of 1,000 m.

How to install the remote controller (Optional Controller)



Do not twist the control wiring with the power wiring or run it in the same metal conduit, because this may cause malfunction.

Install the remote controller away from sources of electrical noise.

Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

The mounting position for the remote controller should be located in an accessible place for control. Never cover the remote controller or recess it into the wall.

(1) When you open the decorative cover, you will see 2 gaps under the remote controller. Insert a coin into these gaps and pry off the back case. (Fig. 6-1)

#### 6-1. When Using a Wall Box for Flush Mounting

If local codes allow, this remote controller can be mounted using a conventional wall box for flush mounting.

(2) Attach the back case with the 2 small screws provided. Using a screwdriver, push open the cut-outs on the back case. These holes are for screws. Use the spacers and take care not to tighten the screws excessively. If the back case will not seat well, cut the spacers to a suitable thickness. (Fig. 6-1)

(3) Connect the remote controller wiring (2 wires) correctly to the corresponding terminals in the electrical component box of the indoor unit.



When wiring, do not connect the remote controller wires to the adjacent terminal block for the power wiring. Otherwise, the unit will break down.

(4) To finish, fit the back tabs of the case into the remote controller and mount it.



Do not supply power to the unit or try to operate it until the tubing and wiring to the outdoor unit is completed.

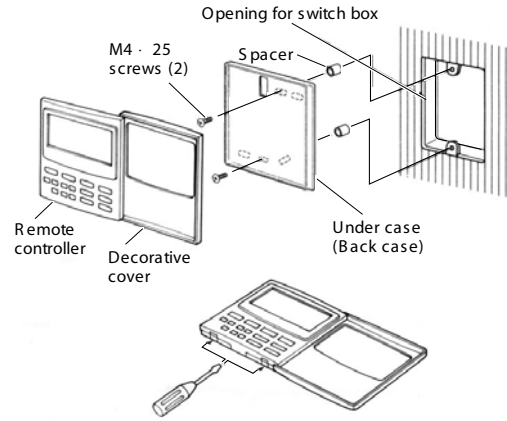
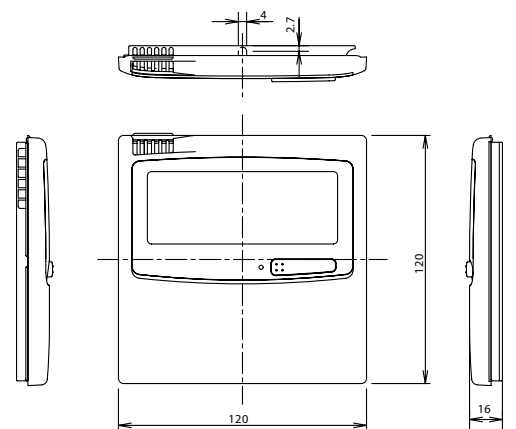


Fig. 6-1

#### Accessories for remote controller switch

No.	Accompanying parts	Q-ty	No.	Accompanying parts	Q-ty
1	Remote controller switch (with 200 mm wire)	1	4	Spacers	2
2	Small screws M4 · 25	2	5	Wire joints	2
3	Wood screws	2			

#### Diagram of outer dimensions



Unit: mm

Fig. 6-2

## 6-2. Basic Wiring Diagram (Twin, Triple, Double-Twin)



**CAUTION**

Install wiring correctly (incorrect wiring will damage the equipment).

Use shielded wires for remote control wiring and ground the shield on one side. (Fig. 6-3) Otherwise misoperation due to noise may occur.

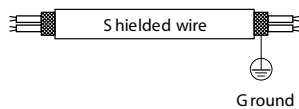


Fig. 6-3

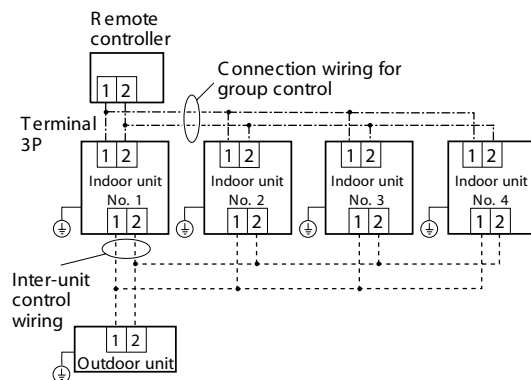


Fig. 6-4

## 6-3. Wiring System Diagram for Group Control

This diagram shows when several units (maximum of 4) are controlled by a remote controller (master unit). In this case, a remote controller can be connected at any indoor unit.

### Wiring procedure

Wire according to the right diagram:

Each successive unit will respond at 1-second intervals following the order of the group address when the remote controller is operated.

### Group control using 2 remote controllers

It does not matter which of the 2 remote controllers you set as the main controller.

When using multiple remote controllers (up to 2 can be used), one serves as the main remote controller and the other as the sub-remote controller.

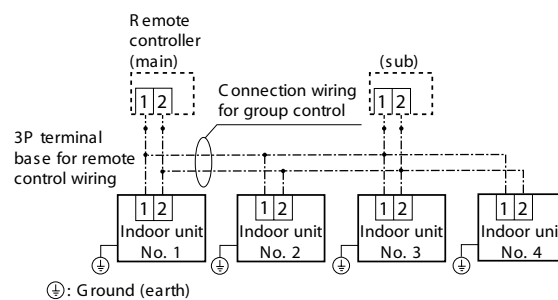


Fig. 6-5

### Setting the main and sub remote controllers

1. Set one of the 2 connected remote controllers as the main remote controller.
2. On the other remote controller (sub-remote controller), switch the remote controller address connector on the rear of the remote controller PCB from Main to S sub. When the connector has been switched, the remote controller will function as the sub-remote controller.

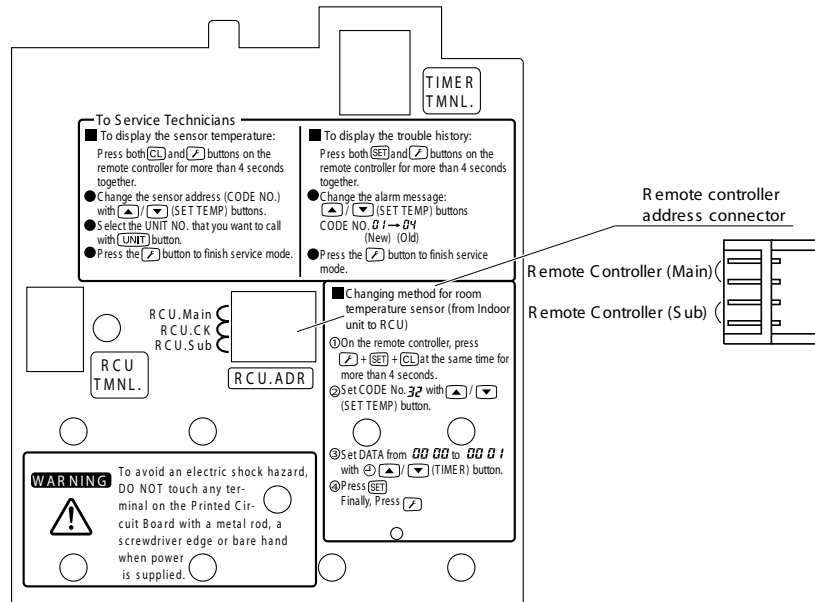


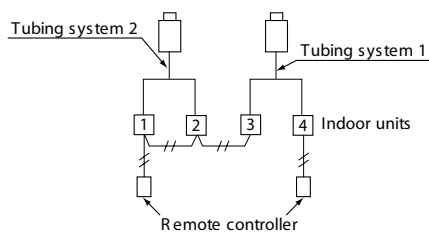
Fig. 6-6

### NOTE

#### Cautions on group control

Group control within the same refrigerant tubing system is recommended.

[Tubing system which is NOT recommended]



<Example 1> In this system, group control extending over tubing systems becomes impossible to set, which means the indoor units cannot operate.

#### 6-4. Switching the Room Temperature Sensors

Room temperature sensors are contained in the indoor unit and in the remote controller. One or the other of the temperature sensors is used for operation. Normally, the indoor unit sensor is set; however, the procedure below can be used to switch to the remote controller sensor.

(1) Press and hold the + + buttons for 4 seconds or longer.

##### NOTE

The unit No. that is initially displayed is the indoor unit address of the group control master unit. Do not press the button.

(2) Use the temperature setting / buttons to select item code 32.

(3) Use the timer time / buttons to change the setting data from 0000 to 0001.

(4) Press the button. (The change is completed when the display stops blinking.)

(5) Press the button.

The unit returns to normal stop status. At this time, \*Remote controller sensor is displayed on the LCD.

##### NOTE

If 2 remote controllers are used for control, this setting can be made from either the main or sub remote controller. However, the temperature sensor that is used is the sensor in the main remote controller.

When group control is used, the remote controller sensor will not function unless the group address is set to the address of the master indoor unit.

If both the remote sensor and remote controller are used, do not use the temperature sensor in the remote controller.

#### 6-5. Connecting to a Ventilation Fan

If a commercially available ventilation fan or similar device is run from the ventilation fan output terminal (FAN DRIVE: 2P (white), DC 12 V) (Note) on the indoor unit PCB, use the button to enable fan operation and change the settings.

(1) Press and hold the + + buttons for 4 seconds or longer.

##### NOTE

The unit No. that is initially displayed is the indoor unit address of the group control master unit. Do not press the button.

(2) Use the temperature setting / buttons to select item code 31.

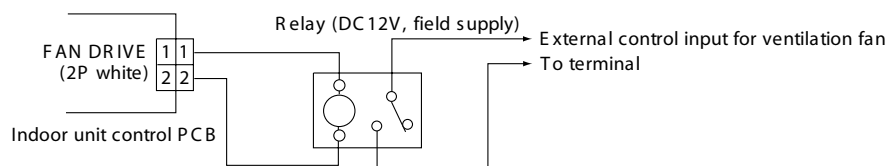
(3) Use the timer time / buttons to change the setting data from 0000 to 0001.

(4) Press the button. (The change is completed when the display stops blinking.)

(5) Press the button.

The unit returns to normal stop status. Press the button and check that \*Fan is displayed on the LCD display.

(Note) A special relay is required to run the ventilating fan.

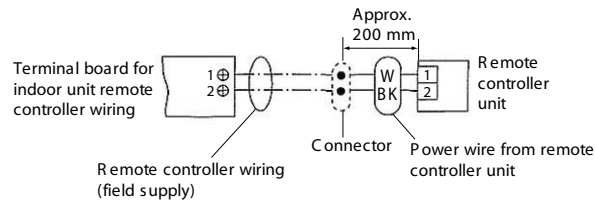


NOTE: The wiring from the indoor unit control PCB to the relay must be no more than 2 m in length.

## 6-6. Wiring the Remote Controller

<Flush Mounting>

Connection diagram



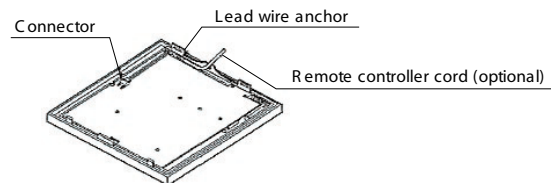
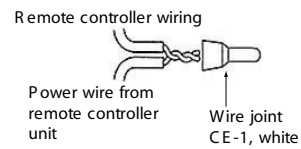
Use 0.5 mm<sup>2</sup> ..2 mm<sup>2</sup> wires.

- (1) Strip the insulation to approximately 14 mm from the ends of the wires that will be connected.
- (2) Twist together the 2 wires and create a crimp connection at the wire joint.
- (3) If a special crimping tool is not used, or if the connection is soldered, insulate the wires using insulation tape.

Use the remote controller cord (optional) for remote controller wiring.

- (1) Disconnect the lead wire that is wound around the lead wire anchor on the remote controller unit. Disconnect the connector and connect the remote controller cord (optional) to the connector on the remote controller unit. Insert the remote controller cord (optional) into the groove and bend it into the correct shape, then wind it around the lead wire anchor.
- (2) If the remote controller cord (optional) is used, refer to the installation manual that is provided with the cord.

Provided wire joint  
(white)



6-7. Trouble Diagnostics

(1) Contents of remote controller switch alarm display

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display		
				Operation	Timer	Standby for heating
Serial communication errors Mis-setting	Remote controller is detecting error signal from indoor unit	Error in receiving serial communication signal (Signal from main indoor unit in case of group control) Outdoor system address, indoor system address, or indoor unit individual/main/sub setting is not set (Automatic address setting is not completed) Auto address is not completed	E01			
		Error in transmitting serial communication signal	E02	☀	●	●
	Indoor unit is detecting error signal from remote controller (and system controller)		E03			
	Improper setting of indoor unit or remote controller	Indoor unit address setting is duplicated	E08			
		Remote controller setting is duplicated	E09			
	Indoor unit is detecting error signaled from signal option	Error in transmitting serial communications signal	E10			
		Error in receiving serial communications signal	E11			
	Setting error	Main unit duplication in simultaneous-operation multi control (detected by outdoor unit)	E14			
	Indoor unit is detecting error signaled from outdoor unit	Error in receiving serial communications signal	E04			
		Error in transmitting serial communications signal	E05			
	Outdoor unit is detecting error signaled from indoor unit	Error in receiving serial communications signal (including unit quantity verification failure)	E06	●	●	☀
		Error in transmitting serial communications signal	E07			
	Automatic address setting failed	Indoor unit capacity too low	E15			
		Indoor unit capacity too high	E16			
		No indoor units connected	E20			
An indoor unit detected trouble in the signal from another indoor unit	Error in transmitting serial communications signal	E17	☀	●	●	
	Error in receiving serial communications signal	E18				
Communications trouble between units	Communications failure with MDC	E31	●	●	☀	
Mis-setting	Setting error	Indoor unit group settings error	L01			
		Indoor/outdoor unit type mismatch	L02	☀	●	☀
		Main unit duplication in group control (detected by indoor unit)	L03		☀	☀
		Outdoor unit address duplication (system address)	L04	☀	○	☀
		Group wiring connected for independent indoor unit	L07		☀	☀
		Address not set or group not set	L08	☀	●	☀
		Indoor unit capacity not set	L09		☀	☀
		Outdoor unit capacity not set or setting error	L010	☀	○	☀
		Miswiring in group control wiring	L011		☀	☀
Indoor unit type setting error (capacity)	L013					

Continued

ON: ○ Blinking: ☀ OFF: ●

Possible cause of malfunction			Wired remote control display	Wireless remote controller receiver display		
				Operation	Timer	Standby for heating
Ceiling panel connection failure			P09			
Activation of protective device	Indoor protection	Fan protective thermostat	P01	●	☀	☀
		Float switch	P10	┌ Alternately ┐		
	Outdoor protection	Discharge temperature trouble	P03			
		Open phase detected, AC power trouble	P05			
		No gas	P15			
		4-way valve locked	P19			
		High cooling load	P20	☀	●	☀
		Outdoor fan trouble	P22	┌ Alternately ┐		
		Inverter compressor trouble (HIC PCB)	P26			
		Inverter compressor trouble (MDC)	P29			
		Simultaneous-operation multi control trouble	P31			
		Compressor current failure (overload)	H01	●	☀	●
	Thermistor fault	Thermistor open circuit Short circuit (indoor)	Indoor heat exchanger temperature sensor (E1)	F01		
Indoor heat exchanger temperature sensor (E2)			F02	☀	☀	●
Indoor temperature sensor			F10	┌ Alter. ┐		
Thermistor open circuit Short circuit (outdoor)		Discharge temperature (TD)	F04			
		Outdoor heat exchanger temperature (C1)	F06			
		Outdoor heat exchanger temperature (C2)	F07	☀	☀	○
		Outdoor air temperature (TO)	F08	┌ Alter. ┐		
		Intake temperature (TS)	F12			
		Indoor EEPROM error	F29	☀	☀	●
		Outdoor EEPROM error	F31	┌ Simul. ┐		
		F31	☀	☀	○	
			┌ Simul. ┐			