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1. Main Operating Functions

1. Room Temperature Control

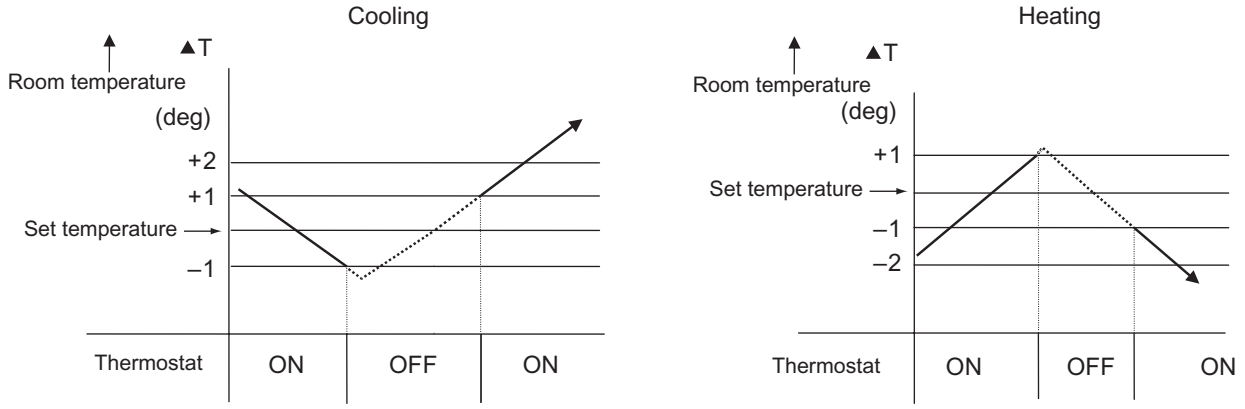
The thermostat is turned ON/OFF according to ▲T as shown below.

▲T = Room temperature - Set temperature	
When remote controller sensor is used	Room temperature = Temperature detected by the remote controller sensor
When body sensor is used	Room temperature = Temperature detected by the body sensor - Intake shift temperature*

* Intake shift temperature (enabled only during heating)

During heating, a difference in temperature occurs between the top and bottom of a room. This value is set in consideration for the difference between the temperature detected by the body sensor and the temperature at the bottom of the room.
<Value set for intake shift temperature at time of shipment>: 4°C

Note: The shift temperature can be selected in the range of 0 – 10°C, by using the remote controller simplified setting mode.



(1) After the thermostat turns ON, it will not turn OFF again as a result of ▲T for 5 minutes.

(2) After the thermostat turns OFF, it will not turn ON again for 3 minutes. (It also will not turn ON for 3 minutes after the power is switched ON.)

(3) The compressor turns OFF if the mode is changed cooling → heating (or heating → cooling) while the compressor is ON.

(4) If "test run" mode is selected, the thermostat will not turn OFF as a result of ▲T for 60 minutes. (The thermostat is forced ON.)

3

1. Main Operating Functions

2. Automatic Control for Heating and Cooling

Automatic Heating/Cooling Control

(1) When operation starts, heating or cooling is selected according to the set temperature and the room temperature.
- Room temperature ≥ Set temperature + 1 → Cooling
- Set temperature – 1 < Room temperature ≤ Set temperature + 1 → Monitoring mode (*1)
- Room temperature < Set temperature – 1 → Heating

*1: If the difference between the room temperature and set temperature is small when operation starts, the cooling thermostat remains in standby status (OFF) until the temperature difference increases. When the temperature difference increases, either cooling operation or heating operation is selected. This standby status is known as "monitoring mode."

(2) After operation starts in the selected operating mode, the set temperature is automatically shifted by +2°C (cooling operation) or –2°C (heating operation).

Example: Temperature set on the remote controller is 20°C.

	Selected operating mode	Shifted set temp.	Remote controller display
1	Cooling	22°C	20°C
2	Heating	18°C	20°C

(3) Operating mode changes (heating → cooling, cooling → heating) which occur during operation as a result of temperature changes are handled as shown below.
- Heating → cooling: Room temperature → Shifted set temperature (set temperature + 2°C) + 0.5°C
- Cooling → heating: Room temperature → Shifted set temperature (set temperature – 2°C) – 1.0°C

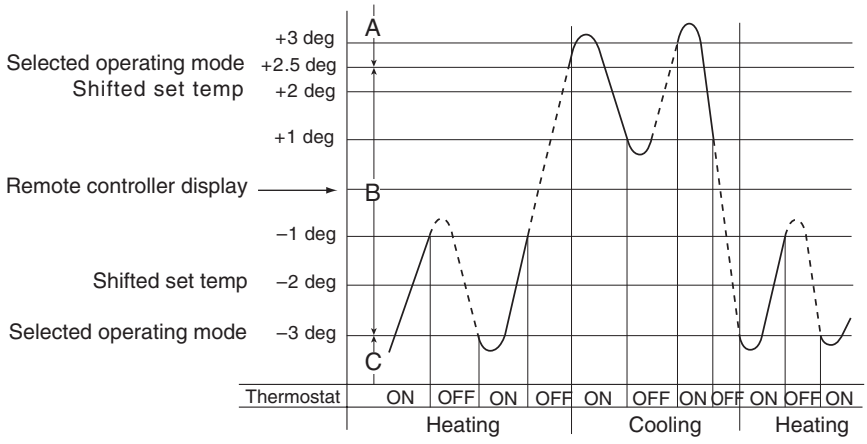
Example: Temperature set on the remote controller is 20°C.

	Operating mode change	Shifted set temp.
1	Heating → Cooling	20 + 2 + 0.5 = 22.5°C or higher (*2)
2	Cooling → Heating	20 – 2 – 1.0 = 17°C or lower

*2: During heating operation when the body sensor is used, a temperature shift is applied to the intake temperature detected by the sensor, in consideration of the difference in temperature at the top and bottom of the room. (Refer to the "Room Temperature Control" item.) If this intake shift temperature is 4°C, then the heating → cooling change occurs when the temperature detected by the body sensor is 26.5°C or higher.

(4) Cooling (heating) operation does not change if the room temperature changes from area C → A (or A → C) within 10 minutes after the compressor turns OFF. (Monitoring mode is excepted.)

(5) When the heating/cooling change occurs, the 4-way valve switches approximately 30 to 50 seconds after the compressor turns ON.



3

1. Optional Controller (Remote Controller)

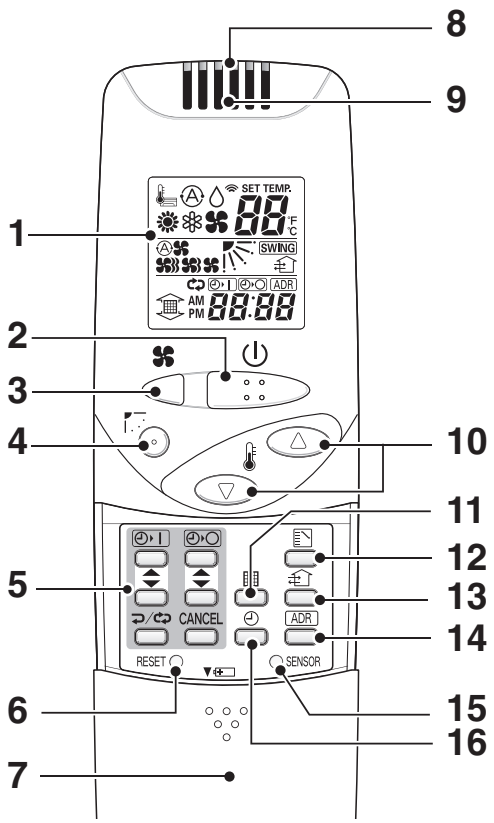
Wireless Remote Controller CZ-RWSU2 / CZ-RWST2 / CZ-RWSL2 / CZ-RWSC2 / CZ-RWSY2 / CZ-RWSK2

One remote control can control a group of up to eight indoor units.

1-1. Names and Functions

REMOTE CONTROLLER

1. Operation Display	Displays the operation status. (The figure shows all the statuses.) • The auto-flap display may be different, depending on the installed unit.
2. Start/Stop button	Pressing this button once starts and pressing again stops the operation.
3. Fan speed button	
4. Swing/Wind Direction button	
5. Timer setting button	Use for operating with a timer.
6. Reset button	Use this button after changing the batteries.
7. Cover	Press at the top center and then slide down.
8. Transmitter	
9. Remote control sensor	Detects the temperature at the remote controller when detection has been switched to the remote control by the sensor button.
10. Temperature setting buttons	raises the temperature setting 1 ℃ at a time. lowers the temperature setting 1 ℃ at a time.
11. Filter button	**CZ-RWSC2** Press to turn off the filter lamp on the receiver.
12. Mode Select button	Press to switch the operation mode.
13. Ventilation button	Use this when connected to an aftermarket fan. Pressing this button starts and stops the fan. When the air conditioner is started or stopped, the fan starts or stops at the same time. (appears on the display of the remote control when the fan is operating.)
14. Address button ADR	
15. Sensor button	Use this when switching to detect the temperature at the remote control. At shipping the default setting is set to detect the temperature at the unit. At this time is shown on the display.
16. Clock button	Use this when setting the clock.



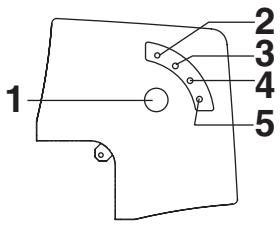
From this page on the names of remote control buttons will be abbreviated as the illustration of the “button”.
E.g.: Start/Stop button → ⏻

2. Wireless Remote Controller

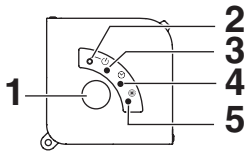
RECEIVER

1. Receiver	Receives the signal sent from the remote control.
2. Emergency operation button	**Display lamps** When an error occurs, one of the lamps flashes. When a display lamp is blinking, refer to " Before Requesting Service ".
3. Operating lamp	This lamp is lit when the unit is operating.
4. Timer lamp	This lamp is lit when the timer is set.
5. Standby lamp	• When the heater is working, the lamp lights at the following times. When the thermostat has operated during defrosting at the time of the startup. • The lamp flashes when an error occurs.
6. Filter lamp	This lamp is for notifying you when the filter needs to be cleaned.
7. Swing button	
8. Normal/Stop All switch	Use in the **Normal** position. It does not operate in the **Stop All** position. **Remote control, main / remote control, secondary, switch** In normal use this should be on remote control, main. It is also possible to use both in conjunction with a wired remote control (sold separately). (Consult with the dealer where the product was purchased about making the settings.) **Test/On switch** This is used during service. It is not for normal use. **Test Run/On switch** This is used during service. It is not for normal use.
9. Address switch	Differentiate between incoming and outgoing signals.

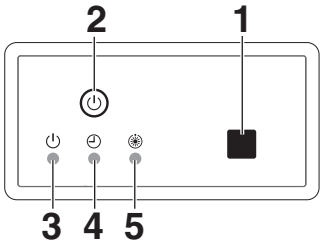
CZ-RWSU2



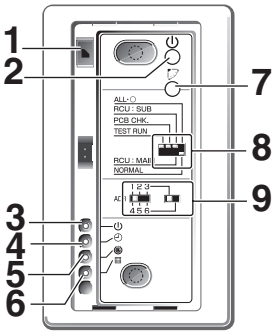
CZ-RWSY2



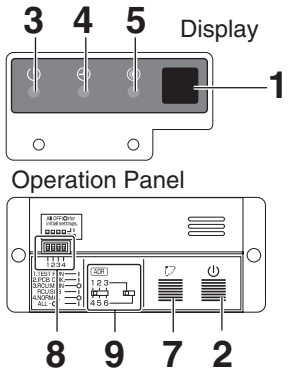
CZ-RWST2



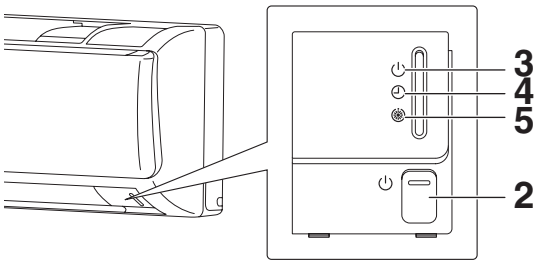
CZ-RWSC2



CZ-RWSL2



Indoor Unit (K type)



NOTE

- If a heat pump model is being used, it will beep twice and the operating lamp will light up on the display; if the timer and standby lamps blink alternately, a conflict between the heating and cooling exists, so the unit cannot operate in the desired mode. (On models that do not have an Auto function, even if Auto is selected, it works in the same way.)
- When the local operation is disabled by such as the centralized control, and if the Start, Stop, Mode or Temperature setting buttons are pressed, the unit will beep five times and the change will not be made.

2. Wireless Remote Controller

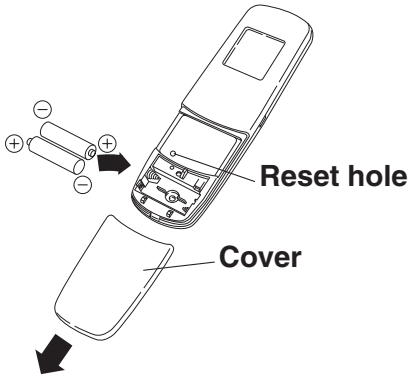
1-2. Installing Batteries

1. Remove the cover.

2. Insert two AAA alkaline batteries.

Put the batteries in with the polarity [+/–] as shown in the figure.

3. Gently insert one end of an unfolded paper clip (or a similar object that can fit) into the Reset hole and press the Reset button inside the hole and then put the cover back on.



NOTE

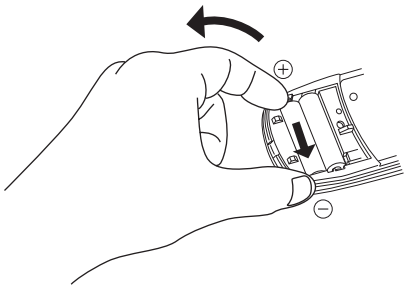
- Change the batteries when the display of the remote control gets weak or if it will not work unless close to the receiver.
  (Alkaline batteries generally last about one year.)
- When changing batteries, always use two fresh batteries of the same make.
- If the remote control will not be used for a long period of time, remove the batteries.
- Please dispose of batteries appropriately.
- After changing the batteries, follow the procedures described below to reset the current time.

1-3. How to remove batteries

1. Remove the cover.

2. Press the battery toward the negative end and lift it out by its positive end. (As shown at right)

3. Remove the other battery in the same way.



NOTE

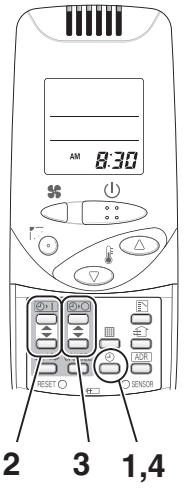
- Dispose of the used batteries at the designated location in compliance with the applicable local ordinances.

1-4. Setting the Current Time

After changing the batteries and pressing reset, be sure to reset the current time.
(When reset is pressed, the current time reverts to [0:00])

1. **Press ◴ for two seconds or more.**
   Once the clock displays starts blinking, the clock can be set.
2. **Set the hour with ▲/▼ of the ◴.**
   If you press and hold the button, the time changes quickly.
3. **Set the minutes with ▲/▼ of the ◴.**
   If you press and hold the button, the time changes quickly.
4. **Pressing ◴ completes the time setting.**

- While you are setting the current time, the time display flashes but the colon does not.
- If the buttons are not pressed for three minutes while setting the current time, it is set to the displayed time.

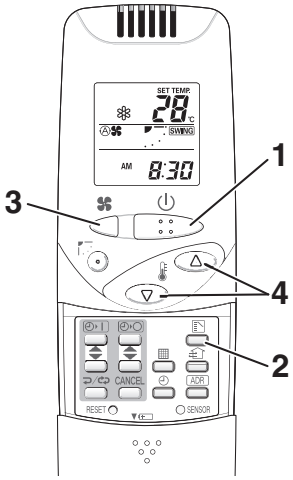


NOTE

When reset is pressed, the timer settings are deleted.

2. Wireless Remote Controller

1-5. Operation



Auto Ⓐ, Heat ☼, Dry ◊, Cool ❄, Fan ✣

Models that only provide the cooling function cannot operate in the auto or heating modes.

Power: Turn on the power of the indoor unit at least 14 hours before operation.

1. **Press ⏻.**
2. **Press ▤ and select from among Auto Ⓐ, Heat ☼, Dry ◊, Cool ❄ and Fan ✣.**
3. **Press ✣ and select the desired speed.**
   If set to Auto Ⓐ✣, the fan speed switches automatically.
   (Auto does not work when in the Fan mode.)
4. **Press one of the ▽ △ buttons and set the desired temperature.**
   Temperature settings cannot be made when in the Fan mode.

	Auto Ⓐ	Heat ☼	Dry ◊ / Cool ❄
MAX	27	30	30
MIN	17	16	18

Stop: Press ⏻.

When the unit is stopped with the remote control, even though the compressor of the outdoor unit stops, the fan on the outdoor unit may continue to run for a while.

If the unit is not heating very effectively with a Low fan speed ✣, switch the fan speed to High ✣ or ✣ Medium.

Depending on the indoor unit being used, it may indicate a function that it does not have. (The fan speed is set.)

If you cannot turn the air conditioner off in the normal way.

Disconnect the power to the indoor unit and contact the dealer where the product was purchased.

<Auto Operation>

If all the indoor units are identical in a cooling system and are under control as one group, it heats or cools automatically via the differences between the set temperature and the room temperature.

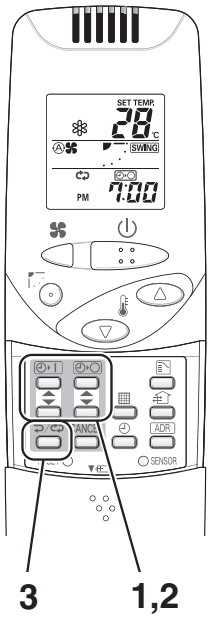
<Dry Operation>

- Depending on the indoor unit used, the remote control may have a [Dry] ◊ indicator on its display even though the unit does not have the Dry function. (Same as cooler operation)
- When the room temperature approaches the temperature setting, the unit continues to start up or stop automatically.
- When the drying mode stops operating, the indoor unit's fan blows a gentle breeze in order to keep the moisture from returning to the room at a minimum.
- Depending on the indoor unit used, and/or the temperature in the room, the fan speed may not be adjustable.
- Depending on the unit used, when the outside air temperature is 15 °C or less, the dry function will not operate.

2. Wireless Remote Controller

1-6. Timer Operation

- When setting the timer, make sure the current time on the remote control is accurate.
- The timer's clock can only be set when the display of the remote control is ON.
- After setting the timer, put the remote control in a place where its signal will reach the receiver of the indoor unit. (When the time set for the timer is reached, a signal is sent from the remote control to Start/Stop the unit.)



Using the Timer

1. Press either ▲ / ▼ of the ⏲I or ⏲O, and while the time is being displayed, if you press ▲ / ▼ again, a scheduled time can be set.
The time last set on the timer is displayed.
"--:--" indicates time to change the batteries.

2. Press either ▲ / ▼ of the ⏲I or ⏲O and set the timer to the desired time.
Every time you press ▲/▼, the time changes in 10 minute increments.
If you press and hold the button, the time changes quickly.

3. After setting the timer, if you press ⊃/↻, the time you set changes to a steady display, indicating settings are complete.
After the timer setting is displayed for three seconds, the display reverts to the current time.

Combining ON and OFF Timers

- Setting the ON and OFF timers, respectively.

3

Checking the timer setting

- If you press either ▲/▼ for the ⏲I or the ⏲O, the scheduled time is displayed for four seconds.
- When no timer setting has been made, it displays --:--. (Initial Setting)

Changing a timer setting

- Press ▲/▼ for the ⏲I or the ⏲O, and then when the timer setting is displayed, press ▲/▼ for the timer again.

Canceling a timer setting

- If you press [CANCEL], the timer setting is canceled.
- If you wish to cancel the setting for either the ⏲I or the ⏲O timer, press ▲/▼ or the desired timer and when the scheduled time is displayed, press [CANCEL].

Using the same timer setting every day

- If you press ⊃/↻ for 2 or more seconds, " ↻ " is displayed and the **ON timer** or the **OFF timer** will operate the unit at the same time every day.
- If you press ⊃/↻ again for two seconds or more, " ↻ " goes off and the timer operates just once.

2. Wireless Remote Controller

1-7. Adjusting the Wind Direction

- Never try to manually move the flap (up-down wind direction plate) that is operated by the remote control.
- When the unit stops, the flap (up-down wind direction plate) automatically faces downwards.
- When the unit is in heating standby, the flap (up-down wind direction plate) faces upward.
  Also, bear in mind that the flap starts swinging after the heating standby mode is released, but the display on the remote control indicates Auto Flap during standby heating as well.

CZ-RWSU2 / CZ-RWST2 / CZ-RWSL2 / CZ-RWSY2 / Indoor Unit (K1 type)

Setting the Wind Direction

While the unit is operating, every time you press , the direction the flap faces changes.

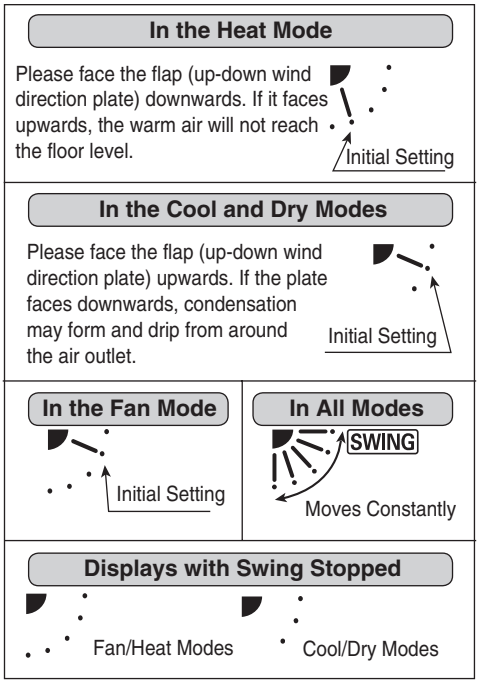
Setting Flap to Swing

If you press to set the flap (up-down wind direction plate) in its most downward facing position, and then press again, SWING is displayed and the flap swings automatically up and down.

Stopping Flap Swing

If you press again while the flap is swinging, you can stop the flap from swinging and set it in place as desired. Thereafter, if you press , you can set the wind direction starting from the most upward position.

- When the unit is in the Cool or Dry modes, the flap cannot stop facing downwards. If you try to stop the flap from swinging while it is facing downwards, it will continue moving until it is in the third position from the top.



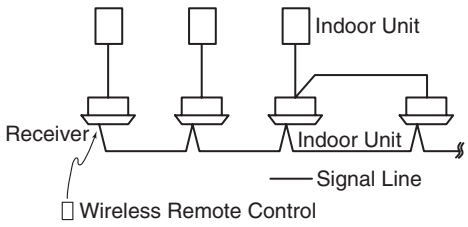
CZ-RWSC2

The available functions differ depending on the indoor unit being used.
The wind direction cannot be set via remote control for any models other than those noted below.
For more information, please refer to the users' manual that came with your indoor unit.
Four-direction Ceiling Cassette Models, Bi-directional Ceiling Cassette Models, Unidirectional Cassette Models for High Ceilings, Ceiling Suspended Models, Wall Models
Please refer to *Setting the Wind Direction and Stopping Flap Swing.*

1-8. Operating Multiple In/Outdoor Units Simultaneously (Group Control)

Group control works well for providing air conditioning to one, large room with more than one air conditioning units.

- One remote control can operate up to eight indoor units.
- All the indoor units have identical settings.
- Set temperature sensing to the indoor unit (Main Sensor).



3

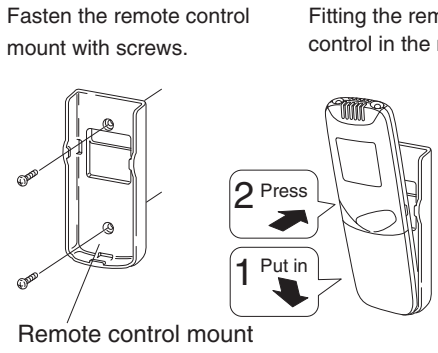
2. Wireless Remote Controller

1-9. Using the Remote Control

- Point the transmitter of the remote control at the receiver. When the signal is received correctly it will beep once. (It beeps twice only when the unit starts operating.)
- The signal can be received at a distance of about 6 meters. This distance should be used only as a guide. It depends on battery strength.
- Make sure nothing is between the remote control and the receiver that could block the signal.
- Do not leave the remote in direct sunlight, where the wind from the air conditioner can blow directly on it, or near any other heat source.
- Take care not to drop, throw or wash the remote control with water.
- The signal from the remote control may not be received in rooms with rapid start fluorescent lighting, inverter lights, plasma displays, LCD televisions (monitor), etc. For more information, please contact the dealer where the product was purchased.

Wall Mount Use

- Press ⏻ from the location you wish to mount the remote and make sure the signal is received correctly.
- Pull the remote control forward to remove it.



1-10. For Best Results

Don't get the remote control too far away from the receiver.
This may cause a malfunction. Be sure to keep the remote control in the same room as the receiver.

Point the remote control at the receiver.
When the signal is received correctly it will beep one time.

Avoid locating the remote control where it is covered, such as behind a curtain.
Keep it out in the open.

1-11. Addresses

In both multi and single unit installations, when more than one indoor unit is installed in the same room with a compatible remote control, addresses can be set up to avoid crosstalk. By setting the address switches on the receivers and matching them with the number of addresses on the remote control, up to six indoor units can be controlled separately with the remote control. (When using units in a flexible combination or operating multiple units simultaneously, as they are operated at the same time, they cannot be controlled individually.) There are separate address settings, receiver addresses for the receivers*1 and transmitter addresses for the remote control.
For more information, please contact the dealer where the product was purchased.

- The setting procedure is different for Indoor Unit (K1 type). (See Setting Addresses (K1 Type) in the next page.)
- These settings are saved in nonvolatile memory in the remote control, so even when its batteries are changed, the settings do not have to be made again.

*1 CZ-RWST2 is of a receiver (Inside the indoor unit); CZ-RWSL2 is of an operation panel. (Inside the indoor unit)

Checking Addresses
When you press ADR on the remote control, its current address is shown in the display. If this address corresponds to the address of a receiver*2, the buzzer sounds. (If it is on ALL, the buzzer will always sound.)
If it is on ALL, it can be operated regardless of receiver addresses. Point the remote control at the receiver you wish to operate and transmit.

*2 CZ-RWSL2 is a receiver. (Indoor unit)

2. Wireless Remote Controller

Matching up Addresses

Setting Remote Control Addresses

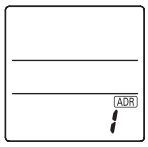
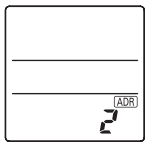
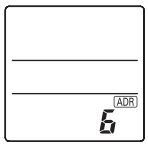
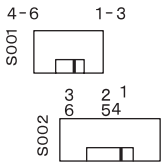
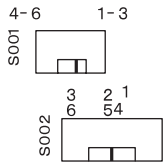
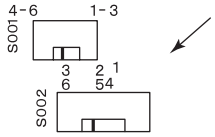
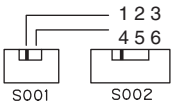
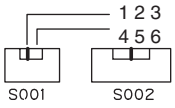
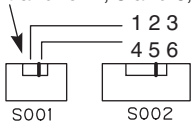
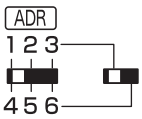
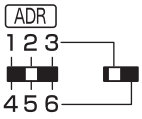
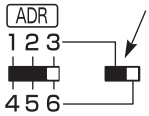
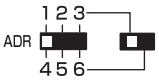
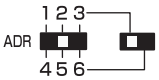
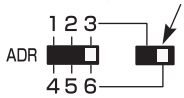
1. If you press [ADR] and ⇄ at the same time, "SET" will blink.

2. While holding [ADR] down, every time you press ⇄, it cycles from ALL → 1 → 2 → 3… 6 → ALL.

Set it to the receiver address switch of the indoor unit you wish to operate.

3. When you release [ADR], the address that was displayed is set.

When you do this, if it corresponds to the receiver's address setting, the buzzer sounds.

Address Display on the Remote Control				●●●●●	
CZ-RWSU2					
Position of receiver's (inside indoor unit) address switch	The position of the receiver's address switch does not matter.			●●●●●	For 1, 2 and 3, set the switch on the left and for 4, 5 and 6, to the right. 
CZ-RWST2					
Position of receiver's (inside indoor unit) address switch	The position of the receiver's address switch does not matter.			●●●●●	For 1, 2 and 3, set the switch on the left and for 4, 5 and 6, to the right. 
CZ-RWSL2					
Position of the operation panel's (inside indoor unit) address switch	The position of the receiver's address switch does not matter.			●●●●●	For 1, 2 and 3, set the switch on the left and for 4, 5 and 6, to the right. 
CZ-RWSC2					
Position of the Receiver's Address Switch	The position of the receiver's address switch does not matter.			●●●●●	For 1, 2 and 3, set the switch on the left and for 4, 5 and 6, to the right. 

Setting Addresses (CZ-RWSY2 / K1 Type)

(Setting the address of the indoor unit)

1. First of all, set the address for the remote control with Setting Remote Control Address (See Page 3-12).

2. Press [Emergency Operation] ⏻ of the indoor unit for four seconds or more.

When you do this, the lamps of the display will blink one after another.

3. Press [ADR] on the remote control.

4. The buzzer will sound and the address of the indoor unit will change to the address displayed on the remote control.

5. If you press [Emergency Operation] ⏻ of the indoor unit once, the lamps on the indoor unit's display will turn off.

NOTE

- Please do not hold the [Emergency Operation] ⏻ button of the indoor unit down while the indoor unit's display lamps are blinking one after another.
- Make sure to operate while the indoor unit is stopped.
- The address of indoor unit is set to "ALL" at the time of the shipment.

2. Wireless Remote Controller

1-12. Emergency Operation

Use [Emergency Operation] ⏻ in the following situations when there is an urgent need.

- When the remote control's batteries have failed.
- When the remote control is broken.
- When the remote control is lost.

*1 Figures: CZ-RWSU2, CZ-WRSY2 and CZ-RWST2 are of receivers (inside indoor unit),
CZ-RWSL2 is of the operation panel (inside indoor unit) and Indoor Unit (K1 type) is of its front panel.

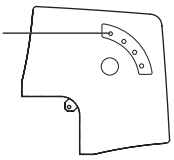
CZ-RWSU2 / CZ-RWST2 / CZ-RWSY2 / Indoor Unit (K1 type)

Start : press [Emergency Operation] ⏻ of the receiver.

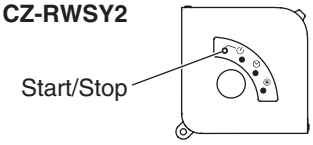
If the indoor temperature is 24 °C or greater when the unit starts running, it will act as a cooler.
If the indoor temperature is less than 24 °C when the unit starts running, it will act as a heater.

Stop : press [Emergency Operation] ⏻ of the receiver again.

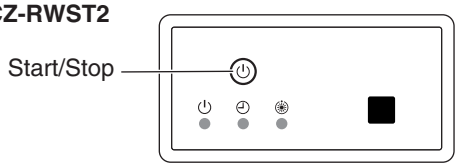
CZ-RWSU2
Start/Stop



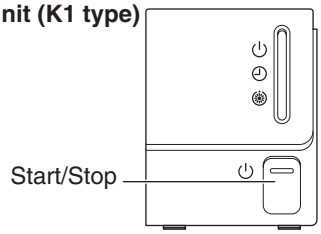
CZ-RWSY2



CZ-RWST2



Indoor Unit (K1 type)



NOTE

- The Test Run/On and Test/On switches are for use when the unit is installed and test run. It is not for normal use.
- If the [Normal/Stop ALL] switch is on **Stop ALL,** the unit cannot receive signals from the remote control.

CZ-RWSC2 / CZ-RWSL2

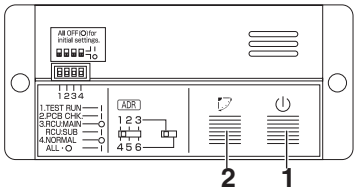
1. Press [Emergency Operation] ⏻ of the receiver.

If the indoor temperature is 24 °C or greater when the unit starts running, it will act as a cooler.
If the indoor temperature is less than 24 °C when the unit starts running, it will act as a heater.

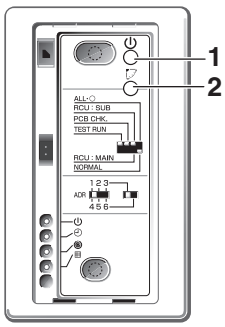
2. If you press , the wind direction automatically oscillates up and down.

Stop : press [Emergency Operation] ⏻ of the receiver again.

CZ-RWSL2



CZ-RWSC2



NOTE

- The Test Run/On and Test/On switches are for use when the unit is installed and test run. It is not for normal use.
- If the [Normal/Stop ALL] switch is on **Stop ALL**, the unit cannot receive signals from the remote control.

2. Wireless Remote Controller

1-13. Miscellaneous Settings

A variety of changes can be made to settings, depending on the indoor unit being used.

Wind Direction (flap) indicator, operation mode indicator, time display (24 hour, AM/PM), Heat Max Temp

- For information about the flap function, refer to the users' manual of the unit being used.
- (These settings are saved in nonvolatile memory in the remote control, so even when its batteries are changed, the settings do not have to be made again.)
- First check the display of the remote control when the unit is stopped and then make any desired settings.

How to Operate

- While holding down the buttons below, every time ↻ is pressed the remote control's display changes.
- Whatever is being displayed when you release ↻ is set.

Setting Item	Operation Button	Setting Content	Remote Control Display
Remote control flap display setting for when is pressed	Press ↻ while pressing	Models with movable flaps	SWING
		Swing only models	SWING
		Models w/o lamps	None
Remote control operation mode display setting when is pressed	Press ↻ while pressing	Heat Pump (with Auto)	Ⓐ
		Heat Pump (without Auto)	
		Dedicated air conditioner	
Clock display setting	Press ↻ while pressing	24 Hour	23:59
		AM/PM	PM 11:59
Max possible temperature setting in the Heat mode	Press ↻ while pressing △	Maximum heating temperature range is 26 °C – 30 °C	26→27→28 ↵ 30←29 ↵

3

2. Wireless Remote Controller

1-14. Before Requesting Service

Before requesting service, please check the followings.

Problem	Cause	Solution
The unit doesn't work even when ⏻ is pressed on the remote control.	The power to the indoor unit is not ON.	Make sure the power to the indoor unit is ON.
	Is the Normal/Stop All switch in the Stop All position? (See Page 3-7)	Switch it to the Normal position and cancel operation.
	Are the remote control's batteries dead?	Change the batteries.
	Is there a mismatch between the display lamp and cooling/heating or is it set to something other than Auto? (The operating lamp stays lit, while the timer lamp and the standby lamp blink alternately.)	Change the operating mode.
	Do the addresses match one another?	Check the addresses of the receiver*1 and the remote control. (See Page 3-12)
The air conditioner starts and stops on its own.	Has the timer been set to repeat?	Check the timer settings.(See Page 3-10)
"E9" is displayed on the remote control when the unit is stopped.	An error has occurred in the non-volatile memory.	Please contact your sales outlet.
Although the unit is for air conditioning only, either Auto or Heat is indicated in the display.		Make settings to the remote control's operation mode display. (See Page 3-15)
After putting the batteries in the remote control, even when it is operated, the display does not change.		Press the Reset button on the remote control. (See Page 3-8)
The timer cannot be set.		Make the settings when the remote control is in Operation Display. (See Page 3-9)

If the problem persists even after you check the foregoing items, stop the unit, disconnect the power to the indoor unit and contact the dealer where the product was purchased with the model number and problem you are having.

As it is dangerous, under no circumstances should you undertake repairs yourself.

Further, when the receiver's*2 lamps are blinking; please contact your retailer with that information.

*1 CZ-RWSL2 is an operation panel

*2 CZ-RWSL2 is a display

1-15. Specifications

CZ-RWSU2 / CZ-RWST2 / CZ-RWSC2 / CZ-RWSY2 / CZ-RWSK2

Wireless Remote Control

Dimensions	182 mm (H) X 61 mm (W) X 18.5 mm (D)
Power source	Two AAA alkaline batteries
Clock Accuracy	±30 seconds per month (at 25 °C)

CZ-RWSU2 / CZ-RWST2 / CZ-RWSC2 / CZ-RWSY2

Receiver

Dimensions	CZ-RWSU2	200 mm (H) X 200 mm (W) X 25 mm (D)
	CZ-RWST2	65 mm (H) X 130 mm (W) X 22 mm (D)
	CZ-RWSC2	120 mm (H) X 70 mm (W) X 13 mm (D)
	CZ-RWSY2	108 mm (H) X 108 mm (W) X 20 mm (D)
Power source		16 V DC (Supplied from the terminal strip of the indoor unit's remote control)

CZ-RWSL2

Display	Dimensions	37 mm (H) X 70 mm (W) X 22 mm (D)
	Power source	5 V DC (supplied from the operation panel)
Operation Panel	Dimensions	55 mm (H) X 120 mm (W) X 16 mm (D)
	Power source	16 V DC (Supplied from the terminal strip of the indoor unit's remote control)

2. How to Install the Wireless Remote Controller Receiver

■ Common to All Models

2-1. Warnings about Installation of Receivers

The wireless remote uses a very weak infrared light for its signal, which can result in the signal not being received because of the following influences, so take care in where the unit is installed.

- Inverter or rapid-start type fluorescent lights. (Models without glow lamps)
- Plasma display or LCD televisions.
- Direct sunlight or other sources of bright light.

2-2. Warnings about Installing Remote Controls

(1) If a remote control is to be operated from a remote control holder that is hung on a wall, turn on the lights in the room as well as any electrical appliances and then check to make sure the air conditioner works with the remote control in the location where it will be installed. If it works, continue with installation.

(2) If the air conditioner is to be switched from the main sensor to a remote control sensor, pay attention to the following when installing.

- Locate where no warm or cold drafts will affect it.
- Locate in a place free from direct sunlight.
- Locate where it will not be affected by any other heat/cold source.

2-3. Things to remember when wired and wireless remotes are installed at the same time

Two remote controls can be used to control the unit if the wireless remote control kit is installed at the same time as the wired remote control.

(Up to 2 remotes [a wireless remote kit and the wired remote control] can be installed.)

When using 2 remotes, one or more units can be operated by the remotes.

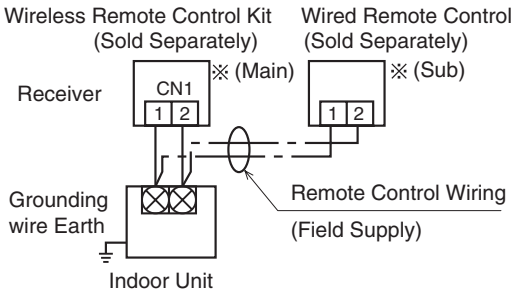
NOTE

1. When wiring remote controls, be sure to double-check the terminal numbers of the indoor unit before connecting them so there are no mistakes in the wiring. (Damage will occur if high voltage [e.g. supply voltage] is applied)
2. It is not possible to use more than one wireless remote control kit with one indoor unit. (A receiver located separately can be used at the same time)
3. If both a wireless and a wired remote control are to be installed and used at the same time, one of them must be set up as the sub remote control.

- If the wired remote control is to be the sub remote, change the wired remote control to the sub remote.
- If the wireless remote control is to be the secondary, turn the #3 switch on the wireless receiver (operation panel) from OFF to ON.

When 1 indoor unit is operated by 2 remote controls:

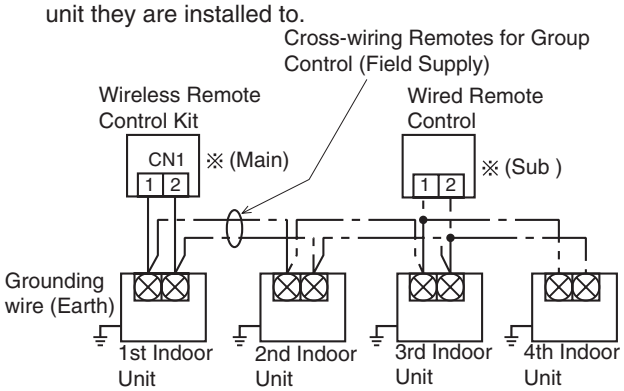
※ Either of the remotes can be set to main/sub.



- Use wiring of 0.5 mm^2 to 2 mm^2 for field supply.
- Use a total wire length of no more than 400 m.

If a group of units are to be controlled by 2 remote controls;

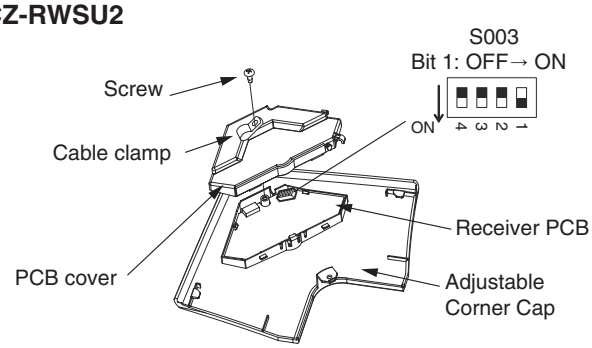
※ Main/sub remote controls will work regardless of which indoor unit they are installed to.



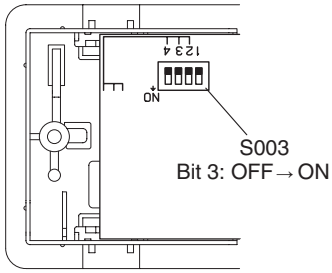
- Use wiring of 0.5 mm^2 to 2 mm^2 for field supply.
- Make the total wire length when cross-wiring a group no more than 200 m.

2. Wireless Remote Controller

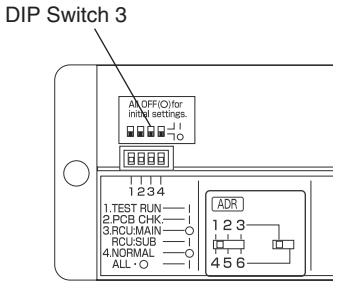
CZ-RWSU2



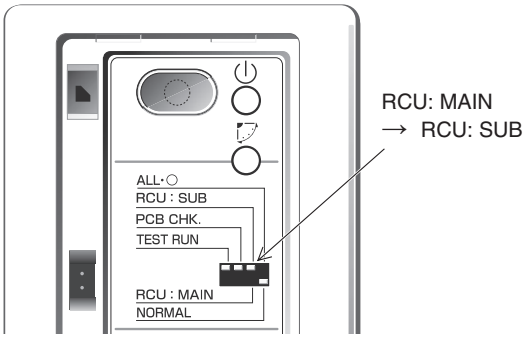
CZ-RWST2



CZ-RWSL2



CZ-RWSC2

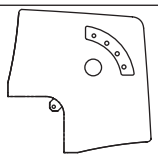
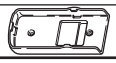


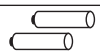
3

2. Wireless Remote Controller

■ **CZ-RWSU2**

2-4. Accessories

No.	Accessories	Quantity
1	Receiver 	1
2	Remote Control 	1
3	Remote Control Holder 	1

No.	Accessories	Quantity
4	Dry-cell Batteries 	2
5	Users Manual 	1
6	Truss Self-Tapping Screws 4 X 16 	2
7	Cable clamp 	1

2-5. Installing the Receiver

The receiver can only be installed on the corner indicated in Fig. 3-1, so consider how the panel will face when it is installed on the indoor unit.

(1) Remove the air inlet grill.

(2) Remove the screw holding the adjustable corner cap, slide the cap to the side and remove it. (Fig. 3-2)

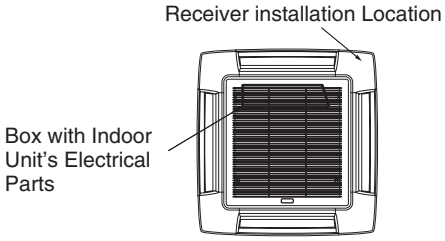


Fig. 3-1

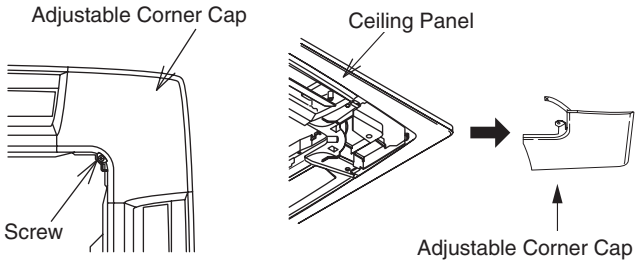


Fig. 3-2

(3) To pass the wire through the panel, bend back the clip on the hexagonal hole (diagonal line) and then pass wire protruding from the wireless receiver through the grill. (Fig. 3-3)

(4) After wiring according to the directions in Wiring the Receiver Unit below, leave enough wiring so the receiver's adjustable corner cap can be removed and fasten the cable clamp with its screw. (Fig. 3-3)

(5) Hang the string on the corner cover onto the pin on the ceiling panel as shown in the diagram. Then slide the corner cover onto the ceiling panel until the three clips are correctly located, and then fix it in place with the screws. (Fig. 3-4)

- Make sure the wire is not caught.
- Refer to the installation instructions supplied with the panel.

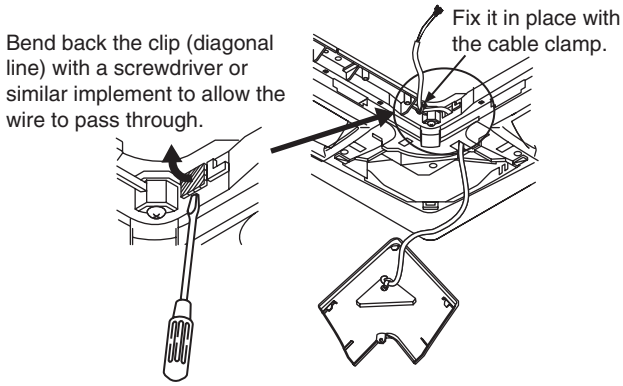


Fig. 3-3

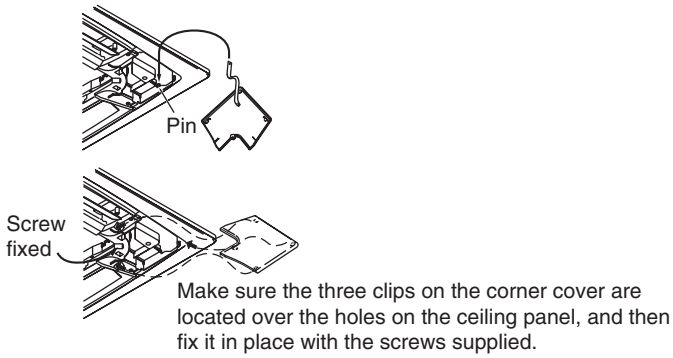


Fig. 3-4

NOTE

(1) If the wiring for the receiver is bundled with other wires, such as the incoming line, it may cause a malfunction, so avoid putting them together.

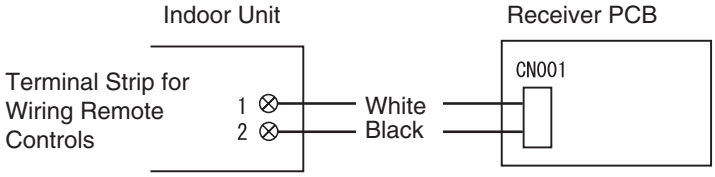
(2) If something causes the unit's power source to make noise it will be necessary to resolve the problem, such as by installing a noise filter.

- For more information about wiring or test operation, refer to Wiring the Receiver and Test Run.

2. Wireless Remote Controller

2-6. Wiring the Receiver

- **Wiring Diagram**



- **Connections**

  Connect the wires from the receiver to the remote control terminal strip on the indoor unit. (Polarity does not matter)

2-7. Test Operation

Implementing a Test Run

1. Turn the #1 DIP switch [S003] on the receiver's PCB from OFF to ON and operate the wireless remote control with its Start/Stop button.
2. During a test run, all display lamps on the display will light up.
3. During a test run, it is not possible to adjust the temperature.
4. After completing a test run, be absolutely sure to turn the #1 DIP switch from ON to OFF and make sure none of the display lamps are blinking. Also, replace the PCB cover back as it was and fasten it; while holding the wiring with the cable clamp, tighten its screw.

NOTE

(1) This is hard on the device, so only use this for the test run.

(2) After turning on the power, the unit will not receive any commands from the remote control for about 1 minute. This is not an error. (In fact it does receive signals, but they are cancelled.)

CZ-RWSU2

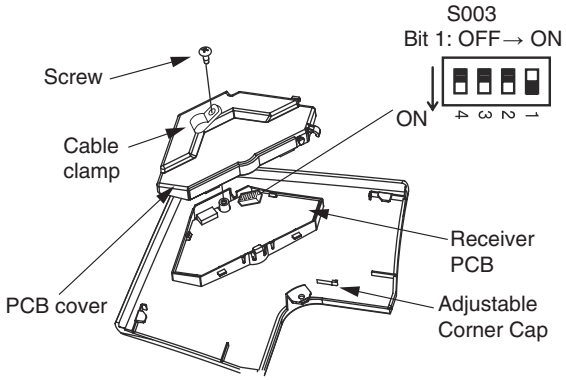
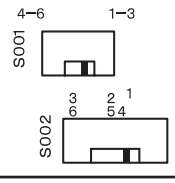
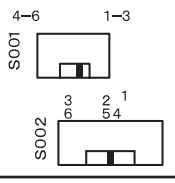
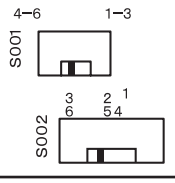


Fig. 3-5

2-8. Setting Address Switches

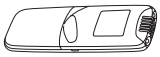
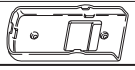
- When more than one receiver and remote control are installed in the same room, setting up addresses allows them to avoid interfering with each other.
- Refer to the Users Manual for information on how to change the addresses of the remote controls.
- Changing the address of a receiver can be done after removing the screw to the receiver's PCB cover. Once the change is complete, put the cover back in place; while holding the wiring with the cable clamp, tighten its screw.

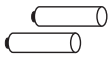
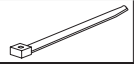
Address Display on the Remote Control	ALL	1	2	·····	6
Position of the Receiver's Address Switch	It doesn't matter where the receiver's address switch is.			·····	

2. Wireless Remote Controller

■ CZ-RWST2

2-9. Accessories

No.	Accessories	Quantity
1	Receiver 	1
2	Remote Control 	1
3	Remote Control Holder 	1

No.	Accessories	Quantity
4	Dry-cell Batteries 	2
5	Users Manual 	1
6	Truss Self-Tapping Screws 4 X 16 	2
7	Cable tie 	1

2-10. Installing the Receiver

● Ceiling Suspended Model

(1) Open the air inlet grill on the side panel, remove the 1 screw and then move it toward the front (direction of the arrow) and remove it. (Fig. 3-6)

(2) Wrap the tip of a slotted screwdriver with plastic tape and then slip it in to the side of and under where O is printed on the cover, wiggling the cover free. (Fig. 3-7) (Be careful not to scratch the panel.)

(3) After passing the lead wire through the panel, install the receiver in the hole in the panel. (The projecting parts of the receiver is held in the hole in the panel)

(4) Fasten the receiver's lead wire to the cable clip that is holding the wire from the louver motor. (Fig. 3-8)

(5) Attach the side panel.

(6) Put the receiver's lead wire together with other wires, such as the louver motor wire and fasten them with the wire saddle. (Fig. 3-9)

• Use the hole in the upper part of the wiring box to lead it in.

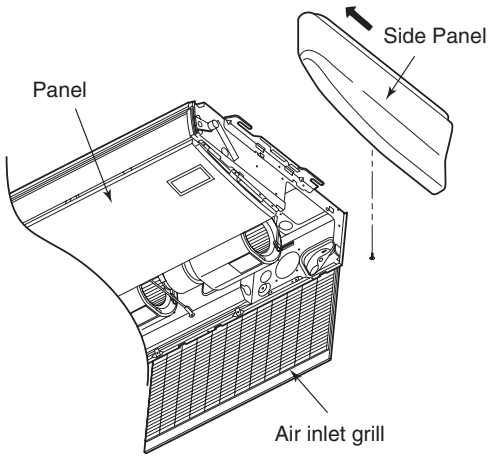


Fig. 3-6

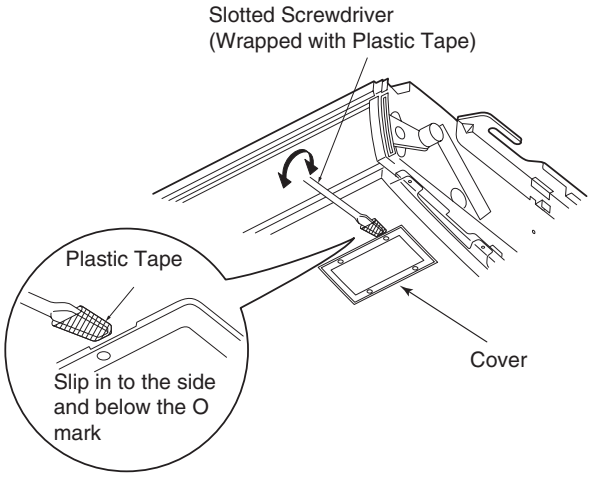


Fig. 3-7

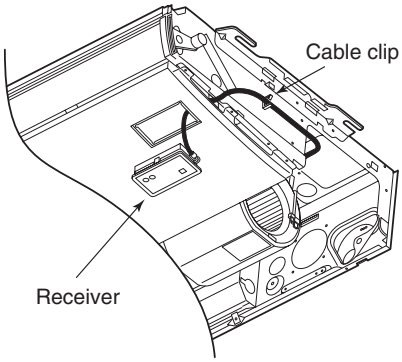


Fig. 3-8

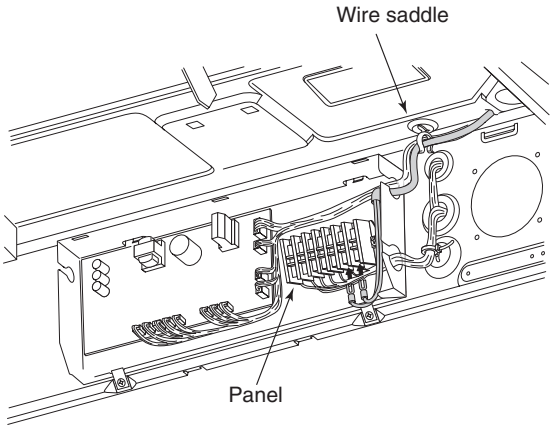


Fig. 3-9

2. Wireless Remote Controller

● Unidirectional cassette model for high ceilings/Unidirectional ceiling cassette model

(1) While spreading the tabs of the cover, pull it out from the panel to the front. (Fig. 3-10)

(2) Pass the lead wire through the panel and install the receiver in the hole in the panel.
(The projecting parts of the receiver hold it in the hole in the panel)

(3) Press the lead wire from the receiver in along the rib on the back of the panel.
If installing to a unidirectional high ceiling cassette, pass it through the cutout. (Fig. 3-11)

(4) Install the panel on the indoor unit.

(5) Fasten the lead wire sticking out from the panel with the cable clips on the inside of the indoor unit. (Fig. 3-12)

(6) Draw the lead wire into the electrical box through the hole on the bottom and connect it to the remote control terminal strip.
If installing to a high ceiling unidirectional cassette, fasten the wire at the latch of the fan casing with the enclosed cable tie. (Fig. 3-13)

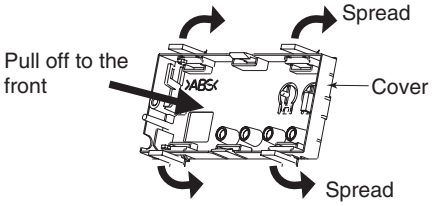


Fig. 3-10

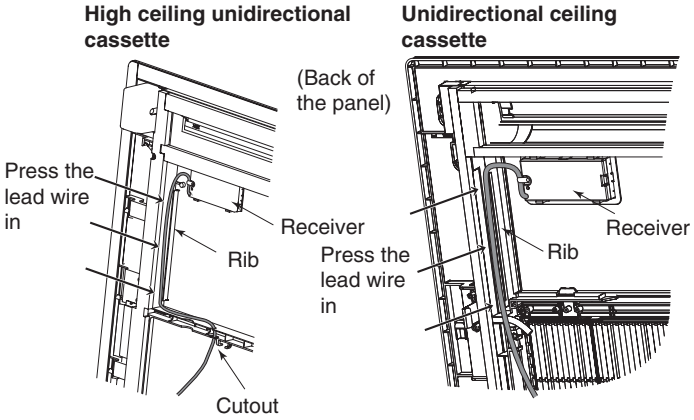


Fig. 3-11

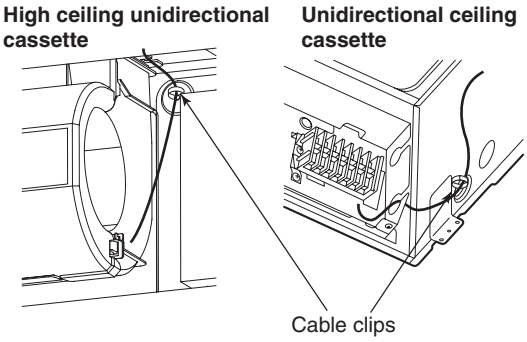


Fig. 3-12

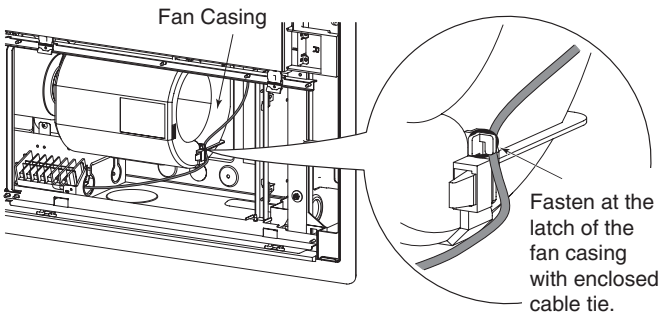


Fig. 3-13

NOTE

(1) If the wiring for the receiver is bundled with other wires, such as the incoming line, it may cause a malfunction, so avoid putting them together.

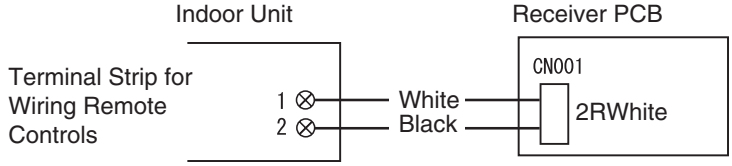
(2) Fasten the lead wire securely so it does not get wrapped up in the fan.

(3) If something causes the unit's power source to make noise it will be necessary to resolve the problem, such as by installing a noise filter.

• For more information about wiring or test operation, refer to Wiring the Receiver and Test Run.

2-11. Wiring the Receiver

Wiring Diagram



Connections

Connect the wires from the receiver to the remote control terminal strip on the indoor unit. (Polarity does not matter)

2. Wireless Remote Controller

2-12. Test Operation

Implementing a Test Run

1. Turn the #1 DIP switch [S003] on the receiver's PCB from OFF to ON and operate the wireless remote control with its Start/Stop button.
2. During a test run, all display lamps on the display will light up.
3. During a test run, it is not possible to adjust the temperature.
4. After completing a test run, be absolutely sure to turn the #1 DIP switch from ON to OFF and make sure none of the display lamps are blinking. Also, replace the PCB cover back as it was and fasten it; while holding the wiring with the cable clamp, tighten its screw.

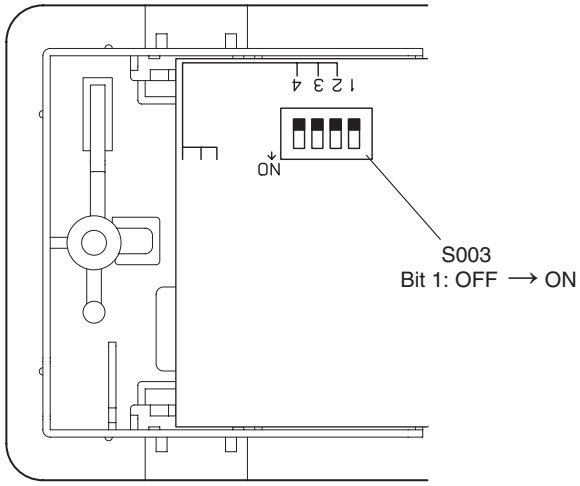


Fig. 3-14

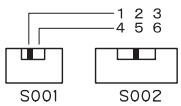
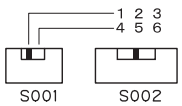
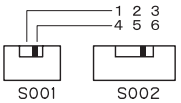
NOTE

(1) This is hard on the device, so only use this for the test run.

(2) After turning on the power, the unit will not receive any commands from the remote control for about 1 minute. This is not an error. (In fact it does receive signals, but they are cancelled.)

2-13. Setting Address Switches

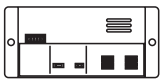
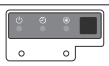
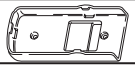
- When more than one receiver and remote control are installed in the same room, setting up addresses allows them to avoid interfering with each other.
- Refer to the Users Manual for information on how to change the addresses of the remote controls.
- Changing the address of a receiver can be done after removing the screw to the receiver's PCB cover. Once the change is complete, put the cover back in place; while holding the wiring with the cable clamp, tighten its screw.

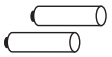
Address Display on the Remote Control	AL L	1	2	·····	6
Position of the Receiver's Address Switch	It doesn't matter where the receiver's address switch is.			·····	

2. Wireless Remote Controller

■ **CZ-RWSL2**

2-14. Accessories

No.	Accessories	Quantity
1	Operation Panel 	1
2	Display 	1
3	Remote Control 	1
4	Remote Control Holder 	1

No.	Accessories	Quantity
4	Dry-cell Batteries 	2
5	Users Manual 	1
6	Truss Self-Tapping Screws 4 X 16 	2
7	Pan Head Self-Tapping Screws 4 X 10 	2
8	Plastic Clamp L150 	4

2-15. Installing the Display/Operation Panel

Resin Panel

Installing the Operation Panel

(1) Remove the 2 screws and remove cover A from the back of the panel. (Fig. 3-15)

(2) Fasten the operation panel to the location in the diagram below with the 2 enclosed screws (4 X10). (Fig. 3-16)

(3) Pass the wiring for the display (W2, 6P white connector) through the back of the panel.

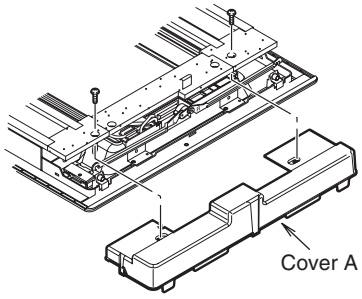


Fig. 3-15

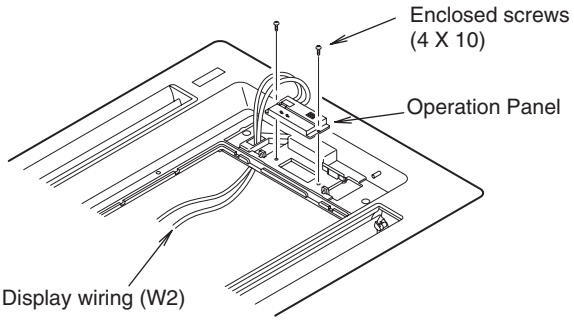


Fig. 3-16

Installing the Display

(1) 1 Cover B is fitted inside cover A, so remove the 1 screw and detach it by pressing on it from the front side of the panel. (Fig. 3-17)

(2) Connect the wiring (W2) for the display that is sticking out from the operation panel and fit the display into the panel. Make sure the 6P white connector is firmly connected all the way in.

(3) Bend the lead wire of the display into shape so it does not come in contact with the louver shaft. There is a groove in the circled part in diagram 3 that is for passing wire through; press the lead wire into this groove so there is no slack in it.

(4) Attach cover A. When doing so, press it securely into the place indicated by the arrow in Fig 3-18.

(5) Shape the lead wire of the operation panel appropriately and fasten it with the enclosed plastic clamp.

(6) Install the ceiling panel.

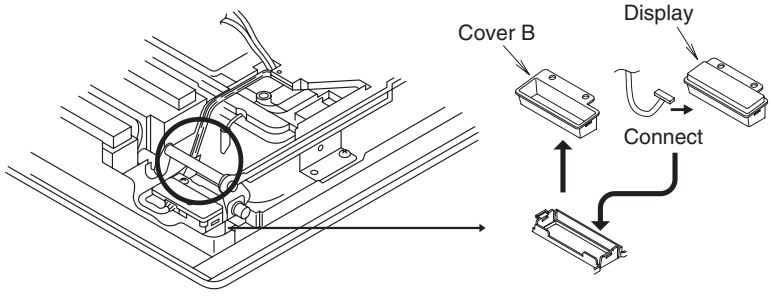


Fig. 3-17

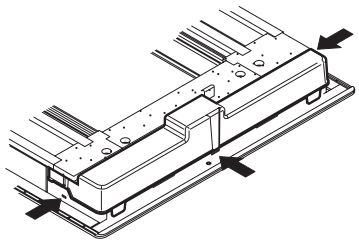


Fig. 3-18

2. Wireless Remote Controller

Metal Panel

Installing the Operation Panel

(1) Remove the 2 screws and remove cover A from the back of the panel. (Fig. 3-19)

(2) Fasten the operation panel to the location in the diagram below with the 2 enclosed screws (4 X10). (Fig. 3-20)

(3) Pass the wiring for the display (W2, 6P white connector) through the back of the panel.

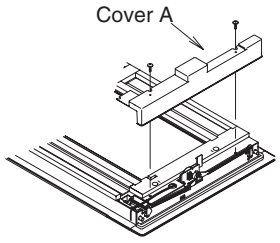


Fig. 3-19

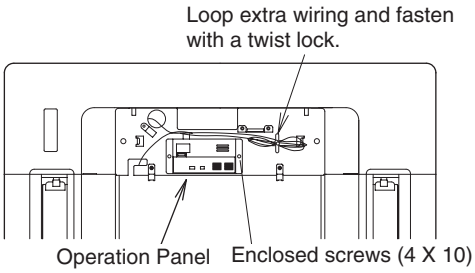


Fig. 3-20

Installing the Display

(1) Cover B is fit into Cover A, so spread the points as indicated in figure 3-21 and remove it.
The tape holding cover B is only to protect it during transport, so remove it and throw it away.

(2) Connect the wiring (W2) for the display that is sticking out from the operation panel and fit the display into the panel.
Make sure the 6P white connector is firmly connected all the way in.

(3) Pass the lead wire for the display through the cutout in the panel, and using the hole in the metal panel, fasten it with the plastic clamp. (Fig. 3-22)

(4) Attach cover A.

(5) Properly route the lead wire of the operation panel and fasten it with the twist lock. (Fig. 3-20)

(6) Install the ceiling panel.

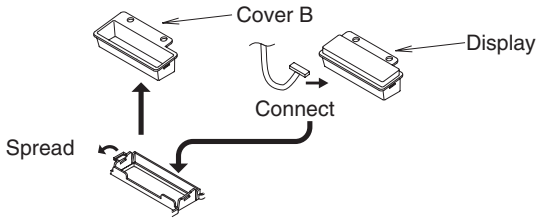


Fig. 3-21

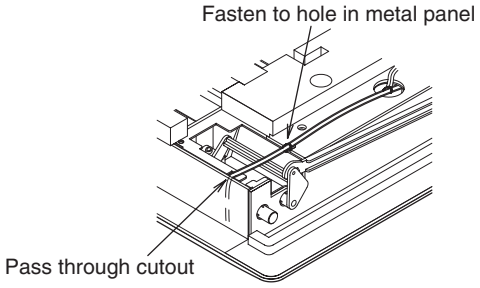


Fig. 3-22

NOTE

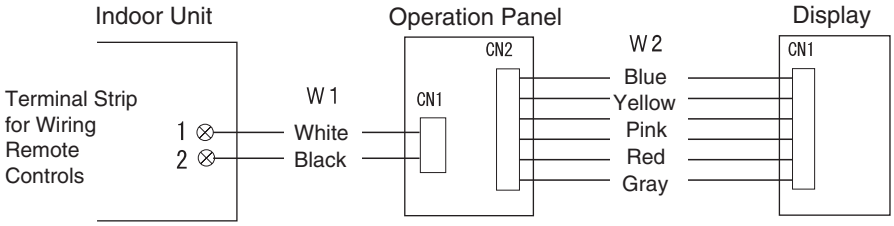
(1) If the wiring to the operation panel is bundled together with other wiring, such as the incoming line from the power source, it can cause a malfunction, so avoid doing so.

(2) If something causes the unit's power source to make noise it will be necessary to resolve the problem, such as by installing a noise filter.

- For more information about wiring or test runs, refer to Wiring the Receiver and Test Run.

2-16. Wiring

Wiring Diagram



Connections

(1) Connect W1 to the remote control terminal strip on the indoor unit. (Polarity does not matter)

(2) Connect the display and the operation panel with W2.

2-17. Test Operation

Implementing a Test Run

1. Turn the #1 DIP switch of the operation panel from OFF to ON (Down → Up) and operate the wireless remote control with its Start/Stop button.
2. During a test run, all display lamps on the display will light up.
3. During a test run, it is not possible to adjust the temperature.
4. After completing a test run, be absolutely sure to turn the #1 DIP switch from ON to OFF (Up → Down) and make sure none of the display lamps are blinking. Also, replace the PCB cover back as it was and fasten it; while holding the wiring in the cable clamp, tighten its screw.

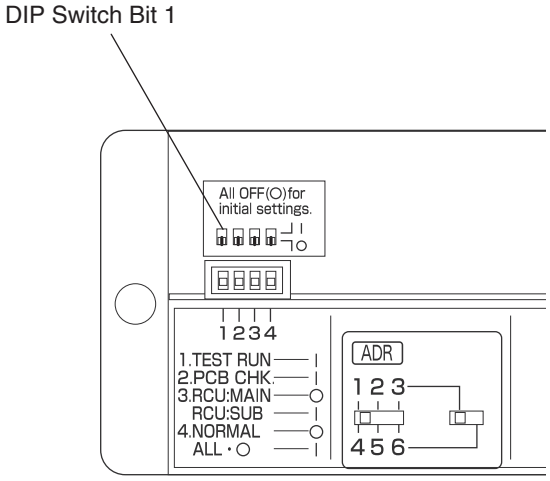


Fig. 3-23

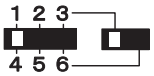
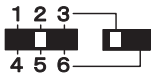
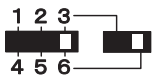
NOTE

(1) This is hard on the device, so only use this for the test run.

(2) After turning on the power, the unit will not receive any commands from the remote control for about 1 minute. This is not an error. (In fact it does receive signals, but they are cancelled)

2-18. Setting Address Switches

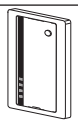
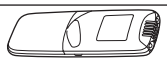
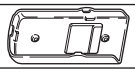
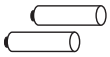
- When more than one display/operation panel and remote control are installed in the same room, setting up addresses allows them to avoid interfering with each other.
- Refer to the Users Manual for information on how to change the addresses of the remote controls.

Address Display on the Remote Control	AL L	1	2	·····	6
Position of the Receiver's Address Switch	It doesn't matter where the receiver's address switch is.			·····	

2. Wireless Remote Controller

■ CZ-RWSC2

2-19. Accessories

No.	Accessories	Quantity
1	Receiver (Enclosed 200 mm wiring) 	1
2	Remote Control 	1
3	Remote Control Holder 	1
4	Dry-cell Batteries 	2

No.	Accessories	Quantity
4	Users Manual 	1
5	Truss Self-Tapping Screws 4 X 16 	2
6	Small screw 	2
7	Wood screw 	2
8	Cable tie 	1

2-20. Installing the Receiver

When using a separately installed receiver as a built-in model, install it to the JIS switch box (field supply) shown in the diagram on the right, which has been built into the wall on site in advance.

(1) Remove the face plate of the receiver by slipping a slotted screwdriver or the like into the cutout on the bottom.

(2) Install the receiver with the 2 enclosed small M4 screws.

(3) Connect the receiver's wiring (2 cores) with the wiring from the indoor unit. (Refer to the chapter on wiring the receiver)
When wiring receivers, be sure to double-check the terminal numbers of the indoor unit before connecting them so there are no mistakes in the wiring. (Damage will occur if high voltage [e.g. supply voltage] is applied)

(4) Attach the face plate.

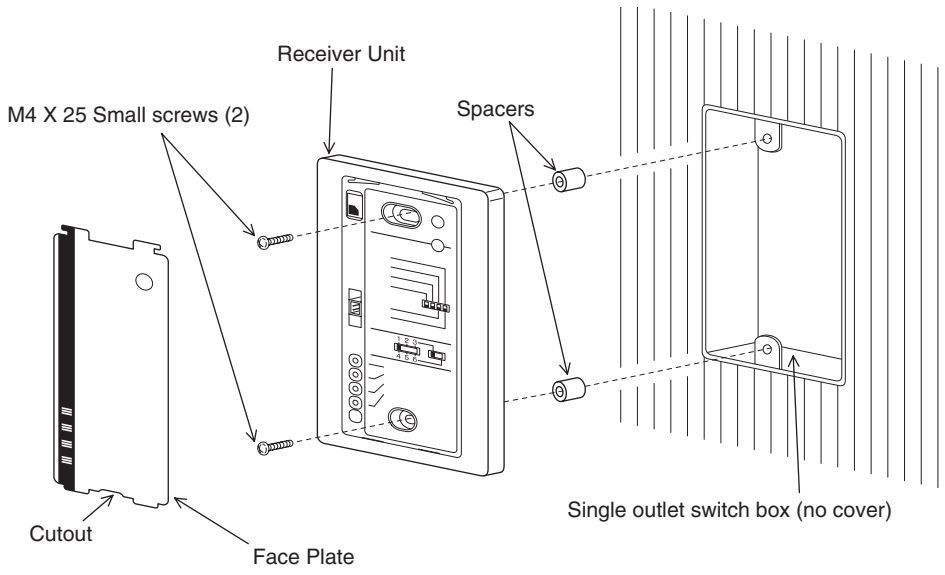


Fig. 3-24

2. Wireless Remote Controller

When using a separately installed receiver as an exposed model, attach it to a wall where the receiver can be affixed.

(1) Put a slotted screwdriver or the like into the groove on the bottom of the receiver unit and twist it to remove the bottom of the case. (Fig. 3-25)

(2) To enable the receiver's wiring to stick out from the upper part of the case (thin part at center-top), use side-cutters or the like to cut a hole in the case big enough for the remote control cord (sold separately). (Fig. 3-26)

(3) Disconnect the wires that were connected at shipment from the connector.

(4) After installing the remote control cord (sold separately) at the position in Fig. 3-27 with the enclosed cable tie, connect it to the connector on the receiver.

(5) Shape the remote control cord at the top of the PCB so it fits inside the receiver and after configuring the wiring like it is in Fig. 3-28, attach the lower case. When doing this, arrange the head of the cable tie so it face sideways.

(6) Remove the face plate and use the wood screws (2) to install the receiver unit.

(7) Use the cord clip that comes enclosed with the remote control cord to fasten it to the wall.

(8) Attach the face plate.

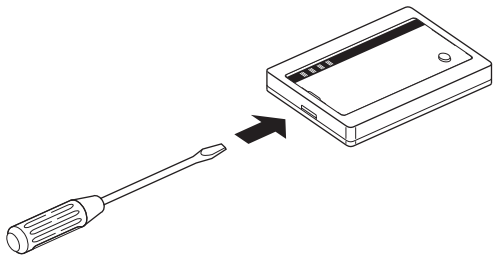


Fig. 3-25

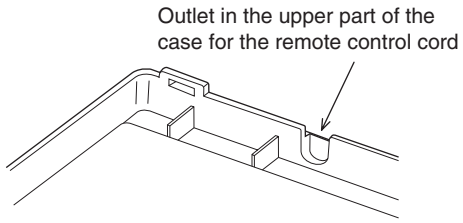


Fig. 3-26

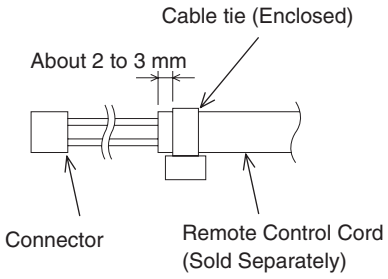


Fig. 3-27

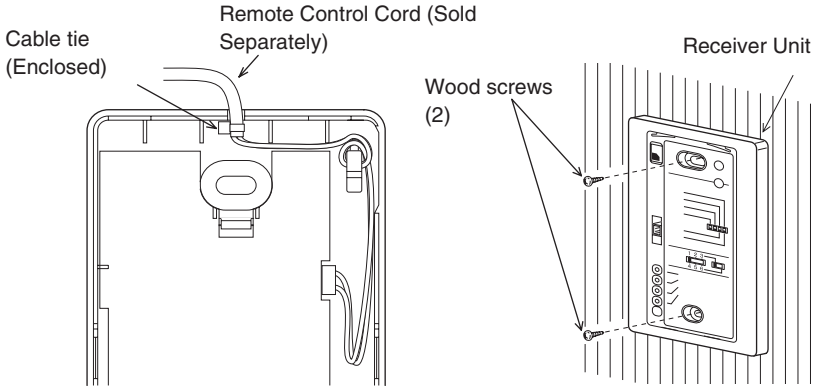


Fig. 3-28

2. Wireless Remote Controller

When using a receiver that has been installed separately into the ceiling, use the enclosed fittings for installing to a ceiling.

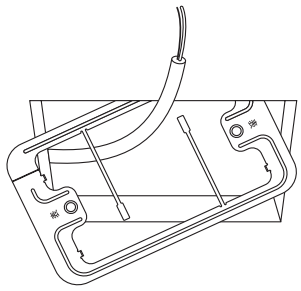


Fig. 3-29

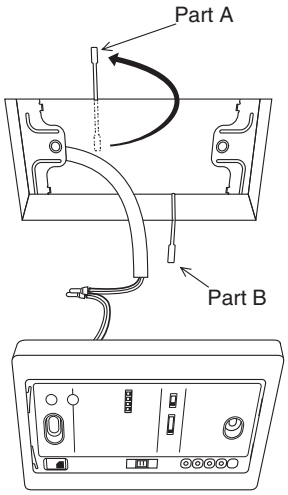


Fig. 3-30

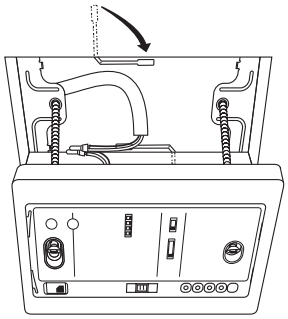


Fig. 3-31

(1) Remove the metal plate of the receiver by slipping a slotted screwdriver or the like into the cutout on the bottom.
(2) Cut out a hole in the ceiling to match the dimensions of the enclosed template. (95 X 51 mm)
(3) Pass the wiring through the enclosed installation metal fitting and put it into the hole. (Fig. 3-29)
(4) Bend parts A and B of the metal fitting so they hold onto the ceiling firmly. (Fig. 3-30)
(5) Connect the receiver's wiring (2 cores) with the wiring from the indoor unit. (Refer to the chapter on wiring the receiver) When wiring receivers, be sure to double-check the terminal numbers of the indoor unit before connecting them so there are no mistakes in the wiring. (Damage will occur if high voltage [e.g. supply voltage] is applied)
(6) Adjust the enclosed spacers so they are several millimeters thicker than the ceiling material and hold the receiver in place temporarily with the 2 enclosed small screws. (M4 X 40)
(7) Bend parts A and B back so they fit in the opening and are in the gap between the surface of the ceiling and the receiver; then tighten the screws. Do not use too much force when tightening the screws. Doing so may warp or damage the case. Move the receiver by hand and check that it can move just a little. (Fig. 3-31)
(8) Attach the face plate.

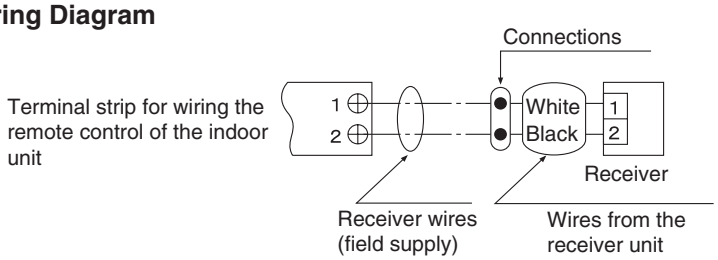
2-21. Wiring the Receiver

- Use wiring of 0.5 mm^2 to 2 mm^2 for field supply.
- Use a total wire length of no more than 400 m.

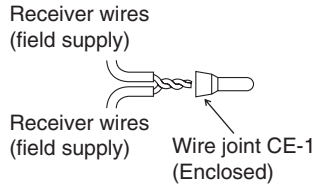
  Polarity does not matter.

If to be used as an embedded model ;

- **Wiring Diagram**



Enclosed wire joints (2, white)

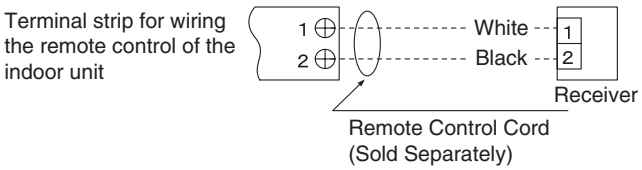


1. Strip the wire to be connected of its sheathing for 14 mm.
2. Twist the two wires together and crimp the enclosed wire joint.
3. If a special crimping tool is not used, or if the connection is made using solder, wrap the joint with insulating tape.

2. Wireless Remote Controller

If it is to be used as an exposed model:

- **Wiring Diagram**



- Use remote control cord (sold separately) for wiring a separately installed receiver.

(1) For instructions on how to install a remote control cord (sold separately), refer to the chapter on Using as an Embedded Model in Installing Separate Receivers.

(2) If a remote control cord (sold separately) is to be used, refer to the Mounting Instructions attached to the remote control cord.

NOTE

(1) When wiring remote controls, be sure to double-check the terminal numbers of the indoor unit connecting them so there are no mistakes in the wiring. (Damage will occur if high voltage [e.g. supply voltage] is applied.)

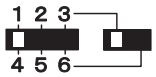
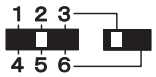
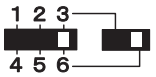
(2) If the wiring to the operation panel is bundled together with other wiring, such as the incoming line from the power source, it can cause a malfunction, so avoid doing so.

(3) If something causes the unit's power source to make noise it will be necessary to resolve the problem, such as by installing a noise filter.

3

2-22. Setting Address Switches

- When more than one receiver and remote control are installed in the same room, setting up addresses allows them to avoid interfering with each other.
- Refer to the Users Manual for information on how to change the addresses of the remote controls.
- Changing the address of a receiver can be done after removing the screw to the receiver's PCB cover. Once the change is complete, put the cover back in place; while holding the wiring with the cable clamp, tighten its screw.

Address Display on the Remote Control	ALL	1	2	·····	6
Position of the Receiver's Address Switch	It doesn't matter where the receiver's address switch is.			·····	

2-23. Test Operation

Implementing a Test Run

(1) Remove the face plate of the receiver's PCB and turn the DIP switch to RUN/On (Down → Up) and operate the wireless remote control with its Start/Stop button.

(2) During a test run, all display lamps on the display will light up.

(3) During a test run, it is not possible to adjust the temperature.

(4) After completing a test run, be absolutely sure to return the Test Run switch to OFF (Up → Down) and make sure none of the display lamps are blinking. Also, put the face plate back in place.

NOTE

(1) This is hard on the device, so only use this for the test run.

(2) After turning on the power, the unit will not receive any commands from the remote control for about 1 minute. This is not an error. (In fact it does receive signals, but they are cancelled.)

(3) Make sure to operate while the indoor unit is stopped.

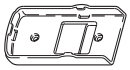
(4) The address of indoor unit is set to "ALL" at the time of the shipment.

2. Wireless Remote Controller

■ **CZ-RWSY2**

2-24. Accessories

No.	Accessories	Quantity
1	Receiver 	1
2	Remote Controller 	1

No.	Accessories	Quantity
3	Remote Control Holder 	1
4	AAA alkaline batteries 	2
5	Tapping screw 4x16 	2
6	Clamper	1

2-25. Installing the Receiver Unit

As the receiver can only be installed in the corner where the panel wire comes out, as shown in Fig. 3-32, consideration should be given to orientation when fitting the panel to the indoor unit.

1. Twist off the circled area shown in Fig. 3-32 with pliers or similar.
2. Remove the suction grille and corner cover. (Fig. 3-33)

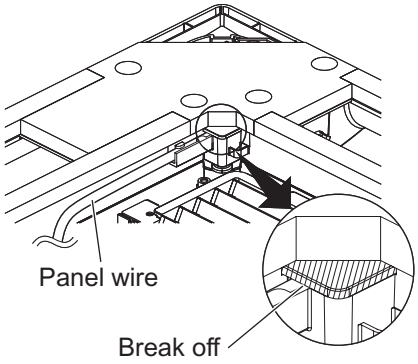


Fig. 3-32

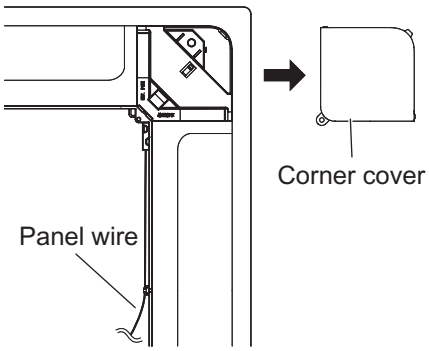


Fig. 3-33

2. Wireless Remote Controller

3. Pass the wire from the wireless receiver through the grille. (Fig. 3-34)
4. Fit the panel to the indoor unit and connect the wire from the receiver to the connector (CN130/WL/WHT/10P) on the indoor control board. (Fig. 3-35)
5. After fixing the panel in place, fit the receiver to the panel taking care not to trap the wire from the receiver.
6. Clamp the receiver wire and panel wire together with the supplied clamper. (Fig. 3-35)
7. Insert the receiver wire and panel wire into the wire saddles. (Fig. 3-35)
   * Refer to the Users Manual supplied with the panel.

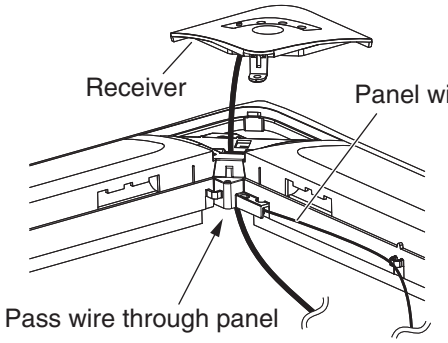


Fig. 3-34

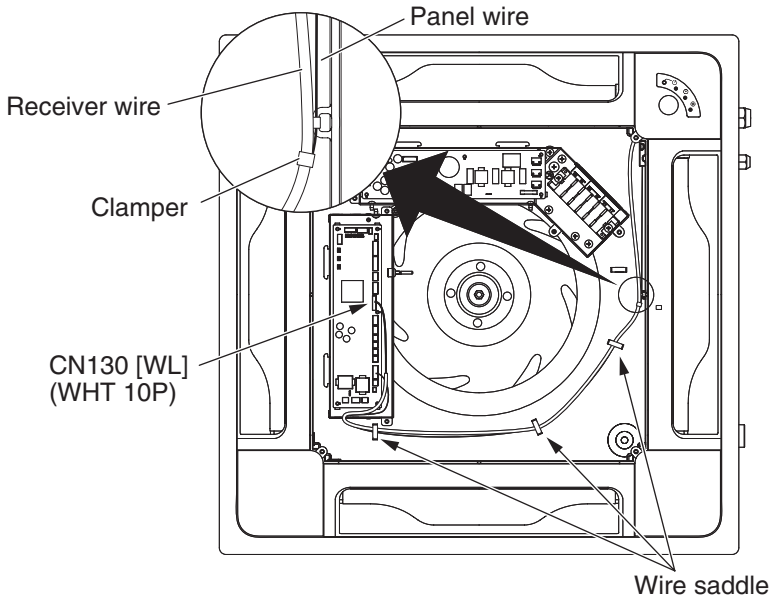


Fig. 3-35

3

NOTE

1. Do not twist the receiver wire and the power lead-in wire together as this could lead to malfunction.
2. If the unit power source is affected by noise, install a noise filter or take similar measures.

2. Wireless Remote Controller

■ Common to All Models

2-26. The Self-Diagnosis Function Display and What is Detected

Alarm Display in the table below indicates the content of alarms that are displayed when a wired remote control is connected. For information on how to deal with the alarms, refer to the Mounting Instructions for the indoor unit or to Test Run or servicing materials.

Error Detected		WL Remote Control LED Display			
	Alarm Display	Run	Timer	Standby	Blinking
Communication error in the remote control circuit	E01–E03, E08–E14, E17, E18	◎	●	●	
Communication error either in the in/outdoor operation line or the sub-bus of the outdoor unit	E04–E07, E15, E16, E19–E31	●	●	◎	
Operation of indoor protection device	P01, P09–P14	●	◎	◎	Alternately
Operation of outdoor protection device	P02–P08, P15–P31	◎	●	◎	Alternately
Error in the indoor thermistor	F01–F03, F10–F11	◎	◎	●	Alternately
Error in the outdoor thermistor	F04–F09, F12–F28	◎	◎	○	Alternately
Error in the indoor EEPROM	F29	◎	◎	●	Simultaneously
Error in the outdoor EEPROM	F30, F31	◎	◎	○	Simultaneously
Error related to the compressor	H01–H31	●	◎	●	
Error in indoor settings	L01–L03 L05–L09	◎	●	◎	Simultaneously
Error in outdoor settings	L04, L10–L31	◎	○	◎	Simultaneously
Inconsistency in Air/Heat (Including an auto-temp setting for a model without auto-temp settings)		○	◎	◎	Alternately
Oil Alarm (Same as operation of outdoor protection device)		◎	●	◎	Alternately
Test Run		◎	◎	◎	Simultaneously

● : Off / ○ : On / ◎ : Blinking (0.5 sec. intervals)

When using CZ-RWSC2

If you have either an outdoor maintenance remote control or a wired remote control and a service checker special wiring (623 178 5082: for service use) at hand, you can get more detailed information about an alarm by connecting one to the service connecter as in the diagram. For information such as how to connect to receivers, etc., refer to the Users Manual that came attached with the service checker special wiring.

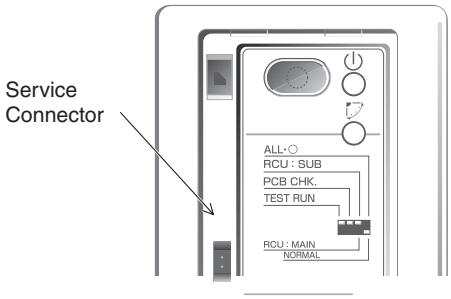


Fig. 3-36

2-27. Room Temperature Sensor Settings

Common to All Models

- The indoor unit and the wireless remote control are equipped with indoor temperature sensors. The sensing of indoor temperature works via one of them.
- When the unit is shipped, it is set to the indoor unit, but to switch to the remote control, press the sensor button (diagram at right) inside the remote control's cover and then check to make sure that Main Sensor on the LCD screen goes off.

NOTE

Even when the Sensor switch has been set to the remote control, if the unit does not receive any room temperature data from the remote control for ten minutes, it automatically switches back to the indoor unit sensor, so be sure to install the remote control facing the receiver.

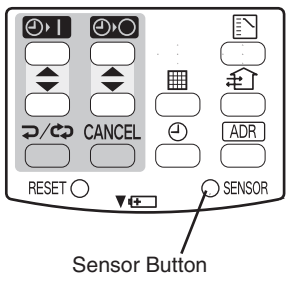


Fig. 3-37

2. Wireless Remote Controller

2-28. Setting Up Remote Control Functions

The functions of the wireless remote can be set on site.
(These settings are saved in nonvolatile memory in the remote control, so even when its batteries are changed, the settings do not revert to the defaults.)

NOTE

The operation of the air conditioner can be impacted, depending on the settings made, so only service personnel should make the settings.
Furthermore, making changes to these settings may cause actual operation to deviate from what is printed in the Users Manual, so be sure to explain this to the customer fully.

Making Settings (Do with unit stopped)

(1) Holding down the Swing/Wind Direction + OFF Timer ▲ + Mode Select buttons at the same time for 4 or more seconds makes the Display switch to the setting screen. (See diagram below.)

(2) Use the Temperature setting buttons, △ / ▽ , to select the number of the item to be set.

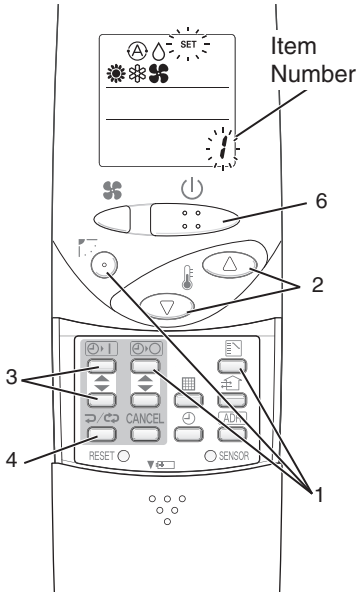
(3) Use the ON Timer buttons, ▲/▼ , to change settings.

(4) The settings are saved with the Once/Every Day button. When this is done, the settings display of the LCD changes from blinking to light.

(5) If other settings are to be changed as well, repeat steps 2 to 4.

(6) When all settings have been made, press the Start/Stop button.

Example: Operation mode setting screen



Item Number & Setting Item		Setting Content	Setting when Shipped
1	Operation Mode	Ⓐ → ❄ → ☀ → ❄ → Ⓐ → ☀ → ❄	Ⓐ
2	Flap Display	SWING → SWING → SWING → (No Display) (Note 1)	SWING
3	Select Fan Speed	Ⓐ → ≋ → ≋ → (No Display)	Ⓐ
4	Display of Set Temperature	°C ⟶ °F ⟶ Setting Off (Note 2)	°C
5	Time Display	24 Hour (No Display) ⟶ AM/PM	24 Hour
6	Ventilation Fan ON/OFF	Off (No Display) ⟶ On	OFF(Note 3)
7	Cool temp Max	18 – 30°C	30
8	Cool temp Min	18 – 30°C	18
9	Heat temp Max	16 – 30°C	30 (Note 4)
10	Heat temp Min	16 – 30°C	16
11	Dry temp Max	18 – 30°C	30
12	Dry temp Min	18 – 30°C	18
13	Auto temp Max	17 – 27°C	27
14	Auto temp Min	17 – 27°C	17
16	Address Setting Max Value	00 (ALL only) ⟶ 01 – 31	06 (Note 5)
17	Heat temp Max ON/OFF	JP (Heater Max Temp Change Off) ⟶ EP (On)	JP

NOTE

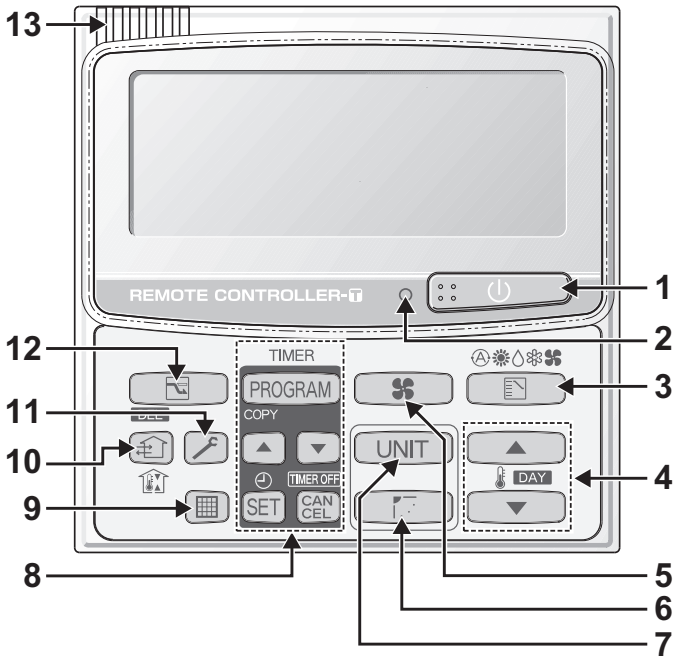
(1) While the unit is in the swinging mode (Swing/Wind Direction), the flap cannot be stopped in a desired position.
(2) When Setting OFF is selected, "°C" is displayed on the LCD screen.
(3) You can toggle between ON and OFF by pressing Ventilation for 4 seconds or more.
(4) If the Heater Max ON/OFF setting is not changed to EP (ON), the setting change will not be reflected.
(5) This is the number of addresses that can be set in the address change mode. Do not set it to 07 or above.

3. Timer Remote Controller

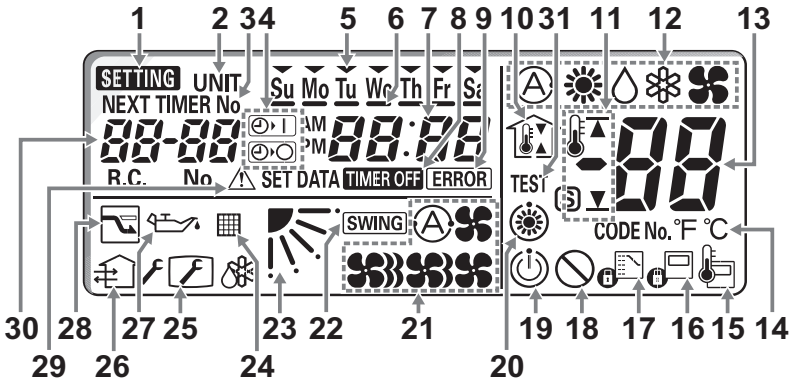
Timer Remote Controller/CZ-RTC2

■ How to Use the Timer Remote Controller

Operating buttons



Display



3. Timer Remote Controller

■ Names and Operations

Operation Section **(Refer to the previous page)**

1. **(Start/Stop) button**
   Pushing this button starts, and pushing again stops the unit.
2. **Operation lamp**
   The lamp is turned on when an air conditioner is in operation.
   This lamp blinks when an error occurs or a protective device is activated.
3. **(Mode select) button**
   Pushing this button to select an operation mode. (AUTO Ⓐ /HEAT☼ /DRY◊ /COOL❄ /FAN✿).
4. **Temperature setting buttons**
   Changing the temperature setting.
5. **(Fan speed) button**
   Changing the fan speed.
6. **(Swing/Air direction) button *1**
   Use this button to set the auto swing or air direction to a specific angle.
7. UNIT **(Unit select) button**
   When more than one indoor unit is operated by one remote control unit, this button is used to select a unit when adjusting the air direction.
8. **Timer setting buttons**
   (☞ Weekly Program Function)
9. **(Filter reset) button**
   Use this button to reset the filter sign.
   When ▦ is displayed, press this button after cleaning the filter.
10. **(Ventilation) button**
    Use this button when you installed a fan available in the market. Pressing this button turns on and off the fan. When turning off the air conditioner, the fan will be also turned off.
    (While the fan is operating, will appear in the display.)
    *If ⃠ is shown on the display of the remote control unit when the VENTILATION button is pressed, this indicates that the ventilation fan is not connected.
11. **(Inspection) button**
    Do not use this button.
12. **(Sleeping) button**
    (☞ Sleeping Function)
13. **Remote control sensor**
    Normally, the temperature sensor of the indoor unit is used to detect the temperature. However, it is also possible to detect the temperature around the remote control unit.

*1 Do not move the flap (vertical airflow adjustment board) with your hand.
- The flap is automatically directed down when the unit is stopped.
- The flap is directed up during the HEAT standby. The flap starts swinging after the HEAT standby is cancelled, although the AUTO flap indication on the remote control unit is displayed during the HEAT standby.

3

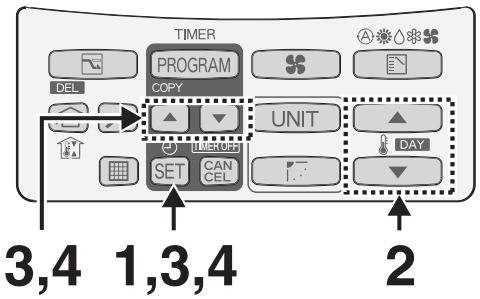
3. Timer Remote Controller

Display Section **(Refer to the page 3-35)**

1. **SETTING (Setting) indication**
   Appears when the timer program is being set.
2. **UNIT (Unit) indication**
   Indicates the unit No. of the indoor unit which is selected with the Unit select button, or the unit in which an abnormality occurs.
3. **TIMER No. (Timer No.) indication**
   Appears when the time program is being set.
4. **Timer program indication**
   : The indoor unit starts operation at the programmed time.
   : The indoor unit stops operation at the programmed time.
5. **(Today's day of the week) indication**
   Indicates today's day of the week.
6. **(Program schedule) indication**
   Appears under days that are scheduled for program operation.
7. **Present time indication**
   Displays the present time on a 24-hour clock. Also, displays settings in the various setting modes.
8. **TIMER OFF (Timer off) indication**
   Displayed when the timer has been turned OFF.
9. **ERROR (Error) indication**
   Displayed when a mistake is made during timer setting.
10. **(Outing) indication (Outing function)**
    Appears when the outing function is set.
11. **Upper and lower limit indication of the outing function**
    : Indicates the upper limit of the temperature
    : Indicates the lower limit of the temperature
12. **Operation Mode indication**
    Displays the selected operation mode. (AUTO /HEAT /DRY /COOL /FAN).
13. **Temperature indication**
    Indicates the set temperature.
14. **°F / °C (Temperature unit) indication**
15. **(Remote control sensor) indication**
    Appears when the remote control sensor is used.
16. **(Centralized control) indication**
    Appears when operated in centralized control. If the remote control operation is not permitted to the remote unit, when the Start/Stop button, Mode select button or Temperature setting button is pressed, flashes and rejects the change.
17. **(Operation mode change control) indication**
    Displays when an operation mode is entered by the remote control unit, while another operation mode has been already selected. This indicates that the operation mode cannot be changed.
18. **(Disabled feature) indication**
    Displayed if the selected feature was disabled during installation.
19. **(GHP operation standby) indication**
    Appears during standby if a gas heat pump air conditioner is used.
20. **(Heating standby mode) indication**
    Appears when the fan of the indoor unit is stopped or in low fan speed.
21. **/ / / (Fan mode select) indication**
    The selected fan mode is displayed.
22. **SWING (Swing) indication**
    Appears while the flap swings.
23. **(Flap position) indication**
    Indicates the flap position.
24. **(Filter) indication**
    Appears when filter needs cleaning. Clean the filter.
25. **(Maintenance function) indication**
    Appears when the maintenance function (monitoring sensor temperatures) is activated.
26. **(Ventilation) indication**
    Appears when a fan available in the market is installed and is operating.
27. **(Oil) indication**
    Appears when the engine oil needs to be changed. (Appears when the gas heat pump air conditioner is used.)
28. **(Sleeping) indication**
    Appears during the sleeping function.
29. **(Caution) indication**
    Appears when the protective device is activated or when an abnormality occurs.
30. **Unit No. indication**
    Indicates the unit No. of the selected indoor unit.
31. **TEST (Test) indication**
    Appears while in test operation.

3. Timer Remote Controller

■ Setting the Present Time



1. **Press and hold SET for more than 2 seconds to enter in the present day and time setting mode.**
   Once you enter in the setting mode, SETTING, "▼"(day) and "time" flash.
2. **Set "▼" to today's day of the week.**
   Press DAY *1 ▲ to move "▼" (flashing on the display) in the order of : Su → Mo → Tu → .... Press ▼ to move it in the order of : Su → St → Fr → ....
   *1 While in time setting mode, the temperature setting buttons function as DAY (changing day) button.
3. **Press ▲ ▼ to change the present "hour" in the range of 0 to 23*2.**
   Set the present hour and press SET.
   The "hour" digits light up, and the "minute" digits start flashing.
   *2 If the clock uses the 12 hours AM/PM setting, the hour is displayed in the range of AM 0 to 11/PM 0 to 11.



4. **Press ▲ ▼ , to change the present "minute" in the range of 0 to 59.**
   Set the present minute and press SET. The day and time are set and finishes the setting mode.

NOTE

- The unit returns to the normal mode if CANCEL is pressed or there is no operation made for 3 minutes during the setting. In this case, all the settings in progress will be lost.
- If the present time is invalid, "– – : – –" is displayed.
  If the power failure for more than 1 hour occurs, check if the set data of day and time are valid.



3

3. Timer Remote Controller

■ Weekly Program Function

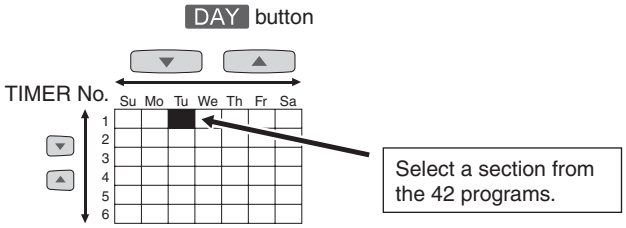
Checking Weekly Timer

Set the weekly program assigning a given timer to each day of the week.
Maximum of 6 programs a day and 42 programs a week can be set.
Select the day and the TIMER number you want to program.

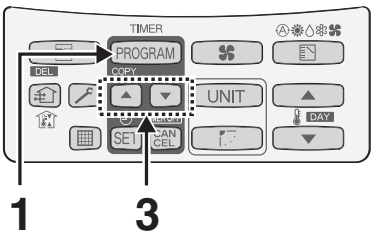
Program image diagram

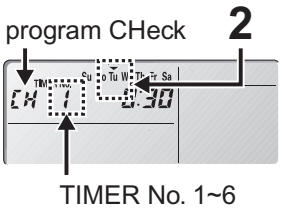
Vertical scale indicates the TIMER No., and horizontal scale indicates the day.

* If the day is changed, the TIMER No. returns to "1".



1. **Press PROGRAM to enter the program confirmation mode "CH" and start setting.**
   Once you enter the program confirmation mode, the present day is indicated as TIMER No. "1".
2. **Select the day.**
   Press DAY and ▲ / ▼ to move the "▼" horizontally on the day to select.
   Press ▲ to move "▼" (flashing on the display) in the order of : Su → Mo → Tu....
   Press ▼ to move it in the order of : Su → Sa → Fr....
   "– – : – –" is displayed when the program is not set.
3. **Select a Timer number.**
   Press ▲ / ▼ to select a TIMER No. from 1 to 6.
   Press ▲ to move up from 1.
   Press ▼ to move down from 6.





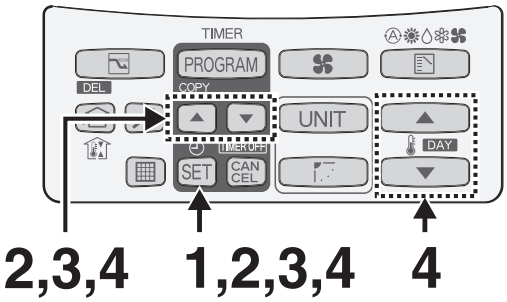
3

3. Timer Remote Controller

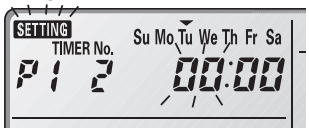
- Changing the Program Timer

To set the weekly program, follow the steps below.

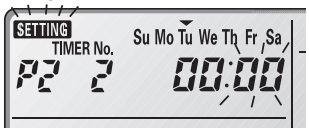
1. **Select the program you want to set in the program confirmation mode, and press SET. The enters the setting mode of the program currently displayed.**
   * In the program setting mode, SETTING, "hour", "minute" and "item" flash on the display.
2. **Set the "hour". (program step 1)**
   Press ▲ / ▼ to set the "hour".
   Confirm the "hour" and press SET. The enters the program changing mode P2 (setting of the "minute").
3. **Set the "minute". (program step 2)**
   Press ▲ / ▼ to set the "minute".
   Confirm the "minute" and press SET.The unit enters P3 (the program pattern selection mode).

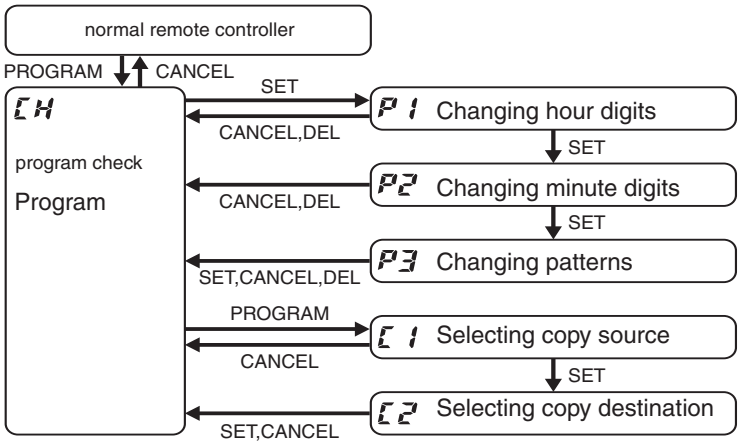


Program step1



Program step2





3

■ Weekly Program Function (Continued)

4. Set the program pattern. (program step 3)

There are 4 program patterns.

Pressing ▲ / ▼ repeats the following display patterns.

Pattern 1

The indoor unit starts operation at the programmed time.

Pattern 2

The indoor unit stops operation at the programmed time.

Pattern 3

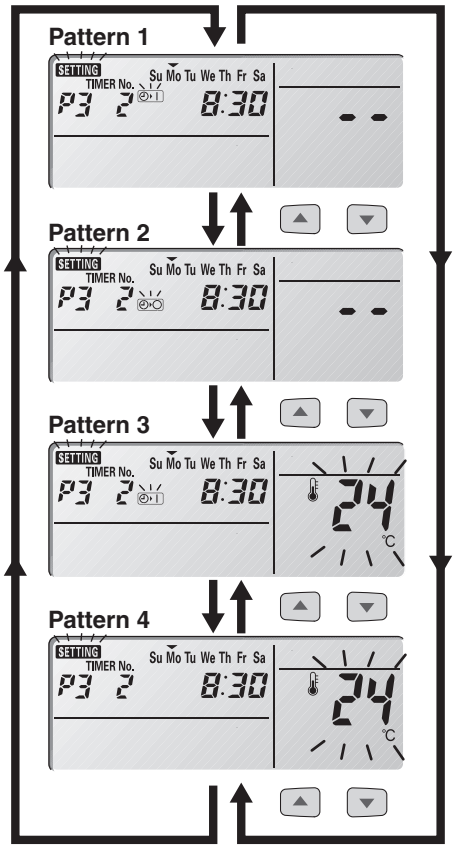
The indoor unit starts operation at the programmed time and changes the temperature settings.

Press ▲ / ▼ to change the temperature setting.

Pattern 4

The indoor unit changes the temperature setting at the programmed time.

Press ▲ / ▼ to change the temperature setting.

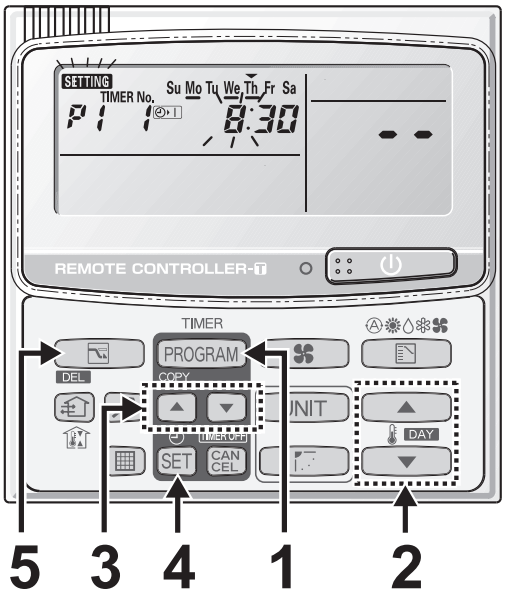


Select the program pattern and press SET. The program timer setting is confirmed and the unit enters the confirmation mode CH.

NOTE

- If you press CANCEL during the setting, it returns to the program confirmation mode.
- If there is no operation made for 3 minutes during the setting, it returns to the normal mode. In this case, all the settings in progress will be invalid.

3. Timer Remote Controller



- **Deleting the Program Timer**

To delete the program timer setting, follow the steps below.

1. **Press PROGRAM to enter the program confirmation mode.**
2. **Press ▲ / ▼ to select the day of the program you want to delete.**
3. **Press ▲ / ▼ to select a TIMER No. (from 1 to 6).**
4. **Press SET to display the program setting mode P1.**
5. **Press DEL to delete the program.**

NOTE

- After deleting, the unit returns to the program confirmation mode CH.
- If you press CANCEL during the setting, the unit returns to the program confirmation mode.
- If there is no operation made for 3 minutes during the setting, the unit returns to the normal mode.

- **Invalidating Program Timer**

If you want to adjourn the program operation for more than 1 week, you can invalidate all the timer settings.
Once the timer settings are invalidated, the program will not be operated until the invalidation is cancelled.

<<How to invalidate the program timer>>

Press and hold TIMER OFF / CANCEL for more than 2 seconds.
TIMER OFF is displayed and the programs will be invalidated from the next one.

<<How to cancel the program timer invalidation>>

Press and hold TIMER OFF / CANCEL for more than 2 seconds.
TIMER OFF disappears and the programs will be validated from the next one.

If Power Failure Occurred

If the power recovers in a short time period, the program after the recovered time will be valid.
If the power recovered more than 1 hour after the failure, the present time information will be lost. In this case, the program will not be operated.

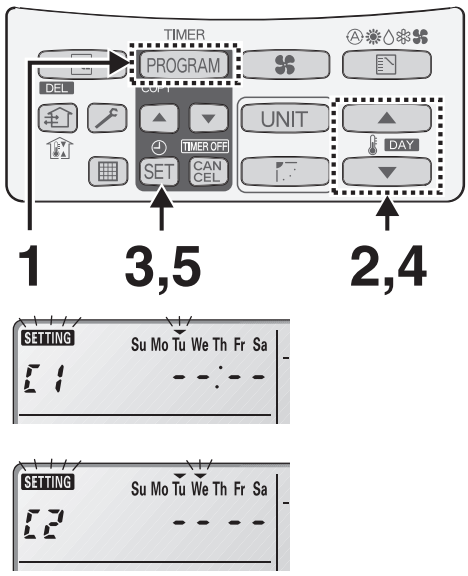
■ Weekly Program Function (Continued)

● Duplicating the Program Timer

You can duplicate the preset program by day.

Select the copy source.

1. If PROGRAM is pressed in program checking mode [H, it enters the copy mode (Selecting the copy source [1) of the program timer.
   While in the copy mode of the program timer, SETTING and ▼ (day) of the copy source flash on the display.
2. Press ▲ / ▼ to select the day of the copy source. Select the copy destination.
3. If SET is pressed in the mode of selecting the copy source [1, it enters the copy mode (Selecting the copy destination [2) of the program timer.
4. Press ▲ / ▼ to select the day of the copy source. Then, press SET to complete copying and return to the program checking mode.



NOTE

The program will be overwritten if the preprogrammed day is selected as a copy source.

● Before Asking Repair Work

Before asking repair work, please check the followings.

Trouble	Possible Cause/Remedy
"ERROR" is displayed when the minute digits are entered.	If there is another TIMER No. which has the program of the same time and same day, you cannot overlap the setting.
The set data is not stored.	The stored programs are automatically sorted by the time. Check if the data is stored in the other TIMER No.
Program does not function.	Check if the time indication is not "– – : – –". When the time is invalid, the program is also invalid.
	Check the remote controller prohibition inside. In that case, the program is invalid.

3. Timer Remote Controller

■ Outing Function

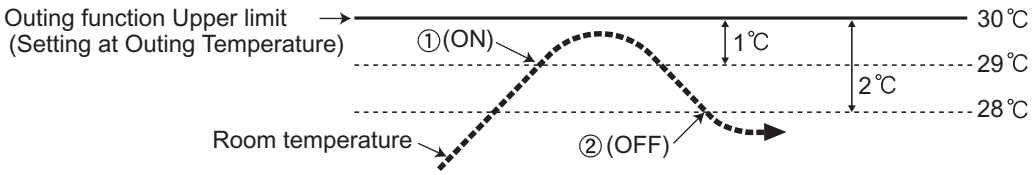
Outing function is a function that prevents the room temperature from increasing too much (or decreasing too much) when no one is in the room.
An air conditioner works automatically if this function is set effective.

General Performance of the Outing Function

COOL / DRY

① The air conditioner starts operation when the room temperature increases up to –1℃ of the upper limit.
② The air conditioner stops operation when the room temperature decreases up to –2℃ of the upper limit.

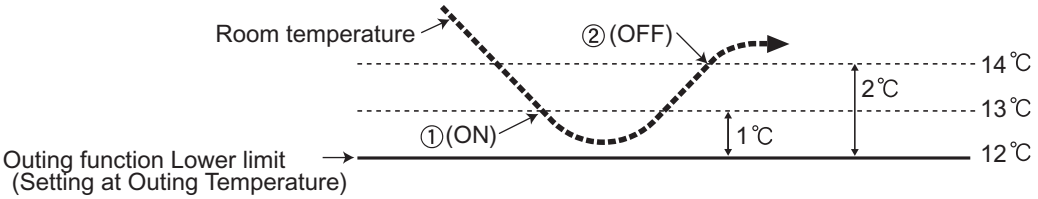
■ For Example
• Setting at Outing Temperature 30 ℃



HEAT

① The air conditioner starts operation when the room temperature decreases up to +1℃ of the lower limit.
② The air conditioner stops operation when the room temperature increases up to +2℃ of the lower limit.

■ For Example
• Setting at Outing Temperature 12 ℃

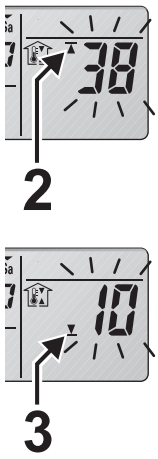


[Precautions]

- The outing control only starts/stops the air conditioner. It does not change the operation mode/temperature setting. Therefore, the operation mode/temperature needs to be set beforehand so that the outing function turns on the air conditioner with your desired operation mode/ temperature setting.
- If the room temperature rapidly changes, the room temperature may get over the upper or lower limit when the outing function is activated.
- The outing function is invalid during FAN/AUTO operation mode.
- The air conditioner's stop order (stated in ② /above) is valid only when the outing function is operated. If operated using other remote control unit (or a centralized control device such as a system control), the outing function does not work.

3. Timer Remote Controller

■ Outing Function (Continued)



● Setting the Outing Function

1. **Press and hold [HOME] for more than 2 seconds to display the upper limit temperature setting screen.**
   [HOME] , [▲] and the upper limit temperature start flashing.
   (The default value of the upper limit temperature is 38 °C.)
2. **Press [▲] / [▼] to select the upper limit temperature and press [SET] to fix the value. The lower limit temperature setting screen is displayed.**
3. **Press [▲] / [▼] to select the lower limit temperature, and press [SET] to fix the value. The outing function setting is completed. (The default value of the lower limit temperature is 10 °C.)**

* The unit returns to the normal mode if [CANCEL] is pressed or there is no operation made for 3 minutes during the setting. In this case, all the settings in progress will be lost.

● Canceling the outing function

Press and hold [HOME] for more than 2 seconds while the outing function is set.

● Outing function indication

Outing function indication	Status
Off	The outing function is not set.
Flashing	The outing function is now being set, or under operation.
Lighting	Although the outing function is set, not under operation.

NOTE

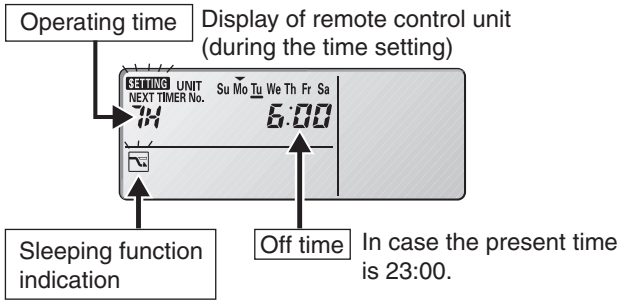
A remote controller loses outing function operation information when it is cut for more than one hour during the outing function operation by electricity. It reverts from the blackout, and an air conditioner does not drive in outing function when operation is started. At this time, an air conditioner does not stop at outing function.

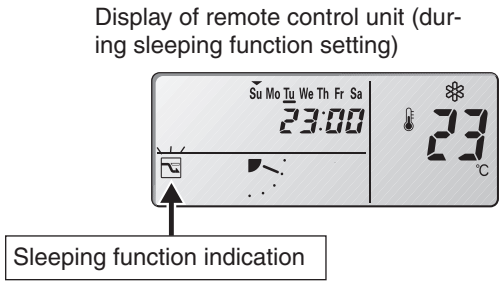
3. Timer Remote Controller

■ Sleeping Function

* This function leads you to a comfortable sleep and changes the room temperature during your sleep.

* You can set the off timer every one hour from 1 to 10 hours.





* If no operation is made for 3 minutes, the time setting mode will be automatically finished.

Ex. In case of 7 hours timer

1. Press [ ].

- Each time the button is pressed, the indication changes in the following order.

7H → 6H → ····· → 1H → 10H → ····· → 8H
(every one hour)

(Press [CANCEL] to stop the time setting.)

2. Press [SET].

- The sleeping operation starts.

When the off time comes:

- The indoor unit stops.
  * The temperature returns to the setting at the time when sleeping function operation started.

To cancel the sleeping function operation:

- Press [ ].
  * The temperature setting remains at the time cancelled.
- The following buttons also cancel the sleeping function operation.
  [ ] button
  Stop the indoor unit after the sleeping function operation is cancelled.
  [ ] button
  Changes the operation mode after the sleeping function operation is cancelled.

3

■ Sleeping Function (Continued)

- **If [button] button does not work.**

Or if the operation does not start even if [SET] is pressed.

Check the following table.

Item	Display of the remote control unit (Lighting/flashing indication)	Contents
1	[ERROR] The Error indication flashes (for several seconds).	The clock is not set.
2	⃠ "This function is not available" indication lights up (for several seconds).	When the operation mode is set to AUTO or FAN, this function is not available.
3	Centralized control indication flashes (for several seconds).	The centralized control device is prohibited from starting/ stopping the unit or change the temperature setting.

The sleeping function operation will be cancelled in the following cases:

1: When the unit is operated to stop or change the temperature setting by the other remote control unit or centralized control device.

2: When the unit is operated to stop or change the temperature setting with the weekly program function / outing function.

3: When the centralized control unit is prohibited from stopping the unit or changing the temperature setting.

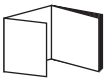
NOTE

Trouble	Possible Cause/Remedy
The temperature setting does not decrease (increase).	The temperature over the upper or lower limit or each operation mode cannot be set.
Operation under the sleeping function does not finish.	Note if you change the time after the sleeping function started. The operation does not finish until it reaches to the set starting time.

3. Timer Remote Controller

■ INSTALLATION MANUAL FOR TIMER REMOTE CONTROLLER

Accessories for remote controller switch

① Remote controller	② Wood screws	③ Wire joints	④ Operation manual	⑤ Installation manual
(with 200mm wire) 				

■ How to install the remote controller



- Do not supply power to the unit or try to operate it until the tubing and wiring to the outdoor unit is completed.
- 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 wiring correctly(incorrect wiring will damage the equipment).
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the 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.
- Use shielded wires for remote control wiring and ground the shield on indoor unit sides. (Fig. 3-38) Otherwise malfunction due to noise may occur.

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 (Fig. 3-41), you will see 2 gaps under the remote controller. Insert a coin into these gaps and pry off the back case.

(2) Attach the back case with the 2 wood screws ② provided. Using a screwdriver, push open the cut-outs on the back case. These holes are for screws. (Fig. 3-42)

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

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

■ Basic Wiring Diagram

● Connection diagram

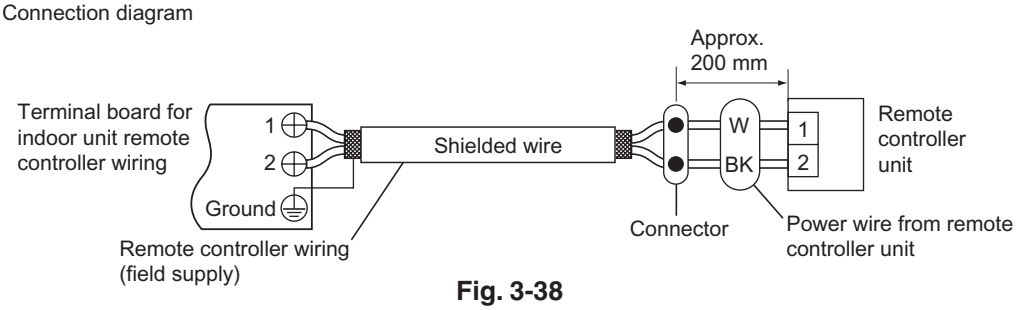


Fig. 3-38

3. Timer Remote Controller

- Use 0.5mm^2 - 1.25mm^2 wires.
  Remote controller wiring can be extended to a maximum of 500m.

(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.

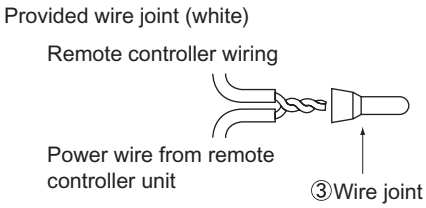


Fig. 3-39

■ 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.

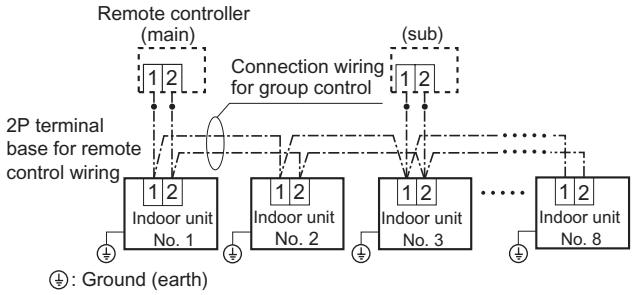


Fig. 3-40

■ Remote controller setting mode

To set the remote controller main/sub setting or change the sensor, follow the steps below.

① Press both [▭] and [SET] buttons on the remote controller for more than 4 seconds together.

② Select CODE No. with [▲] / [▼] ([🌡]) buttons.

③ Change DATA with [▲]/[▼] (TIMER) buttons.

④ Press [SET]. Finally, press [🔧].

* DATA is memorized in the RCU. (DATA setting will not be changed even when the power is turned off.)

* Make sure to set [Normal] for RCU. CK.

CODE	ITEM	DATA	
		0000	0001
01	RCU. Main/Sub	Sub	Main
02	Clock display	24 hours	12 hours (AM/PM)
08	RCU. CK	RCU. CK	Normal
09	Room temperature sensor	Main unit	RCU

■ Indoor unit setting mode

To select the ventilation setting or change the temperature unit, follow the steps below.

① Press [🔧] + [SET] + [CANCEL] buttons on the remote controller for more than 4 seconds together.

② Select CODE No. with [▲] / [▼] ([🌡]) buttons.

③ Change DATA with [▲]/[▼] (TIMER) buttons.

④ Press [SET]. Finally, press [🔧].

* DATA is memorized in the indoor unit. (DATA setting will not be changed even when the power is turned off.)

CODE	ITEM	DATA	
		0000	0001
31	Vent. button	No	Yes
33	Temperature unit	°C	°F

■ To display the sensor temperature:

- Press both [CANCEL] and [🔧] buttons on the remote controller for more than 4 seconds together.
- Change the sensor address (CODE No.) with [▲] / [▼] ([🌡]) buttons.
- Select the UNIT No. which you want to call with the [UNIT] button.
- Press the [🔧] button to finish service mode.

■ To display the trouble history:

- Press both [SET] and [🔧] buttons on the remote controller for more than 4 seconds together.
- Change the alarm message: [▲] / [▼] ([🌡]) buttons CODE No. 01→04 (New) (Old)
- Press the [🔧] button to finish service mode.

3. Timer Remote Controller

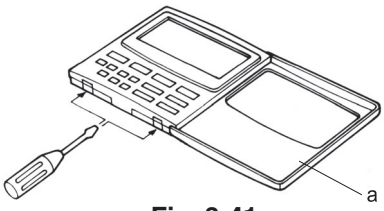


Fig. 3-41

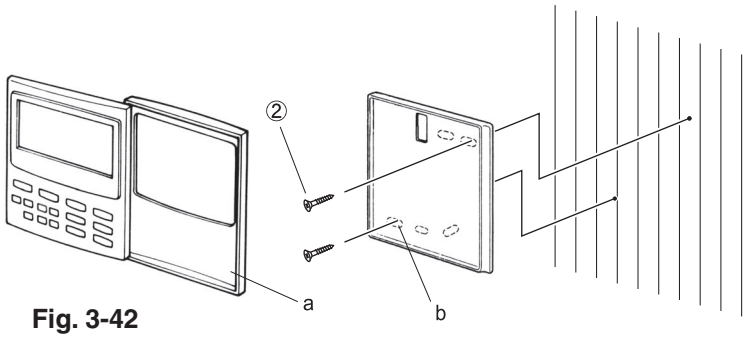
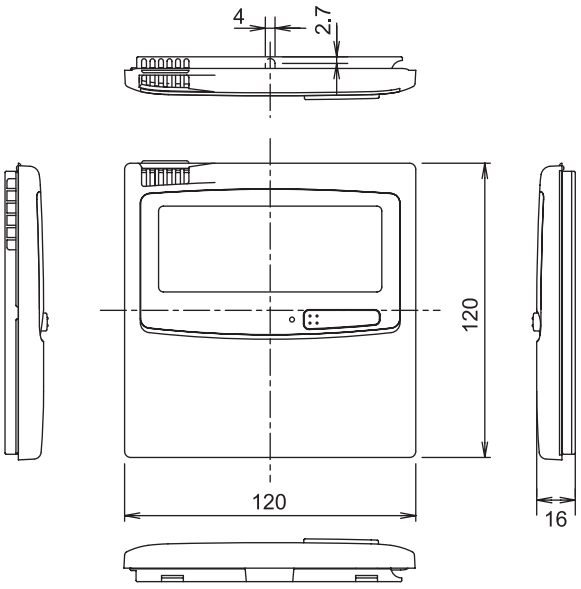
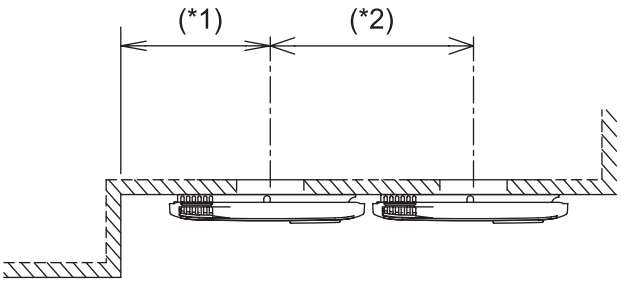
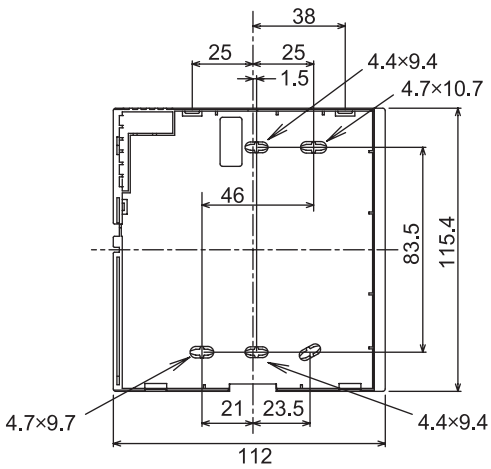


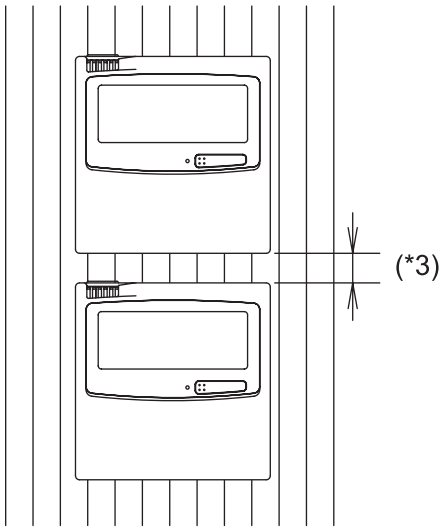
Fig. 3-42

Caution when installing the remote controller
*1 Install the remote controller more than 95 mm apart from the wall surface.
*2 To install the remote controllers side-by-side, keep the space between each for more than 125 mm.
*3 To install the remote controllers one above the other, keep the space between each for more than 25 mm.









3. Timer Remote Controller

■ Meaning of Alarm Messages

Table of Self-Diagnostics Functions and Description of Alarm Displays

Possible cause of malfunction			Alarm message
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) Ex: 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≫
	Indoor unit is detecting error signal from main outdoor unit.	Error in receiving serial communication signal. When turning on the power supply, the number of connected indoor units does not correspond to the number set. (Except R.C. address is “0.”)	E04
		Error of the main outdoor unit in receiving serial communication signal from the indoor unit.	<E06>
	Improper setting of indoor unit or remote controller.	Indoor unit address setting is duplicated.	E08
		Remote controller address connector (RCU. ADR) is duplicated. (Duplication of main remote controller)	≪E09≫
	During auto address setting, number of connected units does not correspond to number set. When turning on the power supply, number of connected units does not correspond to number set. (Except R.C. address is “0.”)	Starting auto address setting is prohibited. This alarm message shows that the auto address connector CN054 is shorted while other RC line is executing auto address operation.	E12
		Error in auto address setting. (Number of connected indoor units is less than the number set.)	E15
		Error in auto address setting. (Number of connected indoor units is more than the number set.)	E16
		No indoor unit is connected during auto address setting.	E20
		Main outdoor unit is detecting error signal from sub outdoor unit.	E24
		Error of outdoor unit address setting.	E25
		The number of connected main and sub outdoor units do not correspond to the number set at main outdoor unit PCB.	E26
		Improper wiring between main outdoor unit and sub-unit.	E27
		Error of sub outdoor unit in receiving serial communication signal from main outdoor unit.	E29
		Serial transmission failure of outdoor unit.	E30
	Communications trouble between units	Communication failure with MDC	E31
	Indoor unit communication error of group control wiring.	Error of main indoor unit in receiving serial communication signal from sub indoor units.	E18

Continued

3. Timer Remote Controller

Possible cause of malfunction				Alarm message
Serial communication errors Mis-setting	Improper setting.	This alarm message shows when an indoor unit for multiple-use is not connected to the outdoor unit.		L02
		Duplication of main indoor unit address setting in group control.		<L03>
		Duplication of outdoor R.C. address setting.		L04
		There are 2 or more indoor unit controllers that have operation mode priority in refrigerant circuit.	Priority set remote controller	L05
			Non-priority set remote controller	L06
		Group control wiring is connected to individual control indoor unit.		L07
		Indoor unit address is not set.		L08
		Capacity code of indoor unit is not set.		≪L09≫
		Capacity code of outdoor unit is not set.		L10
		Mis-matched connection of outdoor units that have different kinds of refrigerant.		L17
		4-way valve operation failure		L18
Activation of protective device	Protective device in indoor unit is activated.	Thermal protector in indoor unit fan motor is activated.		≪P01≫
		Improper wiring connections of ceiling panel.		≪P09≫
		Float switch is activated.		≪P10≫
		Operation of protective function of fan inverter.		P12
	Protective device in outdoor unit is activated.	Compressor thermal protector is activated. Power supply voltage is unusual. (The voltage is more than 260 V or less than 160 V between L and N phase.)		P02
		Incorrect discharge temperature. (Comp. No. 1)		P03
		High pressure switch is activated.		P04
		Negative (defective) phase.		P05
		O_2 sensor (detects low oxygen level) activated		P14
		DCCT overcurrent or ACCT overcurrent		P16
		Incorrect discharge temperature. (Comp. No. 2)		P17
		Compressor 3 discharge temp. failure		P18
		High load alarm		P20
		Outdoor unit fan motor is unusual.		P22
		IPM trip (IPM current or temperature)		H31
		Inverter for compressor is unusual. (DC compressor does not operate.)		P29
Thermistor fault	Indoor thermistor is either open or damaged.	Indoor coil temp. sensor (E1)		≪F01≫
		Indoor coil temp. sensor (E2)		≪F02≫
		Indoor coil temp. sensor (E3)		≪F03≫
		Indoor suction air (room) temp. sensor (TA)		≪F10≫
		Indoor discharge air temp. sensor (BL)		≪F11≫
	Outdoor thermistor is either open or damaged.	Comp. No. 1 discharge gas temp. sensor (DISCH1)		F04
		Comp. No. 2 discharge gas temp. sensor (DISCH2)		F05
		Outdoor No. 1 coil gas temp. sensor (EXG1)		F06
		Outdoor No. 1 coil liquid temp. sensor (EXL1)		F07
		Outdoor air temp. sensor (AIR TEMP)		F08
		Compressor intake port temperature sensor (RDT)		F12
		High pressure sensor. Negative (defective) N phase.		F16
		Low-pressure sensor failure		F17
		Compressor 3 discharge temp. sensor failure (DISCH3)		F22
		Outdoor No. 2 coil gas temp. sensor (EXG2)		F23
		Outdoor No. 2 coil liquid temp. sensor (EXL2)		F24

Continued

3. Timer Remote Controller

Possible cause of malfunction			Alarm message
EEPROM on indoor unit PCB failure			F29
Protective device for compressor is activated	Protective device for compressor No. 1 is activated.	EEPROM on the main or sub outdoor unit PCB has failed.	F31
		Current is not detected when comp. No. 1 is ON.	H03
	Protective device for compressor No. 2 is activated.	Compressor No. 2 current trouble (overcurrent)	H11
		Compressor No. 2 current trouble (locked)	H12
		Compressor No. 2 CT sensor disconnected or short circuit	H13
		Compressor No. 2 discharge temp. sensor disconnected	H15
	Protective device for compressor No. 3 is activated.	Compressor No. 3 current trouble (overcurrent)	H21
		Compressor No. 3 current trouble (locked)	H22
		Compressor No. 3 CT sensor disconnected or short circuit	H23
		Compressor No. 3 discharge temp. sensor disconnected	H25
		Low pressure switch is activated.	H06
	Oil sensor fault. (Disconnection, etc.)	Comp. No. 1 oil sensor	H08
		Comp. No. 2 oil sensor	H27
		Oil sensor (connection) failure	H28

Alarm messages displayed on system controller			
Serial communication errors Mis-setting	Error in transmitting serial communication signal	Indoor or main outdoor unit is not operating correctly. Mis-wiring of control wiring between indoor unit, main outdoor unit and system controller.	C05
	Error in receiving serial communication signal	Indoor or main outdoor unit is not operating correctly. Mis-wiring of control wiring between indoor unit, main outdoor unit and system controller. CN1 is not connected properly.	C06
Activation of protective device	Protective device of sub indoor unit in group control is activated.	When using wireless remote controller or system controller, in order to check the alarm message in detail, connect wired remote controller to indoor unit temporarily.	P30

NOTE

1. Alarm messages in << >> do not affect other indoor unit operations.
2. Alarm messages in < > sometimes affect other indoor unit operations depending on the fault.

4. Simplified Remote Controller

Simplified Remote Controller / CZ-RE2C2

■ Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".
After reading this manual, save it in a convenient place.

⚠ Warning

*** Installation Precautions**

1. Do not install by yourself.
   Installation should always be performed by your dealer or a professional service provider.
   Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
2. Use only specified air conditioners.
   Always use only air conditions specified by the dealer.

*** Moving and Repair Precautions**

1. Do not repair.
   Never repair the system by yourself.
2. Contact your dealer before moving the system.
   Contact your dealer or a professional service provider about moving and reinstalling the system.
   Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

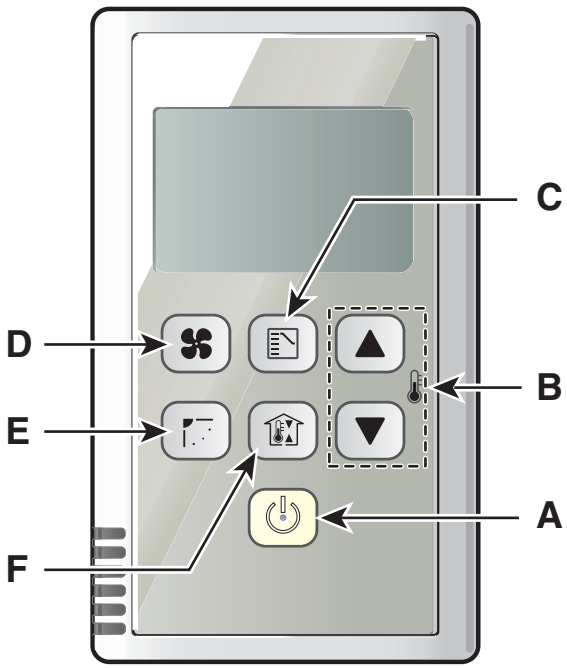
*** Precautions for Use**

1. Do not touch switches with wet hands.
   Electric shock and damage to the system can result.
2. Protect the remote controller from water.
   Damage to the system can result.
3. Stop the system and turn the power off if you sense unusual smells or other irregularities.
   Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system. Contact your dealer.
4. Do not turn the air conditioner on and off from the power mains switch.
   Use the ON/OFF operation button.
5. Do not stick anything into the air outlet of the air conditioner.
   Doing so is dangerous because the fan is rotating at high speed.
6. Do not let children play with the air conditioner.
7. Do not cool or heat the room too much if babies or invalids are present.
8. Do not wipe the remote controller with benzine, thinner, or chemical cloth.

4. Simplified Remote Controller

■ Names and Operations

Operation Section



CZ-RE2C2

A. (Start/Stop)button
Pushing this button starts, and pushing again stops the unit.

B. / ( ) (Temperature setting) buttons
Changing the temperature setting.

C. (Mode Select) button
Pushing this button to select an operation mode. (AUTO /HEAT /DRY /COOL / FAN).

D. (Fan speed) button
Changing the fan speed.
(/ / /)

E. (Swing/Air direction) button*1
Use this button to set the auto swing or air direction to a specific angle.

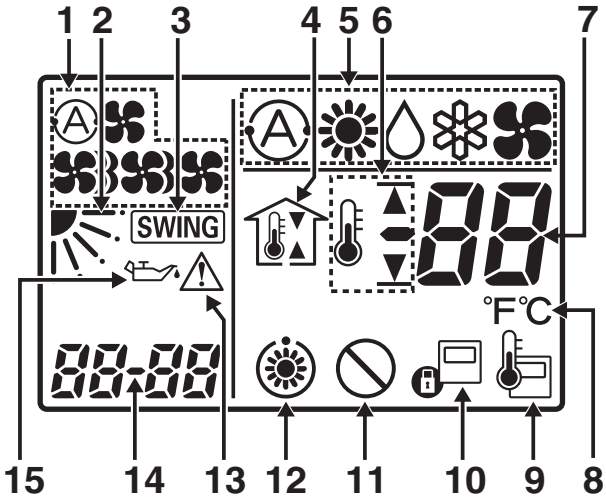
*1 Do not move the flap (vertical airflow adjustment board) with your hand.
The flap is automatically directed down when the unit is stopped.
The flap is directed up during the HEAT standby.
The flap starts swinging after the HEAT standby is cancelled, although the AUTO flap indication on the remote control unit is displayed during the HEAT standby.

F. (Outing function) button
(☞Outing Function)

3

4. Simplified Remote Controller

Display Section



1. **(Fan mode select) indication**
   The selected fan mode is displayed.
2. **(Flap position) indication**
   Indicates the flap position.
3. **SWING (Swing) indication**
   Appears while the flap swings.
4. **(Outing) indication**
   (Outing Function)
   Appears when the outing function is set.
5. **Operation Mode indication**
   Displays the selected operation mode. (AUTO Ⓐ/HEAT ☼/DRY ◇/COOL ❄/ FAN).
6. **Upper and lower limit indication of the outing function**
   ▲ : Indicates the upper limit of the temperature.
   ▼ : Indicates the lower limit of the temperature.
7. **Temperature indication**
   Indicates the set temperature.
8. **°F / °C (Temperature unit) indication**
9. **(Remote control sensor) indication**
   Appears when the remote control sensor is used.
10. **(Centralized control) indication**
    Appears when operated in centralized control. If the remote control operation is not permitted to the remote unit, when the ⏻ (Start/Stop) button, ▣ (Mode select) button, (Fan speed) button, (Swing/Air direction) button or ▲ / ▼ ( ) (Temperature setting) buttons are pressed, flashes and rejects the change.
11. **(Disabled feature) indication**
    Displayed if the selected feature was disabled during installation.
12. **(Heating standby mode) indication**
    appears when the fan of the indoor unit is stopped or in low fan speed.
13. **⚠ (Caution) indication**
    Appears when the protective device is activated or when an abnormality occurs.
14. **Alarm indication**
    This displays alarm messages when an error occurs.
15. **(Oil) indication**
    Appears when the engine oil needs to be changed. (Appears when the gas heat pump air conditioner is used.)

4. Simplified Remote Controller

■ Outing Function

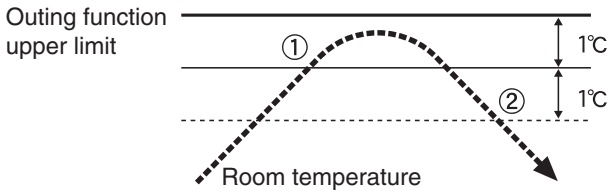
Outing function is a function that prevents the room temperature from increasing too much (or decreasing too much) when no one is in the room. An air conditioner works automatically if this function is set effective.

General Performance of the Outing Function

COOL / DRY

① The air conditioner starts operation when the room temperature increases up to –1°C of the upper limit.

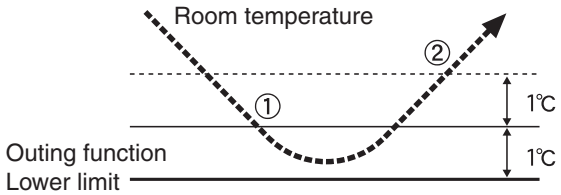
② The air conditioner stops operation when the room temperature decreases up to –2°C of the upper limit.



HEAT

① The air conditioner starts operation when the room temperature decreases up to +1°C of the lower limit.

② The air conditioner stops operation when the room temperature increases up to +2°C of the lower limit.



[Precautions]

- The outing control only starts/stops the air conditioner.
  It does not change the operation mode/temperature setting.
  Therefore, the operation mode/temperature needs to be set beforehand so that the outing function turns on the air conditioner with your desired operation mode/ temperature setting.
- If the room temperature rapidly changes, the room temperature may get over the upper or lower limit when the outing function is activated.
- The outing function is invalid during FAN/AUTO operation mode.
- The air conditioner's stop order (stated in ② /above) is valid only when the outing function is operated.
  If operated using other remote control units (or a centralized control device such as a system control), the outing function will not stop air conditioner operation.

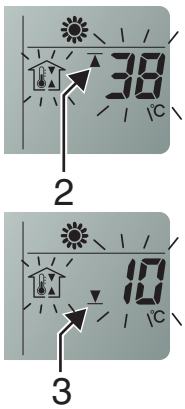
● Setting the Outing Function

1. Press and hold [🏠] for more than 4 seconds to display the upper limit temperature setting screen.

[🏠], [▲] and the upper limit temperature start flashing.
(The default value of the upper limit temperature is 38 °C.)

2. Press [▲] / [▼] to select the upper limit temperature, and press [🏠] to fix the value.
The lower limit temperature setting screen is displayed.

3. Press [▲] / [▼] to select the lower limit temperature, and press [🏠] to fix the value.
The outing function setting is completed.
(The default value of the lower limit temperature is 10 °C.)



* The unit returns to the normal mode if [↩] is pressed or there is no operation made for 3 minutes during the setting. In this case, all the settings in progress will be lost.

● Canceling the outing function

Press and hold [🏠] for more than 4 seconds while the outing function is set.

• Outing function indication

Outing function indication	Status
Off	The outing function is not set.
Flashing	The outing function is now being set, or under operation.
Lighting	Although the outing function is set, not under operation.

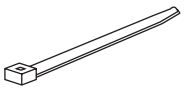
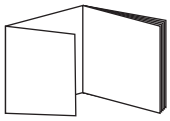
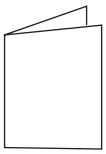
NOTE

If a blackout occurs during outing function operation and power is cut, the remote controller will lose the infomation for outing function operation. It reverts from the blackout, and an air conditioner does not drive in outing function when operation is started. At this time, an air conditioner does not stop at outing function.

4. Simplified Remote Controller

■ Basic Installation

● Parts supplied with simplified remote controller

Simplified remote controller	Wood screws	Binding strap	Instruction manual	Installation manual
				

● Simplified remote controller installation guidelines (Place of installation)

1. Mount the simplified remote controller at a height of 1 to 1.5 meters above the floor where it can sense the average temperature of the room.
2. Do not mount the simplified remote controller in a place exposed to direct sunlight or a place exposed to outside air such as near a window.
3. Do not mount the simplified remote controller behind an object so that it is separated from the air circulation of the room.
4. Mount the simplified remote controller within the room being air conditioned.
5. The simplified remote controller must be mounted on the wall or other surface vertically.

● How to install the simplified remote controller

- **When used as embedded type**

1. Insert a flathead screwdriver or the like in the groove on the lower side of the simplified remote controller body to pry off the back case. (See Fig. 3-44)
2. After passing the simplified remote controller wiring through the conduit on the back case of the controller, secure it with the two screws (field supply). (See Fig. 3-43)

   NOTE Do not apply excessive strain to the back case when securing it. Deformation of the back case may result in the remote controller falling off.
3. Connect the simplified remote controller wiring to the simplified remote controller main unit. (See “How to wire the simplified remote controller”.) When connecting the field supply 2 core lead wires to the terminal block, check the terminal numbers in the indoor unit to make sure that the wires are correctly connected. (See Fig. 3-45) (The simplified remote controller is damaged if 220 / 240 V AC is applied.)
4. Fit the simplified remote controller to the tabs of the back case and mount it.

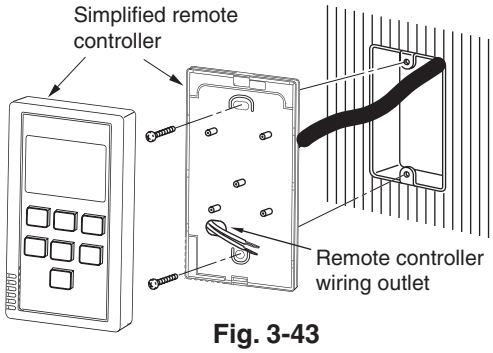
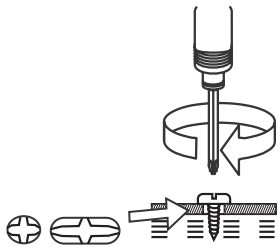


Fig. 3-43

When mounting the back case to the electric junction box, tighten the screws securely unitl the screw heads touch the back case. Otherwise, a loose screw head may damage the PCB on the back of the top cover when mounting the top cover. But do not over-tighten the screws. Overtightening may deform the back case and cause the unit to fall.



4. Simplified Remote Controller

- **When used as exposed type**

1. This step is the same as step 1 for the embedded type.
2. Because the simplified remote controller wiring exits the back case (thin part in upper central area), use a nipper or the like to cut out the part to fit the thickness of the simplified remote controller wiring. (See Fig. 3-46)
3. Referring to Fig. 3-47, connect the controller wiring to the main unit, and then attach the binding strap (supplied).
4. Place the controller wiring in the groove, and then adjust the wiring so that the binding strap attached in step 3 can be stored inside the simplified remote controller.
5. Secure the back case to the wall with the wood screws (supplied). (See Fig. 3-48)

NOTE Do not apply excessive strain to the back case when securing it.
Deformation of the back case may result in the remote controller falling off.

6. This step is the same as step 4 for the embedded type.

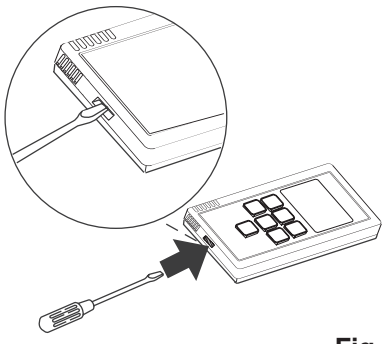


Fig. 3-44

- **Basic wiring diagram**

NOTE

Make sure to connect the wires correctly or the unit may be damaged. (See Fig. 3-49)

1. Following is a wiring diagram for controlling 1 indoor unit by 2 simplified remote controllers.
2. Performing group control of the multiple indoor units with 2 simplified remote controllers.
3. The main and the sub simplified remote controllers can be installed at any indoor unit for operations.

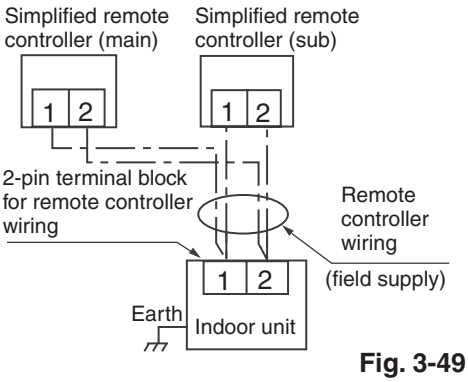
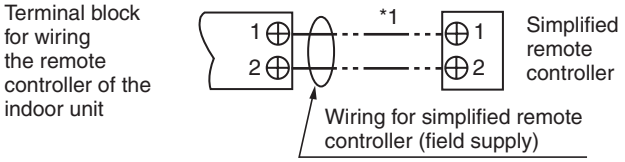


Fig. 3-49

● **How to wire the simplified remote controller**

- **Connection diagram**



*1: Use 0.5 mm^2 to 1.25 mm^2 stranded wires.

Fig. 3-45

Remote controller wiring can be extended to a maximum of 500m.

NOTE

1. Do not twist the simplified remote controller wiring with the power wiring or run it in the same metal conduit, because this may cause malfunction.
2. Install the simplified remote controller away from sources of electrical noise.
3. Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

- Use an electric junction box (field supply) (See Fig. 3-43) for flush mounting of the simplified remote controller

● **Guidelines for using 2 simplified remote controllers**

This multiple remote controller system controls 1 to 8 indoor units with 2 simplified remote controllers.

- **Set-up procedure**

1. One of the 2 simplified remote controllers should be set as main controller.
2. For the rest, see the “Remote controller setting mode” section and set up Sub.

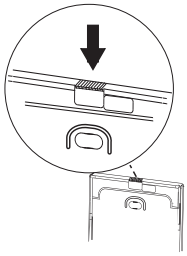


Fig. 3-46

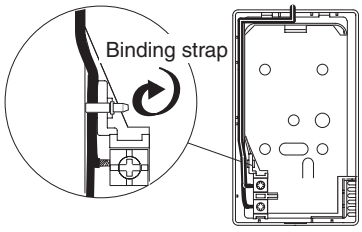


Fig. 3-47

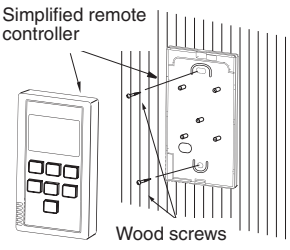


Fig. 3-48

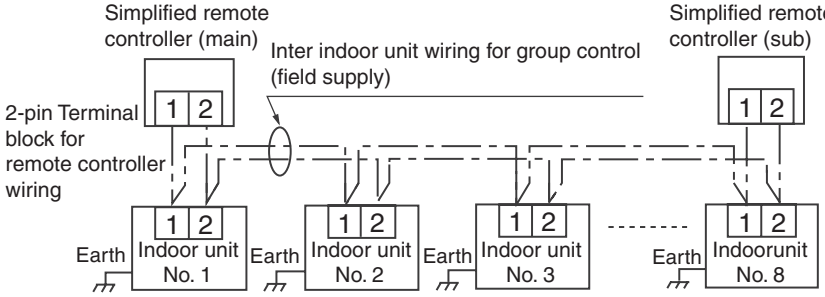


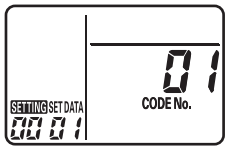
Fig. 3-50

4. Simplified Remote Controller

● Remote controller setting mode

Use the following method to perform simplified remote controller Main/Sub setting and RCU.CK switching.

1. Press both [▣] and [⌂] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select an item code, and then use [▣] button to confirm.
3. Change DATA with [▲] / [▼] (🌡) buttons.
4. Press [▣]. Finally, press [⌐].



CODE ITEM	ITEM	DATA	
		0000	0001
01	RCU. Main/Sub	Sub	Main
08	RCU. CK	RCU. CK	Normal

* To go back one step, press [⌂].

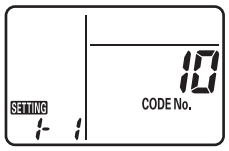
* DATA is memorized in the RCU.
(DATA setting will not be changed even when the power is turned off.)

* Make sure to set [Normal] for RCU. CK.

● Indoor unit setting mode

Use the following method to switch sensor or temperature unit (Celsius/Fahrenheit).

1. Press [▣] + [⌂] + [⌐] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select a unit, and then use [▣] button to confirm.
3. Use [▲] / [▼] (🌡) button to select an item code, and then use [▣] button to confirm.
4. Change DATA with [▲] / [▼] (🌡) buttons.
5. Press [▣]. Finally, press [⌐].



CODE	ITEM	DATA	
		0000	0001
32	Room temperature sensor	Main unit	RCU
33	Temperature unit	°C	°F

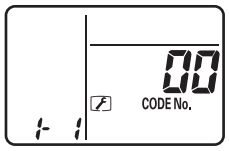
* To go back one step, press [⌂].

* DATA is memorized in the indoor unit.
(DATA setting will not be changed even when the power is turned off.)

● To display the sensor temperature:

1. Press both [⌐] and [⌂] buttons on the remote controller for more than 4 seconds together.
2. Use [▲] / [▼] (🌡) button to select a unit, and then use [▣] button to confirm.
3. Change the sensor address (CODE No.) with [▲] / [▼] (🌡) buttons.
4. Press the [⌐] button to finish service mode.

* To go back one step, press [⌂].

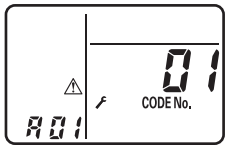


● To display the trouble history:

1. Press both [▣] and [⌐] buttons on the remote controller for more than 4 seconds together.
2. Change the alarm message: [▲] / [▼] (🌡) buttons
3. Press the [⌐] button to finish service mode.

CODE No. 01→04
(New) (Old)

* To clear the trouble history, press [❄].



3

4. Simplified Remote Controller

● Test run setting

1. Press both ⏻ and ☐ buttons on the remote controller for more than 4 seconds together, and then press ⏻ (ON/OFF) button.
   - "TEST" will appear on the display during test run.
   - During test run, temperature cannot be adjusted. This button should be used only for test run.
2. Perform test run in any operation mode of "heat", "cool" or "fan".

NOTE

The outdoor unit does not operate for 3 minutes after stopping operation or turning on the unit.

3. After test run is finished, press both ⏻ and ☐ buttons again for more than 4 seconds together, and then make sure "TEST" goes off from the display. (The 60-minute off timer function is provided for this remote controller in order to avoid continuous test run.)

● Caution

Caution when installing the remote controller (See Fig. 3-51-1)

*1 Install the remote controller more than 70 mm apart from the corner of the wall. (See Fig. 3-51-2)

*2 To install the remote controllers side-by-side, keep the space between each for more than 75 mm. (See Fig. 3-51-2)

*3 To install the remote controllers one above the other, keep the space between each for more than 25 mm. (See Fig. 3-51-3)

Unit: mm

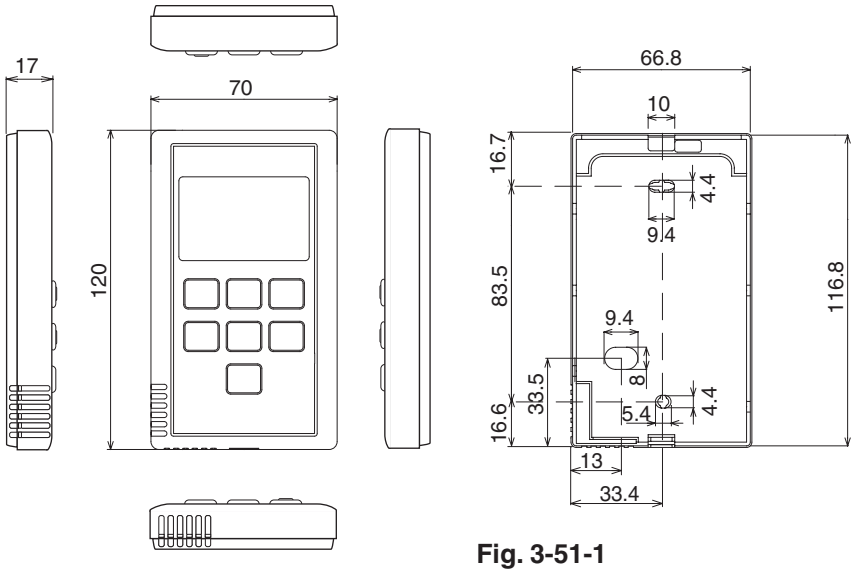


Fig. 3-51-1

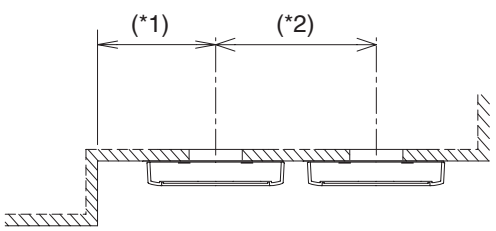


Fig. 3-51-2

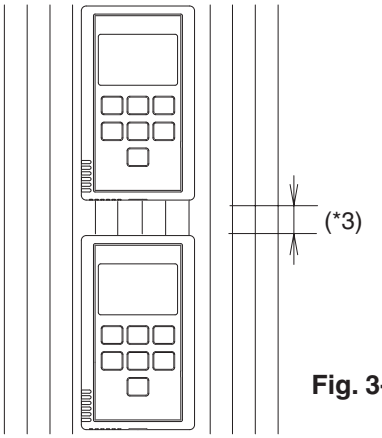
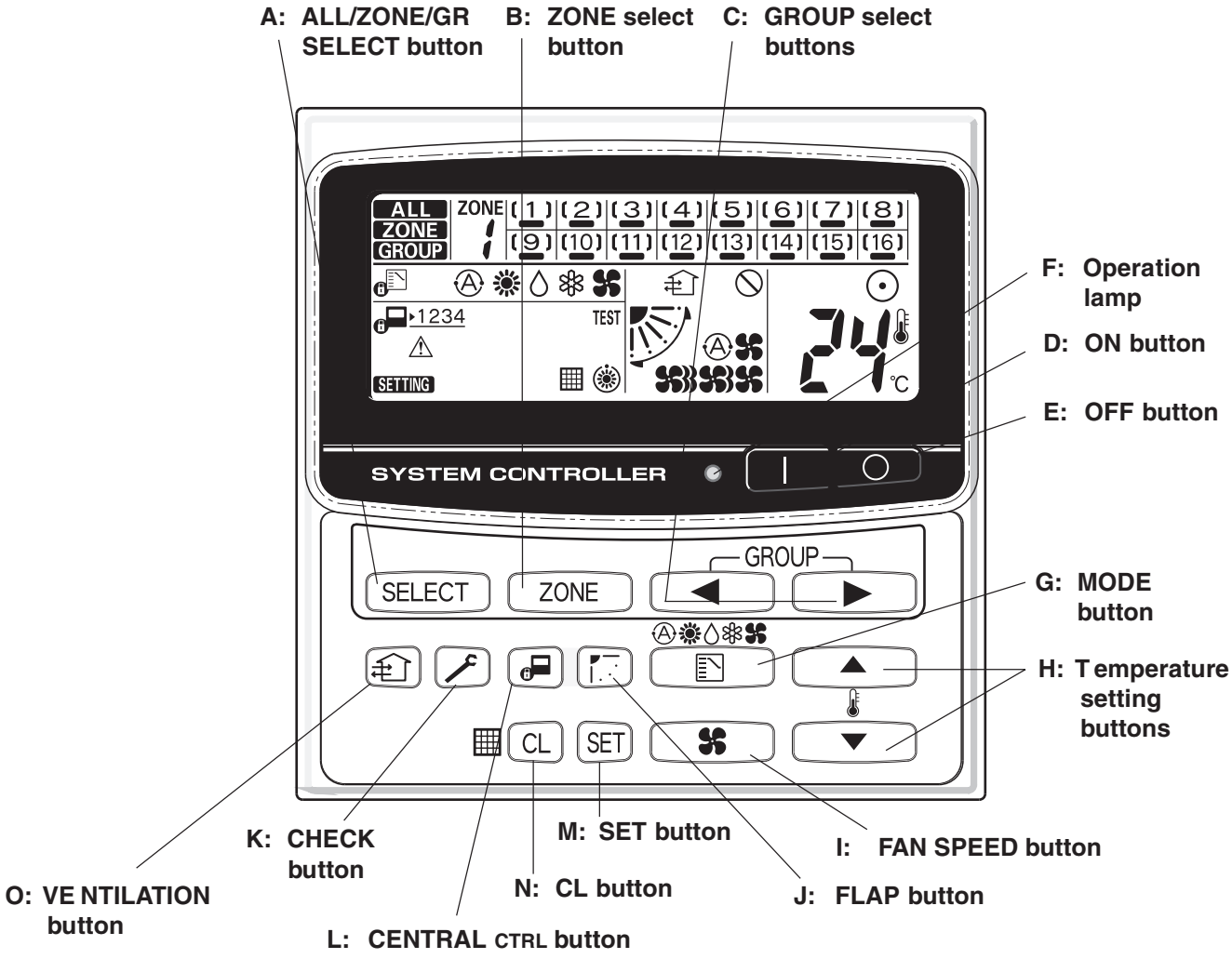


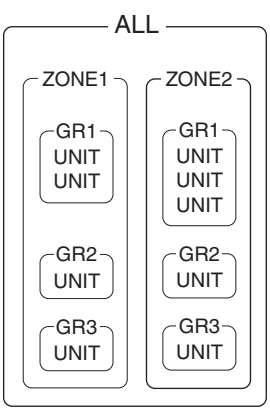
Fig. 3-51-3

5. System Controller

System Controller / CZ-64ESMC2

■ Functions of buttons



A: ALL/ZONE/GR SELECT button 	Use this button to select one of the following: **ALL:** Used for turning all the air conditioners on and off. **ZONE:** Used for turning all the air conditioners of each zone on and off. **GROUP:** Used for turning all the air conditioners of each group on and off. **(GR)**
NOTE	**A maximum of 4 zones and 16 groups (units) in a zone can be set.**
B: ZONE select button ZONE	Use this button to select a zone (1 to 4) to operate individually.
C: GROUP select buttons ◀ ▶	Use these buttons to select a group (1 to 16) to operate individually.

Continued

5. System Controller

D: ON button	This button is for turning the selected air conditioner on.
E: OFF button	This button is for turning the selected air conditioner off.
F: Operation lamp	This lamp lights when the unit is turned on.
G: MODE button	Use this button to select one of the following 5 operations:
(AUTO)	Ⓐ: Used to automatically set cooling or heating operation. **Only for heat pump type** (Temperature range: 17 to 27°C)
(HEAT)	☼ : Used for normal heating operation. **Only for heat pump type** (Temperature range: 16 to 26°C)
(DRY)	♢ : Used for dehumidifying without changing the room temperature. (Temperature range: 18 to 30°C)
(COOL)	❄ : Used for normal cooling operation. (Temperature range: 18 to 30°C)
(FAN)	✿ : Used to run the fan only, without heating or cooling operation.
NOTE	When the indication is displayed, you cannot change the mode from ❄ and ♢ or ☼ to ☼ or ❄ and ♢. To change the mode, turn off all units once then select the mode again.
H: Temperature setting buttons	▲: Press this button to increase the temperature setting. ▼: Press this button to decrease the temperature setting.
I: FAN SPEED button	
(AUTO)	Ⓐ✿: The air conditioner automatically decides the fan speed.
(HI)	✿ : High fan speed
(MED)	✿ : Medium fan speed
(LO)	✿ : Low fan speed
J: FLAP button ( )	1. Use this button to set the airflow direction to a specific angle. The airflow direction is displayed on the remote control unit. Operation mode — Number of airflow direction settings ❄ (COOL) or ♢ (DRY) — 3 ☼ (HEAT) or ✿ (FAN) — 5 Ⓐ (AUTO) Cooling mode: — 3 Heating mode: — 5
CAUTION	**In the Cool mode and Dry mode, when the flaps are set in a downward position, condensation may form and drip around the vent.** **Do not move the flap with your hands.**
NOTE	This function is available only for models U1 and T1.
( )	2. Use this button to make the airflow direction sweep up and down automatically. Press this button several times until the ( ) symbol appears on the display.
NOTE	This function is available only for models U1, K1 and T1.
NOTE	1) The flap setting can be performed only for units that have no remote controllers. 2) In the ALL or ZONE mode, no flap setting can be performed. If necessary, you should select the GROUP mode and use the FLAP button.

3

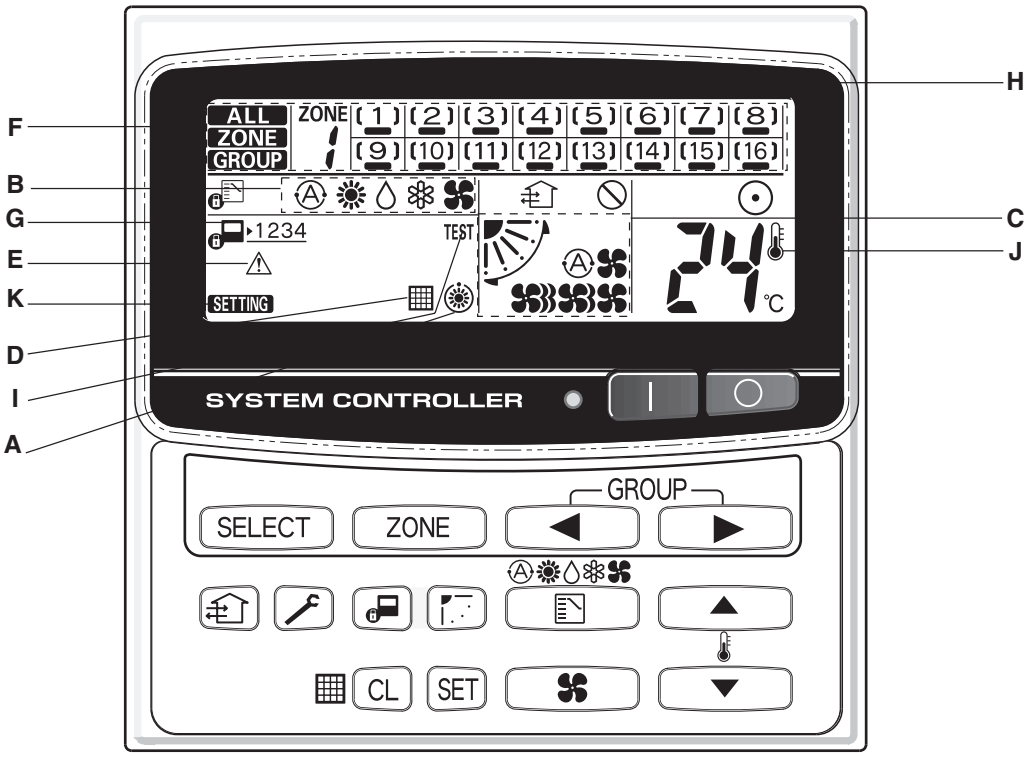
5. System Controller

K: CHECK button  **CAUTION**	This button is used only when servicing the air conditioner. **Do not use the CHECK button for normal operation.**
L: CENTRAL CTRL button	Use this button to inhibit individual operation by remote controller as follows: 1234 1: Individual ON/OFF operation is inhibited. 2: Individual ON/OFF, MODE and Temperature setting operation is inhibited. 3: Individual MODE and Temperature setting operation is inhibited. 4: Individual MODE operation is inhibited. No indication: Central control is cleared. (Individual operation)
M: SET button **NOTE**	This button is used for setting indoor unit's address when installing the air conditioner. **Do not use the SET button for normal operation.**
N: CL button	Use this button to reset the filter sign. The air conditioner has the timer for the filter and informs you when the filter needs cleaning
O: VENTILATION button	Use this button when you installed a fan available in the market. Pressing this button turns on and off the fan. When turning off the air conditioner, the fan will also turned off. While the fan is operating, will appear in the display. * If " " is displayed when pressing the ventilation button, no fans are installed.

3

5. System Controller

■ Display



Description

A: When the unit is in heating standby mode, the ☼ indicator appears.

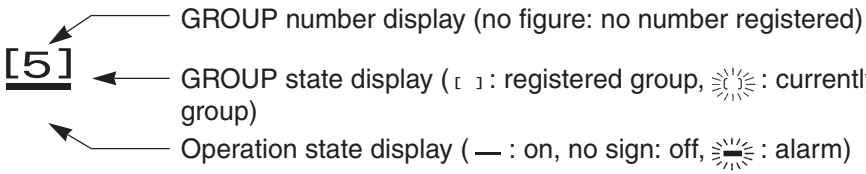
B: The currently selected operation mode is displayed.

C: The currently selected FAN SPEED, Airflow Direction and SWEEP settings are displayed.

D: This indication appears when the filter needs cleaning.

E: This indication appears only when an abnormality occurs within a unit.

F: The currently selected mode (ALL, ZONE or GROUP), ZONE number and GROUP number are displayed.



G: The currently selected central control mode (1, 2, 3 or 4) is displayed.

H: Lights when any of the air conditioners under the system control is operating; turns off when none of the air conditioners under the system control is operating. Blinks when any conditioner is operating under abnormal conditions and its protection function is working.

I: When the 🔧 button is pressed for more than 4 seconds, the TEST indicator appears.

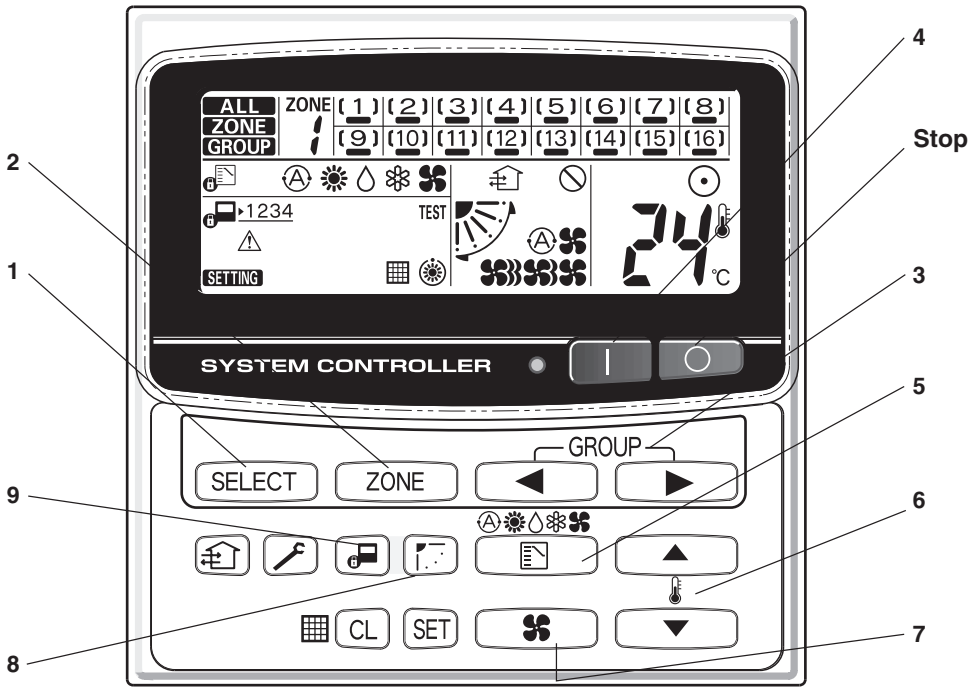
J: This indication appears when the temperature is set.

K: When turning on the power switch of the system controller, SETTING sign blinks for a few minutes. While blinking, any controls using the system controller are inhibited. This is because the system controller is verifying connected groups.

5. System Controller

■ How to Start Group Operation

To start group operation



Power		Turn the power supply switch on more than 5 hours before starting operation.
1	SELECT	Press the SELECT button and select GROUP.
2	ZONE	Select the ZONE No. including the group to be operated by pressing ZONE button.
3	◄ ►	Select the GROUP No. to be operated by pressing GROUP select buttons ◄►.
4	I	Press the ON button.
5		Set the operation mode by pressing the MODE button.
6	▲ ▼	Set the desired temperature by pressing one of the temperature setting buttons ▲▼.
7		Set the desired fan speed by pressing the FAN SPEED button.
8		Set the airflow direction to a specific angle or sweep mode.
9		By pressing , select your desired setting. Individual → : Controls with the remote controller are possible. Central 1 → : Individual ON/OFF operation with the remote controller is inhibited. Central 2 → : Individual ON/OFF, MODE, and Temp. setting operations with the remote controller are inhibited. Central 3 → : Individual MODE and Temp. setting operations with the remote controller are inhibited. Central 4 → : Individual MODE operation with the remote controller is inhibited. ● Under Central/Individual settings other than listed above, “CENTRAL” is displayed.
Stop	○	Confirming the GROUP No. to be selected, press the OFF button.

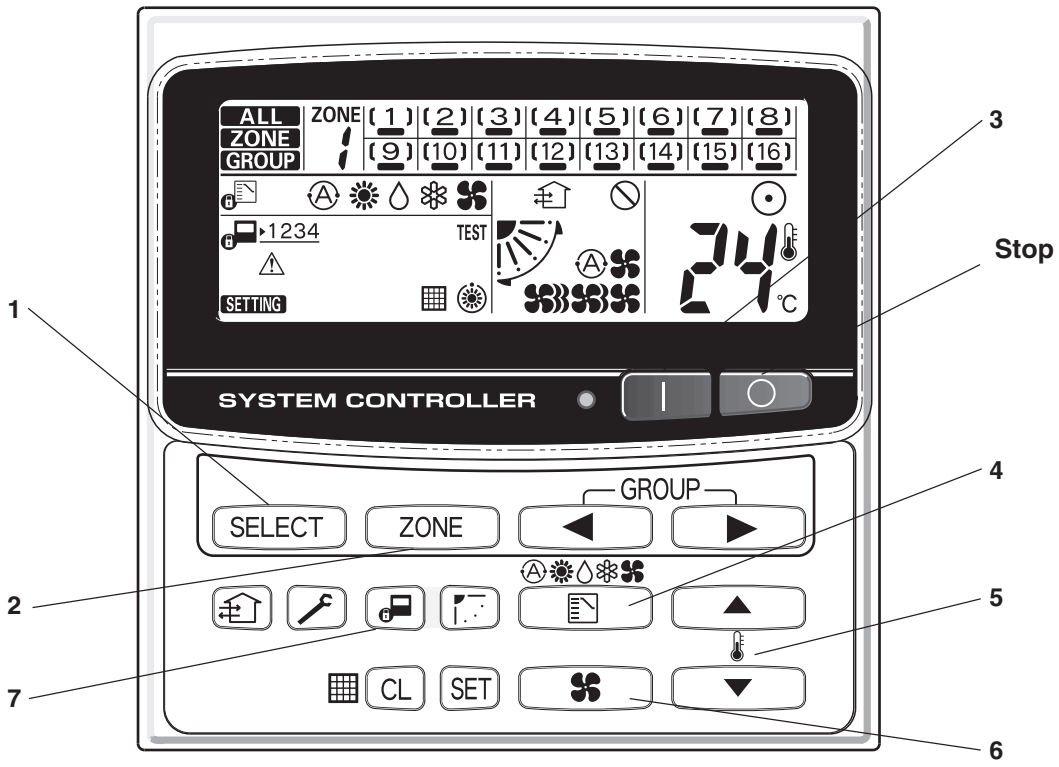
NOTE

- The flap setting can be performed only for units that have no remote controllers.
- **AUTO Operation :** Depending on the difference between the temperature setting and the room temperature, heating and cooling alternate automatically so that a uniform room temperature is maintained.

5. System Controller

■ How to Start Collective Operation

To start collective operation (ALL or ZONE)



Power		Turn the power supply switch on 5 hours or more before starting operation.
1	SELECT	Press the SELECT button and select ALL or ZONE. In case of ZONE collective operation.
2	ZONE	Select the ZONE No. to be operated by pressing ZONE button.
3	I	Press the ON button.
4		Set the operation mode by pressing the MODE button.
5	▲ ▼	Set the desired temperature by pressing one of the temperature setting buttons ▲ ▼.
6		Set the desired fan speed by pressing the FAN SPEED button.
7		Select the control mode.
Stop	○	Confirming the ZONE No. to be selected or ALL indication, press the OFF button.

NOTE In the ALL or ZONE mode, no flap setting can be performed. If necessary, you should select the GROUP mode and use the FLAP button.

5. System Controller

■ How to Install the System Controller

Installation site selection

- Install the system controller at a height between 1 and 1.5 meters above the floor.
- Do not install the system controller in a place where it will be exposed to direct sunlight or near a window or other place where it will be exposed to the outside air.
- Be sure to install the system controller vertically, such as on a wall.

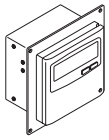
CAUTION

- **Do not twist the control wiring together with the power wiring or run it through the same metal conduit, because this may cause a malfunction.**
- **Install the system 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.**

WARNING

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

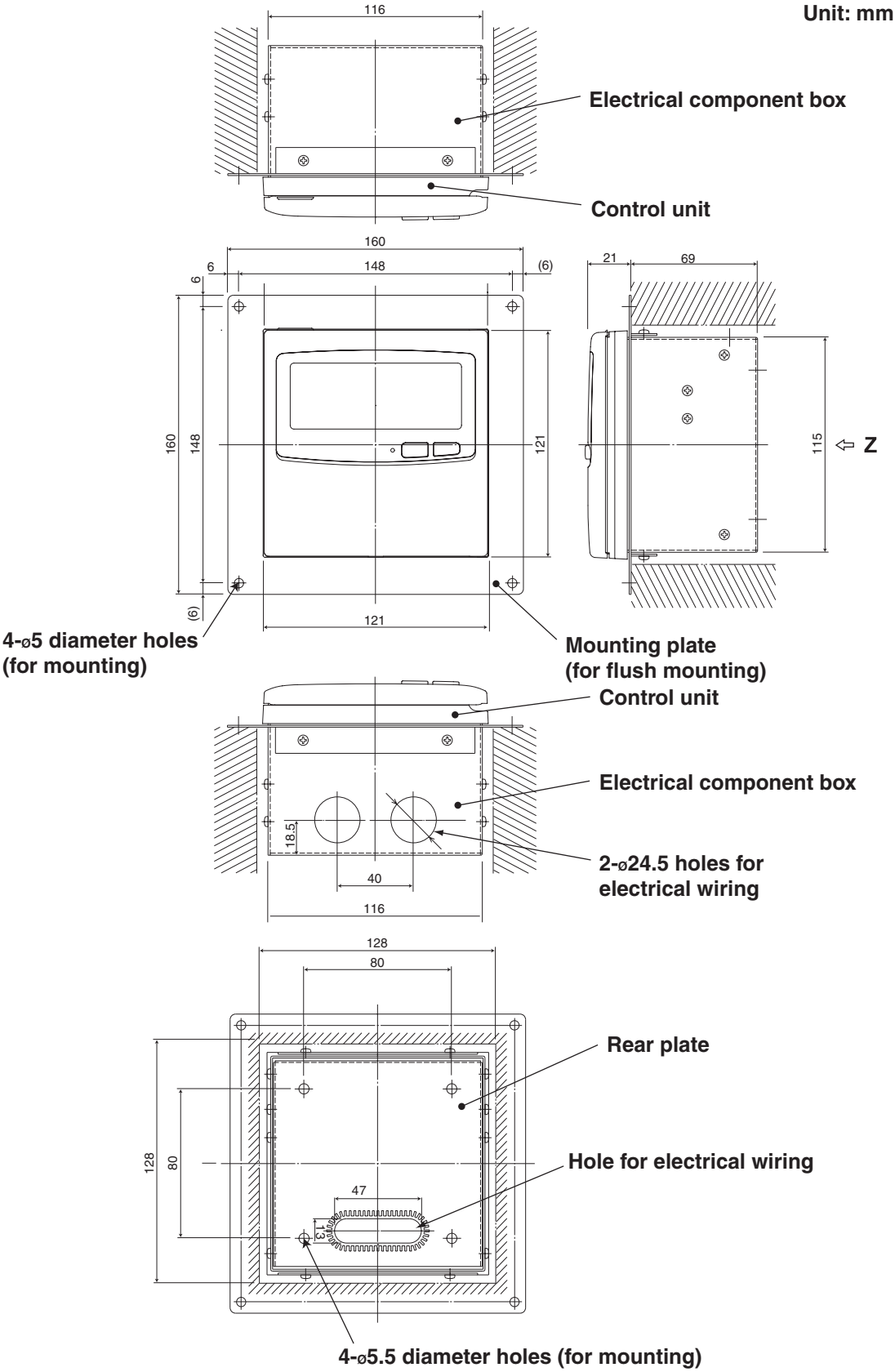
3

Part Name	Figure	Q'ty	Remarks
System controller		1	
Tapping screw	Truss-head Phillips 4 × 16 mm 	4	For securing the system controller
Rawl plug		4	For securing the system controller
Manual		1	For installation
		1	For operation

5. System Controller

■ Overview of the System Controller

Unit: mm



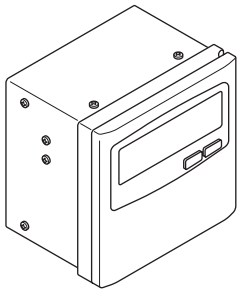
Z-view (back side)

* In order to mount the system controller flush with the wall, an opening measuring 128 mm × 128 mm is necessary.

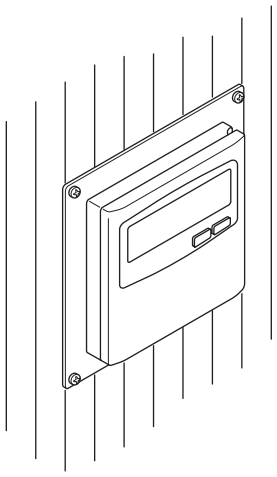
Fig. 3-52

5. System Controller

■ Installation Procedure



a): Normal mounting



b): Flush mounting

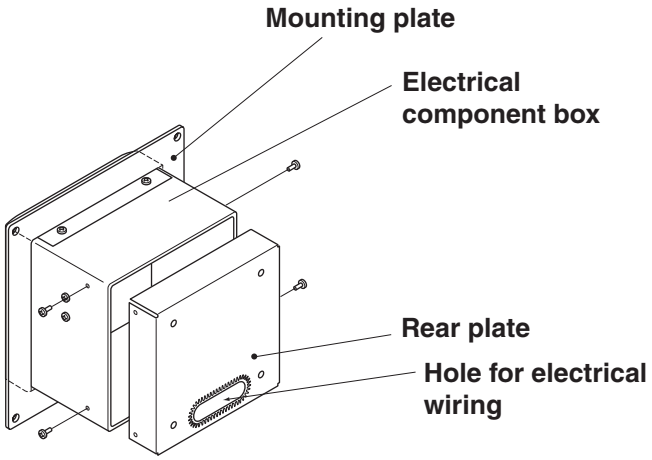
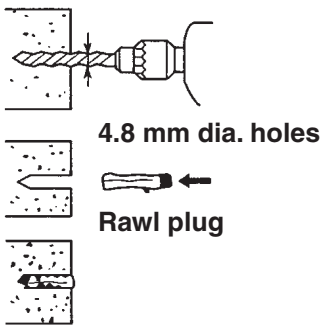


Fig. 3-53

1. Decide how the system controller will be mounted: in the normal manner or flush with the wall.
   a) To mount the system controller in the normal manner, remove the mounting plate. Then reattach the 4 screws to the electrical component box.
   b) To mount the system controller flush with the wall, make an opening in the wall measuring 128 mm x 128 mm. The opening must be at least 85 mm deep as measured from the outside surface of the wall.

2. Remove the rear plate and connect the electrical wiring.
   1) Remove the 4 screws located on both sides of the rear plate.
   2) Either the hole in the top of the electrical component box or the hole in the rear plate may be used to feed the electrical wiring.
   3) If the hole on top is used, the rear plate should be turned upside down.

3. Secure the system controller in place.
   a) If the system controller is being mounted in the normal manner, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the system controller over the rear plate and secure it in place using four screws.
   b) If the system controller is being mounted flush with the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.



NOTE To mount the system controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes in the wall and insert Rawl plugs to anchor the mounting screws.

5. System Controller

■ Layout of Electrical Terminals

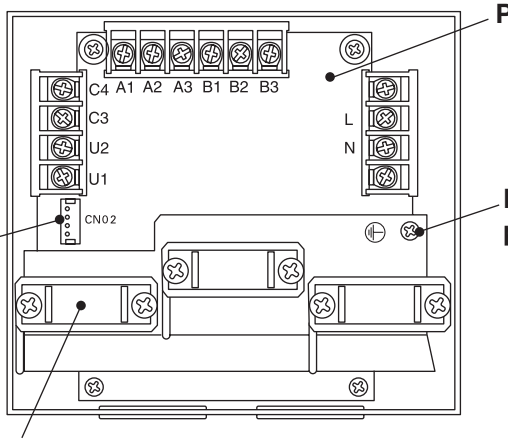


Fig. 3-54

How to connect electrical wiring

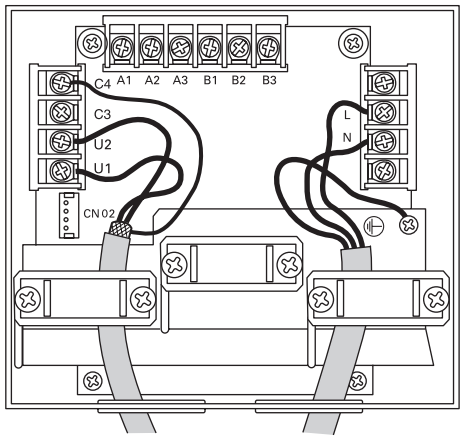
1) Basic wiring

N: ┐
L: ┘ Power supply (220 – 240 V ∿ 50 Hz/60 Hz)

U1: ┐
U2: ┘ Inter-unit control wiring. (Low voltage) (Use shielded wiring)

C3: Reserve

C4: Ground for inter-unit control wiring



2) Terminals for remote monitoring

A1: Input for turning on air conditioners concurrently.

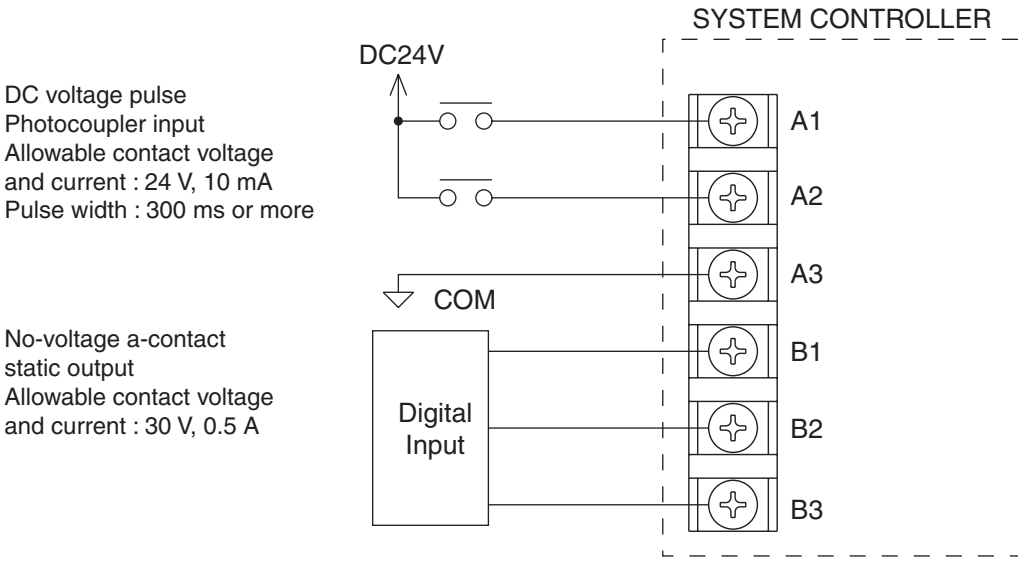
A2: Input for turning off air conditioners concurrently.

A3: Common input for turning air conditioners on or off.

B1: On operation state indicator output.

B2: Alarm indicator output.

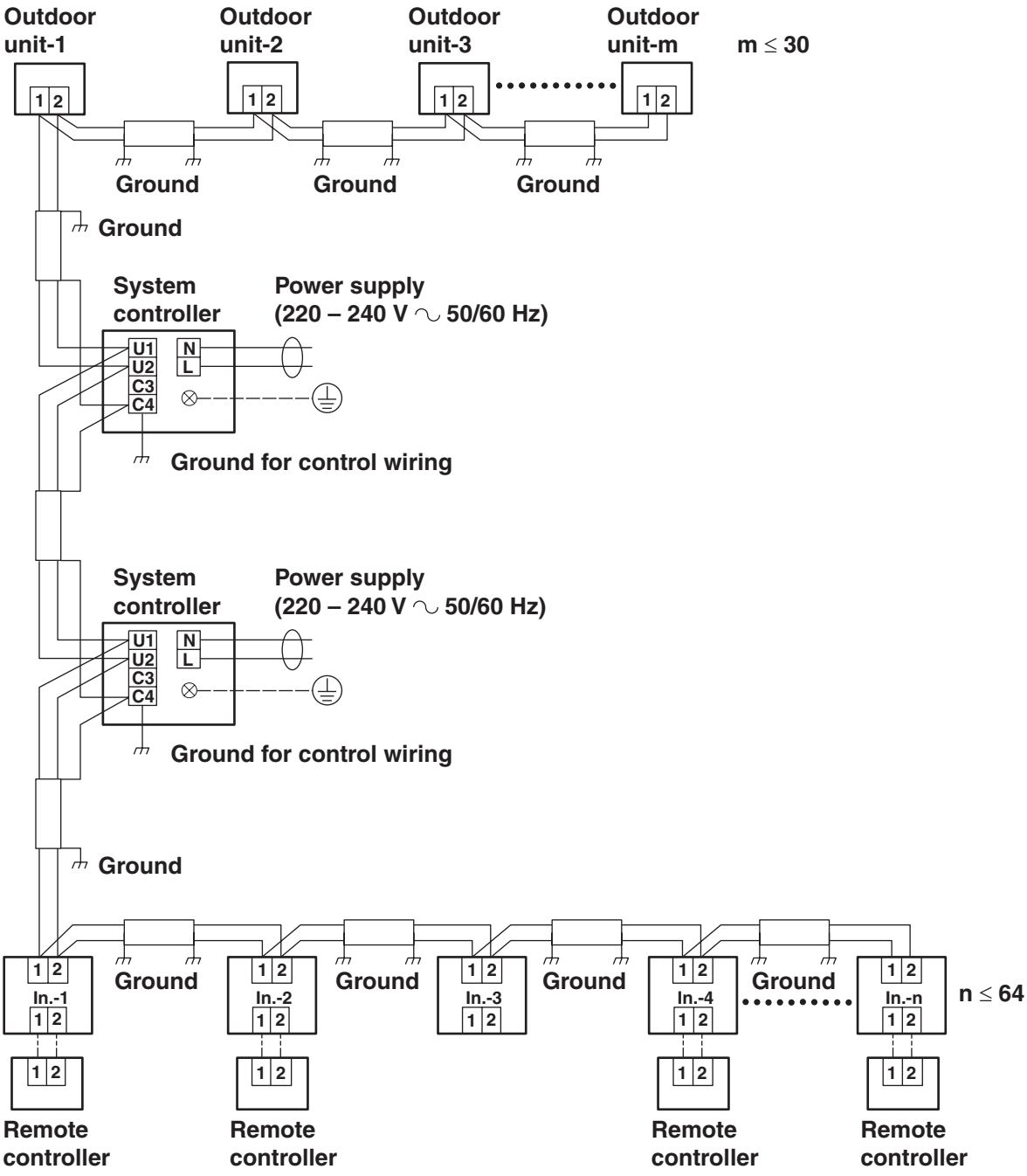
B3: Common indicator output.



5. System Controller

■ Basic Wiring Diagram

CAUTION **Ensure that wiring connections are correct. (Incorrect wiring will damage the equipment.)**



NOTE 1. The following figure is the inter-unit controll wiring.



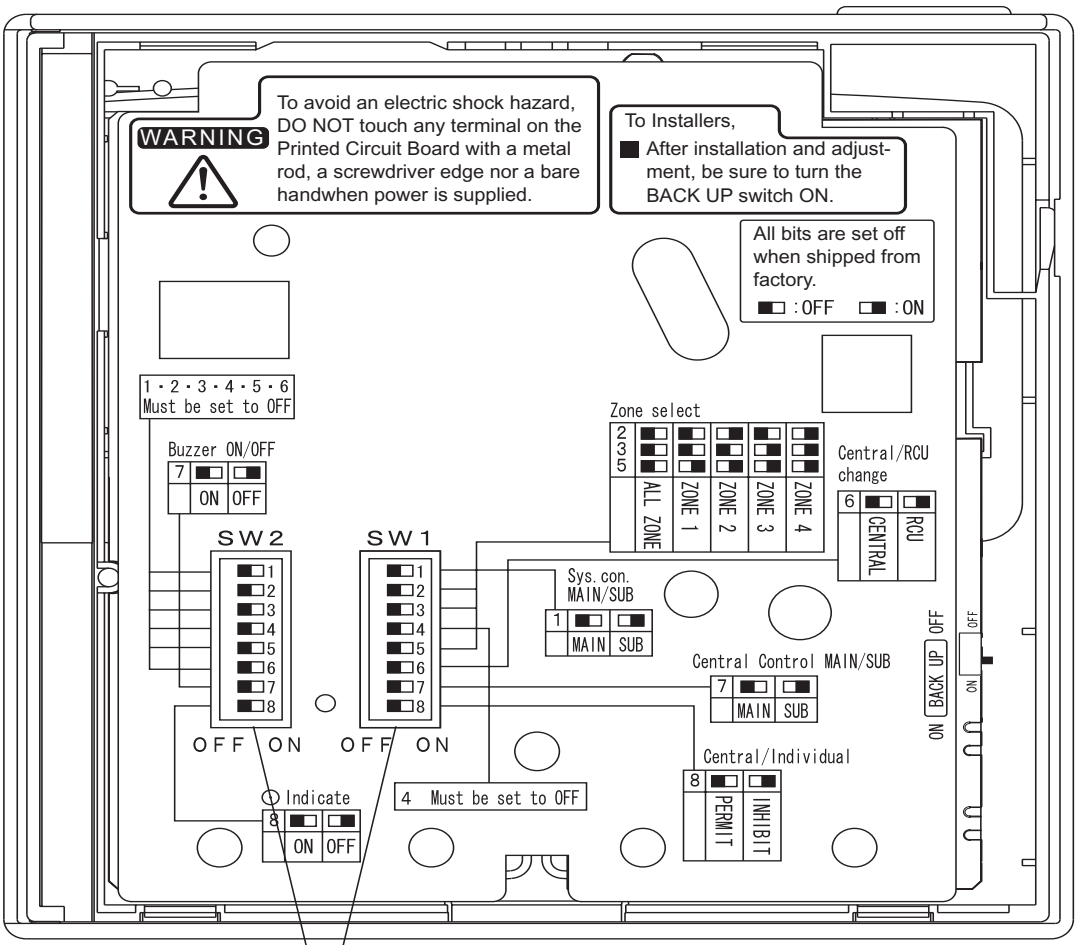
Use the shielded wiring.

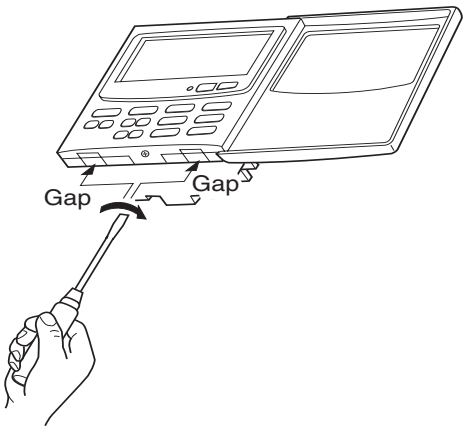
2. In. means indoor unit.
3. Up to 2 system controllers may be connected to 1 control line system.

Fig. 3-55

5. System Controller

■ Address Switch Setting



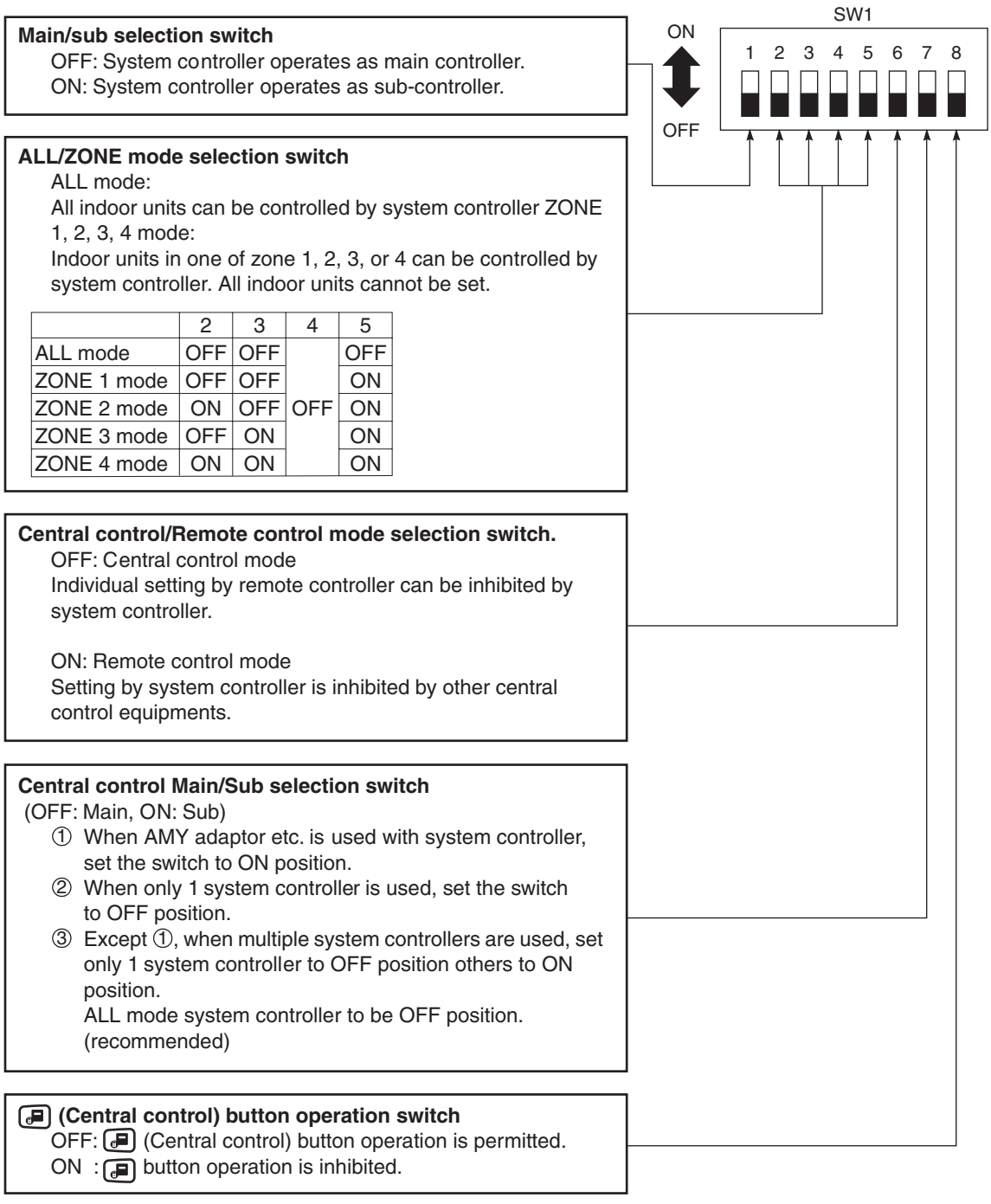


How to reach the PCB

Remove the Machine screw on the bottom of the back case. When you open up the decorative cover, you will see 2 notches under the control unit. Inset a coin or other flat object into these notches and pry off the back case. The PCB on the back of the control unit is now visible.

5. System Controller

SW1



Main/sub selection switch
OFF: System controller operates as main controller.
ON: System controller operates as sub-controller.

ALL/ZONE mode selection switch
ALL mode:
All indoor units can be controlled by system controller ZONE 1, 2, 3, 4 mode:
Indoor units in one of zone 1, 2, 3, or 4 can be controlled by system controller. All indoor units cannot be set.

	2	3	4	5
ALL mode	OFF	OFF	OFF	OFF
ZONE 1 mode	OFF	OFF		ON
ZONE 2 mode	ON	OFF		ON
ZONE 3 mode	OFF	ON		ON
ZONE 4 mode	ON	ON		ON

Central control/Remote control mode selection switch.
OFF: Central control mode
Individual setting by remote controller can be inhibited by system controller.

ON: Remote control mode
Setting by system controller is inhibited by other central control equipments.

Central control Main/Sub selection switch
(OFF: Main, ON: Sub)
① When AMY adaptor etc. is used with system controller, set the switch to ON position.
② When only 1 system controller is used, set the switch to OFF position.
③ Except ①, when multiple system controllers are used, set only 1 system controller to OFF position others to ON position.
ALL mode system controller to be OFF position. (recommended)

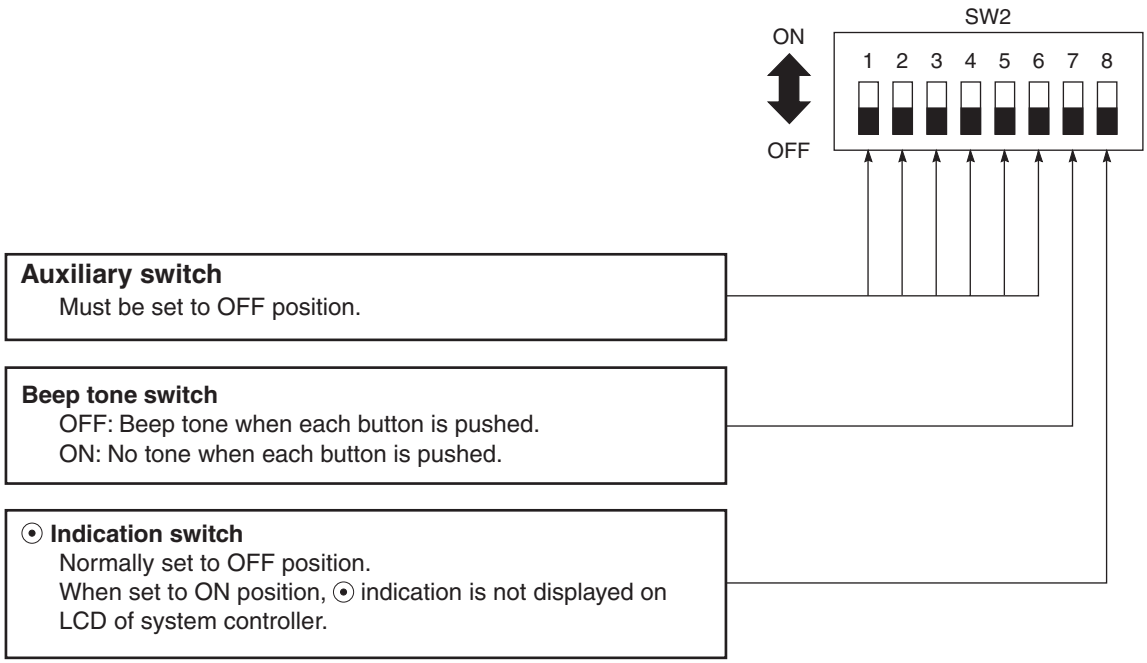
(Central control) button operation switch
OFF: (Central control) button operation is permitted.
ON : button operation is inhibited.

*All switches are in OFF position at shipment.

Fig. 3-56

5. System Controller

SW2



*All switches are in OFF position at shipment.

Fig. 3-57

5. System Controller

■ Mode Setting

According to the function of each system controller, set SW1 as Fig. 3-58.

(1) Central control/Remote control mode

● Central control mode

System controller is used as central control equipment.

Individual setting by remote controller can be inhibited by system controller

● Remote control mode

System controller is used as remote controller.

Setting by system controller is inhibited by other central control equipments.

(2) ALL/ZONE mode

● **ALL mode**

All indoor units can be controlled by system controller.

● **ZONE mode**

Indoor units in one of ZONE 1, 2, 3 or 4 can be controlled by system controller

(3) Function of system controller is 10 types according to combination of central control/remote control mode and ALL/ZONE mode setting as the table 3-1.

(4) Stick the system controller unit label in a conspicuous position.

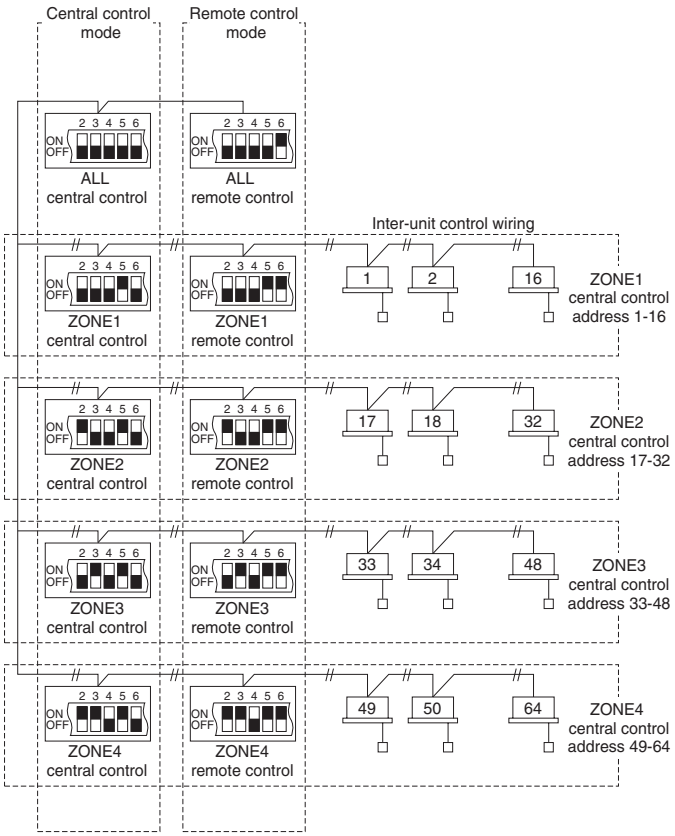


Fig. 3-58

Table 3-1

	Central control	Remote control
ALL	1. ALL/Central	6. ALL/Remote
ZONE1	2. ZONE1/Central	7. ZONE1/Remote
ZONE2	3. ZONE2/Central	8. ZONE2/Remote
ZONE3	4. ZONE3/Central	9. ZONE3/Remote
ZONE4	5. ZONE4/Central	10. ZONE4/Remote

5. System Controller

■ How to Perform Zone Registration

To operate the system controller properly, zone registration is required after finishing the test run (and after setting all indoor unit addresses) using one of the following methods.

(a) Zone registration using the remote controller (CZ-RTC2)
Refer to page 3-79

(b) Zone registration using the system controller (CZ-64ESMC2)
Refer to page 3-80

(c) Automatic zone registration using the system controller (CZ-64ESMC2)
Refer to page 3-80

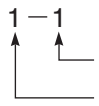
For methods (a) and (b), you should make a zone registration table manually before performing the registration. Use the form on page 3-78 for this.

For method (c), zone registration is executed automatically, proceeding from small indoor unit addresses and small central addresses to larger numbers in numerical order. For example:

Central address	1	2	3	4	5	6
ZONE-group	1-1	1-2	1-3	1-4	1-5	1-6
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines an R.C. address and indoor unit number as follows:



: Indoor unit address (UNIT No.)
Indoor unit No.
Refrigerant circuit No. (R.C. address)

   This address is displayed on remote controller for UNIT No. when the UNIT button is pressed.

2. The central address represents the zone and group number. These addresses are assigned in ascending numerical order.

5. System Controller

■ Zone Registration Table

ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location		ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location
1	1	1				3	1	33		
	2	2					2	34		
	3	3					3	35		
	4	4					4	36		
	5	5					5	37		
	6	6					6	38		
	7	7					7	39		
	8	8					8	40		
	9	9					9	41		
	10	10					10	42		
	11	11					11	43		
	12	12					12	44		
	13	13					13	45		
	14	14					14	46		
	15	15					15	47		
	16	16					16	48		
2	1	17				4	1	49		
	2	18					2	50		
	3	19					3	51		
	4	20					4	52		
	5	21					5	53		
	6	22					6	54		
	7	23					7	55		
	8	24					8	56		
	9	25					9	57		
	10	26					10	58		
	11	27					11	59		
	12	28					12	60		
	13	29					13	61		
	14	30					14	62		
	15	31					15	63		
	16	32					16	64		

NOTE

1. Assign indoor unit addresses to the desired positions (central addresses) manually.
2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

(a) Zone registration using the remote controller
(CZ-RTC2)
(Determination of central address)

- In this case, after confirming which indoor unit is connected to the remote controller and that the air conditioner in the OFF state, you set the central addresses one at a time.
- If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

(1) Press the [🔧] and [⌂] buttons at the same time of the remote controller for more than 4 seconds.

(2) Do not press [UNIT] button.

(3) Once in this mode, the UNIT No., CODE No., No. of SET DATA and SETTING indications will flash on the display as shown Fig. 3-59.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the [UNIT] button once.

(4) Set CODE No. to 03 using the [▲] and [▼] (🌡) buttons.

NOTE

CODE No. 03 must be selected to perform zone registration using the remote controller.

(5) Set the Central address which you want to assign to the indoor unit address using the [▲] and [▼] (🕘) buttons according to the zone registration table.

(6) Press the [SET] button. The CODE No. and Central address changes from flashing to ON state. If you make a mistake, then press the [CANCEL] button and reset the central address.

(7) Press the [🔧] button to finish zone registration.



Fig. 3-59



For example, in this case
Indoor unit address: 1-8
Central address : 17 (ZONE 2, GROUP 1)

Fig. 3-60

(b) Zone registration using the system controller (CZ-64ESMC2)

- In this case, you set all Central addresses by system controller at once manually.

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) After confirming that CODE No. C1 is displayed, press the [SET] button. Once in this mode, a change takes place as shown in Fig. 3-65.

(3) Select the zone and group No. which you want to set with [ZONE] and [◀] [▶] (GROUP) buttons. If already set, press the [CL] button.

(4) Set the unit No. (Indoor unit address) with [📠] and [⬚] buttons, according to the zone registration table.
R.C. No. ..... [📠] button
Indoor unit No..... [⬚] button

(5) Press the [SET] button.
GROUP No. turns ON and UNIT No. (Indoor unit address) changes from flashing to ON state. UNIT No. is registered to selected ZONE No. and GROUP No.
If you make a mistake, then press the [CL] button and reselect the ZONE, GROUP and UNIT No.

(6) Register the other UNIT Nos. in the same way by following steps (3) to (5).

(7) Finally, complete the registration by pressing the [🔧] button.
SETTING flashes for a few minutes, then goes OFF.

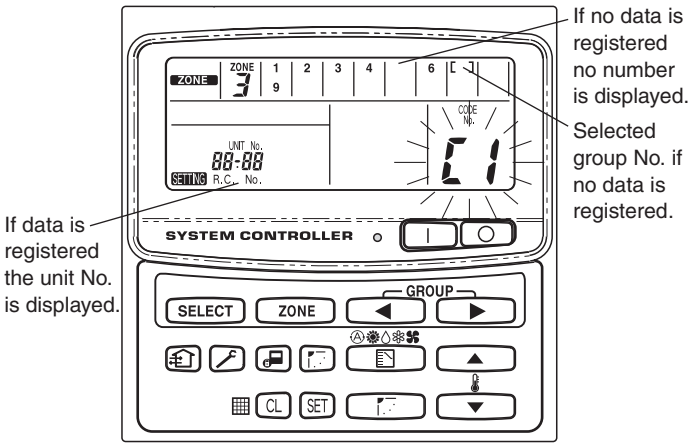
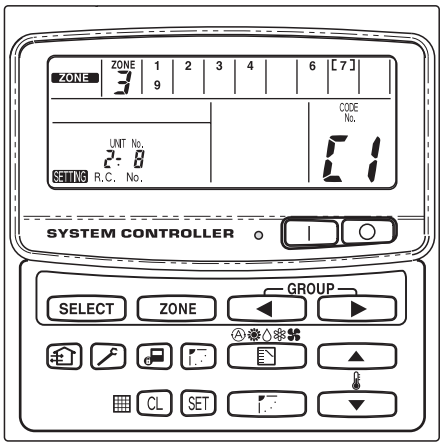


Fig. 3-61



For example, in the case at left
Zone 3, group No. 7
Unit No. (indoor unit address) 2-8
Unit No. 2-8 is registered to zone 3-group 7.

Fig. 3-62

(c) Automatic zone registration using the system controller (CZ-64ESMC2)

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE. No. C2 by pressing [▲] and [▼] (🌡) button and press the [SET] button.
C2 changes from flashing to ON state and automatic zone registration will start.

(3) All registered GROUP Nos. will disappear.

(4) Central addresses will be assigned from small indoor unit addresses to large addresses in numerical order automatically.
After automatic zone registration is completed, SETTING changes from flashing to OFF.

(5) If an error occurs "CHECK" starts flashing and zone registration finishes at this time. Press the [CL] button.

(6) Finally, complete automatic zone registration mode by pressing the [🔧] button.
SETTING flashes for a few minutes, then goes OFF.

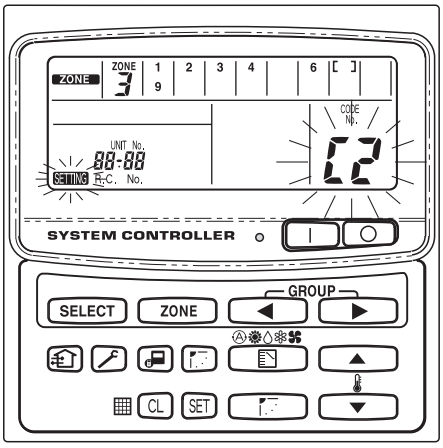


Fig. 3-63

5. System Controller

■ How to Check Overlapping of Central Address Nos.

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE. No. C3 by pressing [▲] , [▼] (🌡) button and press [SET] the button.
C3 changes from flashing to ON state and SETTING will flash. Then auto overlap checking will start.

(3) If C3 changes from ON to flashing and SETTING stops flashing and disappears, there is no overlapping.
Then complete the auto overlap checking mode by pressing the [🔧] button.

(4) If some of GROUP No., ZONE No. and UNIT No. flash, you should try again the zone registration.
A) Select CODE No. C1 by pressing [▲] , [▼] (🌡) button and press the [SET] button.
B) Select the flashing GROUP No. with ZONE and GROUP button.
Then press the [CL] button and reselect the ZONE, GROUP and UNIT No.
C) Then complete the auto overlap checking mode by pressing the [🔧] button.

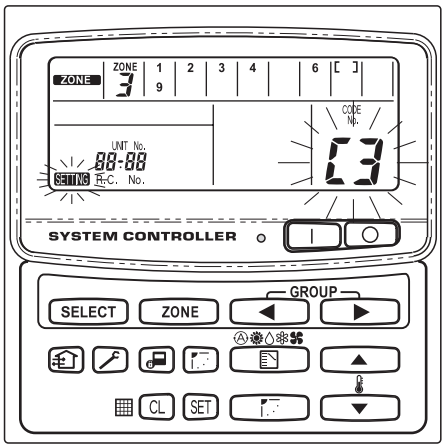
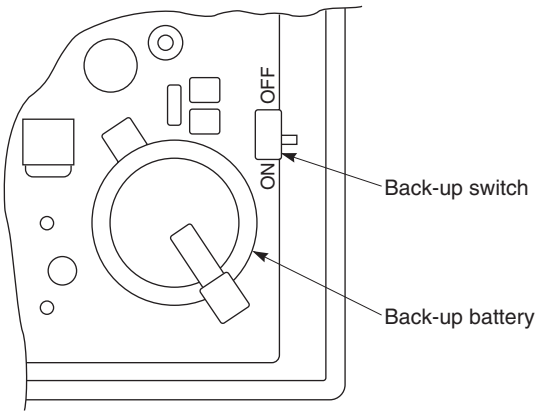


Fig. 3-64

■ Memory Back-Up Switch

Check the back-up switch is ON on the back of the system controller PCB.



■ Test Run

(1) Supply power to all indoor units. Next, power on the system controller.
SETTING will flash, checking the indoor unit addresses automatically.

(2) If the group No. displayed on system controller is not the same as indoor unit No.* which is connected, see Fig. 3-58 and do the setting again.
* In case of group control, main unit No. only.

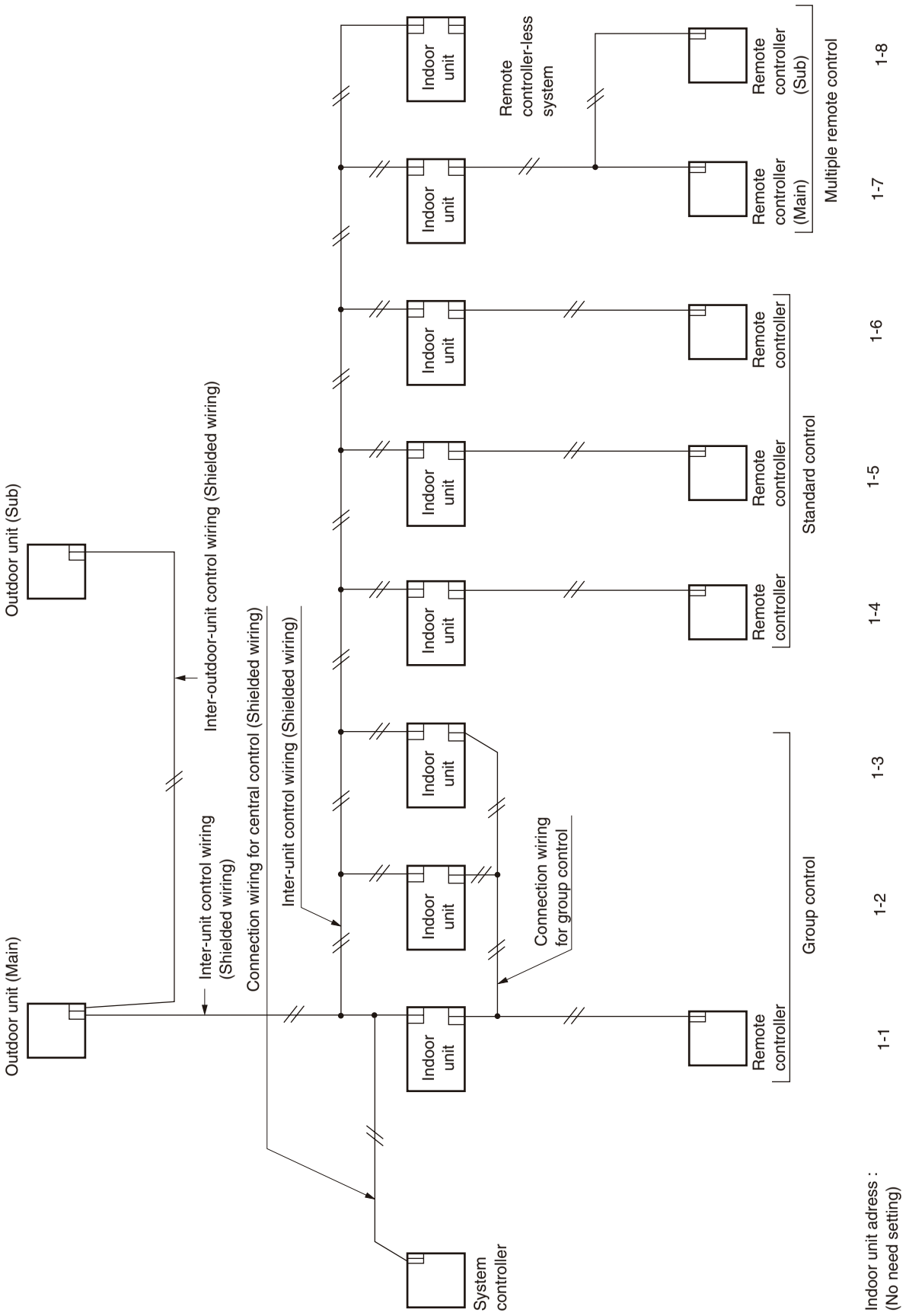
3

5. System Controller

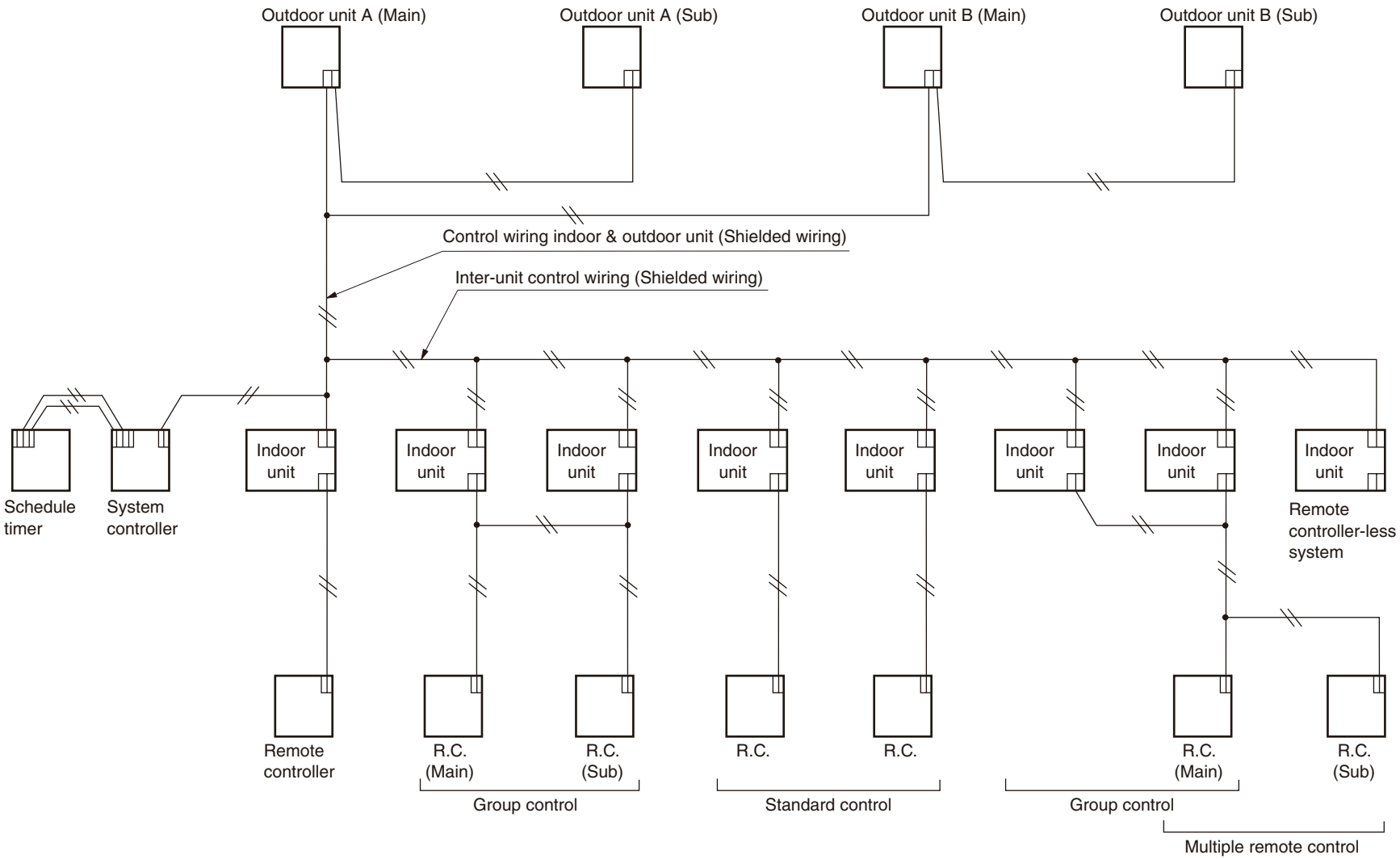
■ System Examples

The following diagrams show system examples and the correct setting of the switches on the PCB.

(1) For a system without link



(2) For a system with link



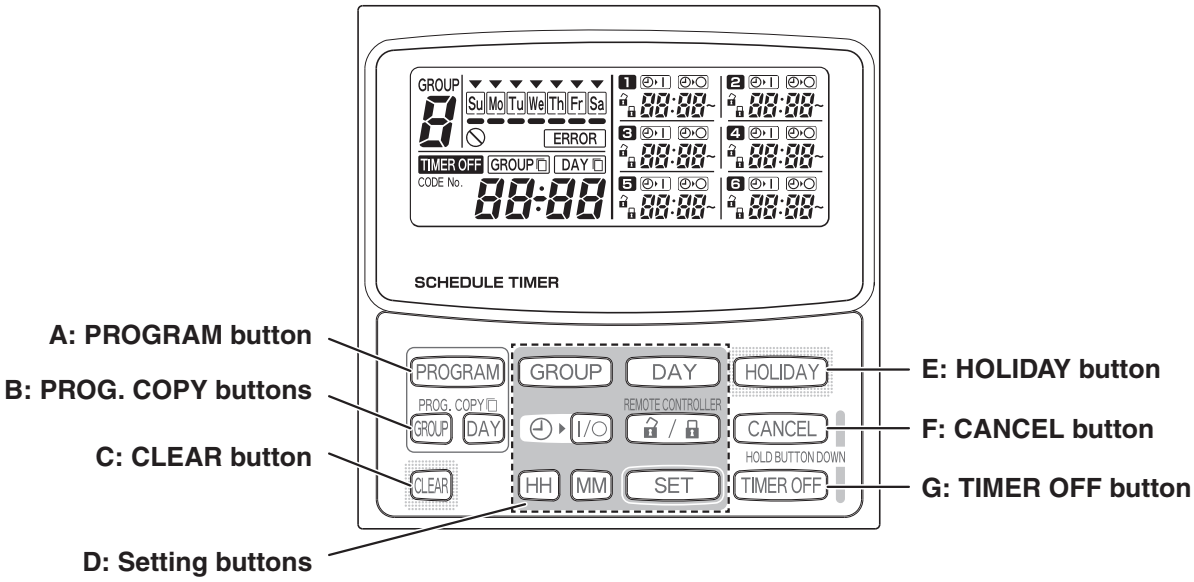
Indoor unit Zone registration (*)								
Central address (Zone-Group)	1 (1-1)	2 (1-2)	2 (1-2)	3 (1-3)	17 (2-1)	18 (2-2)	18 (2-2)	19 (2-3)
Indoor unit adress (No need setting)	1-1	1-2	1-3	1-4	2-1	2-2	2-3	2-4

* Regarding the zone registration for system controller, please refer to Installation manual of system controller.

6. Schedule Timer

Schedule Timer / CZ-ESWC2

■ Operation Buttons

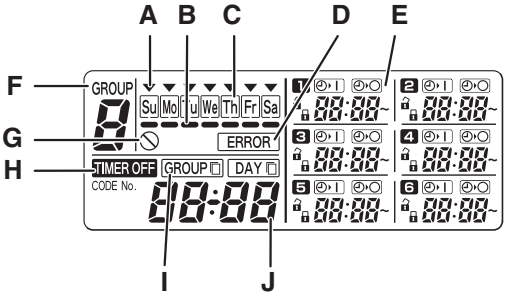


A: PROGRAM button	Use to start setting programs and to enter program settings.
B: PROG. COPY buttons	Use to copy programs to groups or specific days in a schedule. (Refer to page 3-92)
C: CLEAR button	Press to clear the settings of the currently displayed program. • The current program is not cleared unless the PROGRAM button is pressed after pressing the CLEAR button.
D: Setting buttons	Use to make program settings and to set the present time.
GROUP	Press to set groups for programmed operation.
DAY	Press to set today's day and days of programmed operation.
HH MM	Press to set the present time and times used in programmed operation.
⏲ I/○	Use to start/stop indoor units via the timer.
REMOTE CONTROLLER 🔓 / 🔒	Use to enable/disable remote controller operation via the timer.
SET	Use to set programmed operation trigger time. • Program settings are not entered unless the PROGRAM button is pressed at the end of setting operations.
E: HOLIDAY button	Press to set and cancel holidays during a scheduled week of operation.
F: CANCEL button	Press to cancel the current program setting operation, copying operation or holiday setting operation. When the CANCEL button is held down for 2 seconds, the current setting operation or copying operation is canceled and the normal display returns.
G: TIMER OFF button	Press to turn the timer OFF when timer operation will not be used for a long period of time. When this button is held down for 2 seconds, TIMER OFF appears on the display. Programs cannot be run until the button is again held down for 2 seconds.

- Some of the above features are disabled when the unit is installed. If the button of a disabled feature is pressed, ⃠ appears on the display. For more information, contact your dealer.

6. Schedule Timer

■ **Display**



A: Today's day of the week (▼)	Indicates today's day of the week.
B: Program schedule indication (▬)	Appears under days that are scheduled for program operation.
C: Holiday schedule indication (▯)	Appears around scheduled holidays. (Refer to page 3-96)
D: ERROR indication	Displayed when a mistake is made during timer setting.
E: Timer program	Displays set timer programs. Also, indicates the copy source/destination during group program copying.
F: Group No.	Up to 8 groups can be selected and displayed.
G: ⃠ (Disabled Feature) indication	Displayed if the selected feature was disabled during installation.
H: TIMER OFF indication	Displayed when the timer has been turned OFF.
I: Copy mode indication	Displayed when copying a program into a group or day of the schedule.
J: Present time	Displays the present time on a 24-hour clock. Also, displays settings in the various setting modes.

3

Using the Schedule Timer

To use the schedule timer, follow the steps below.

STEP 1 **Turn ON power to the air conditioner.**

- Turn ON power to the air conditioner connected to the schedule timer. The schedule timer performs initial communications with the indoor units, during which 5C Ao blinks on the display.

NOTE

Do not turn off the power mains in heating and cooling seasons. (This keeps the crankcase heater electricity turned on, which protects the compressor at startup.) If the air conditioner has been OFF for a long period of time, turn on power 5 hours before starting operation.

STEP 2 **Make the initial settings of the schedule timer.**

- Set the present time and today's day of the week. (Refer to page 3-86)

STEP 3 **Set up programs of the schedule timer.**

- Make settings for programmed operation. (Refer to page 3-88)

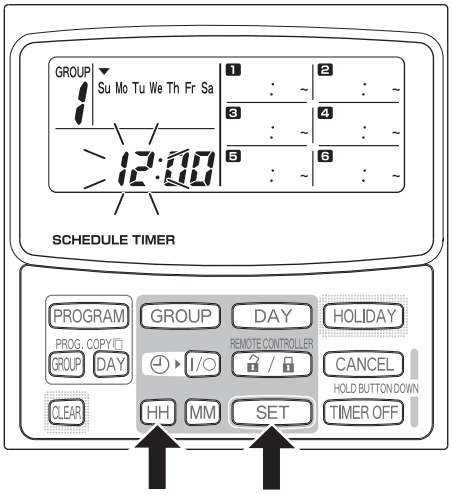
6. Schedule Timer

■ Setting the Present Time

Set the present time. (Example: When the present time is 12:45)

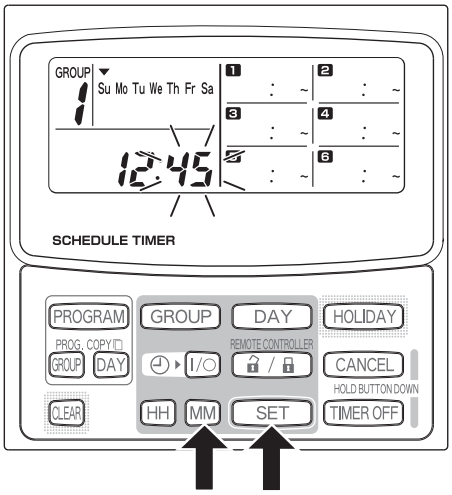
STEP 1 **Hold down the SET button and press the HH button to set the hour.**

- The hour increases one hour at a time with each single press of the HH button while the SET button is held down.
- The hour scrolls rapidly when both the SET button and HH button are held down. (Example: To set 12:00, release the HH button when “12” is displayed.)
- When the SET button is released, the hour is set and the indication changes from blinking to lighting.



STEP 2 **Hold down the SET button and press the MM button to set the minutes.**

- The minutes increase one minute at a time with each single press of the MM button while the SET button is held down.
- The minutes scroll rapidly when both the SET button and MM button are held down. (Example: To set 00:45, release the MM button when “45” is displayed.)
- When the SET button is released, the minutes are set and the indication changes from blinking to lighting.



NOTE

- **Pressing just the HH or MM button does not change the time.**

3

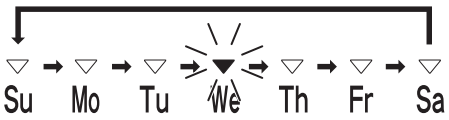
6. Schedule Timer

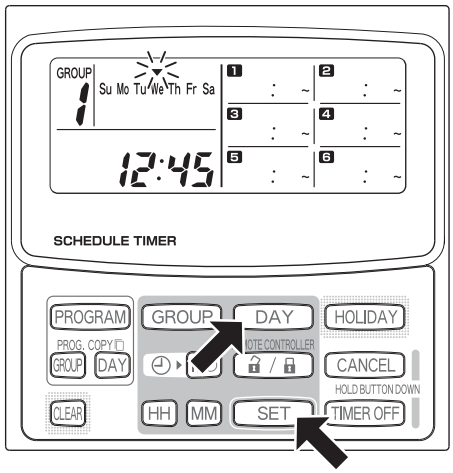
■ Setting Today's Day of the Week

Set today's day of the week. (Example: When today is Wednesday)

STEP 1 **Hold down the SET button and press the DAY button to set today's day of the week.**

- ▼ blinks and moves one day at a time across the days of the week with each single press of the DAY button while the SET button is held down.
- When the SET button is released, the day of the week is set and the ▼ changes from blinking to lighting.





NOTE

- **Pressing just the DAY button does not change the day of the week.**

3

6. Schedule Timer

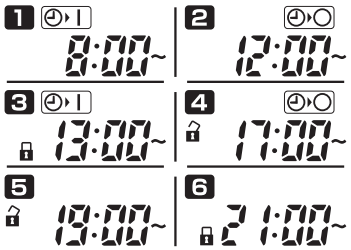
■ Setting Up Programmed Operations

Correctly set the present time and today's day of the week.
Unless both are correctly set, the programs will not run as expected.

- Up to 6 programmed operations can be set per day for each group and day of the week.
- A combination of the below operations can be set for each timer program.
  – Air conditioner starting/stopping
  – Remote controller operation enable/disable *1
- To change the settings of an existing program, use the same below procedure used to set up a new program.

*1 The remote controller operation enable/disable setting is disabled depending on installation conditions. If so, ⃠ appears on the display when the [/] button is pressed.
For more information, contact your dealer.

Example settings

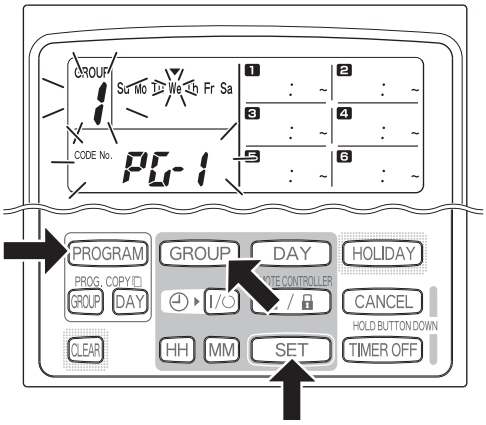


STEP 1 **Press the PROGRAM button to select a group.**

- When the PROGRAM button is pressed, the group No. and today's day of the week start blinking and the present time indication changes to a blinking "PG-1".
- Press the GROUP button to select a group for programmed operation and then press the SET button.

NOTE

- Group selection is disabled depending on installation conditions. If so, proceed to the next step.
- The number of selectable groups is set during installation.

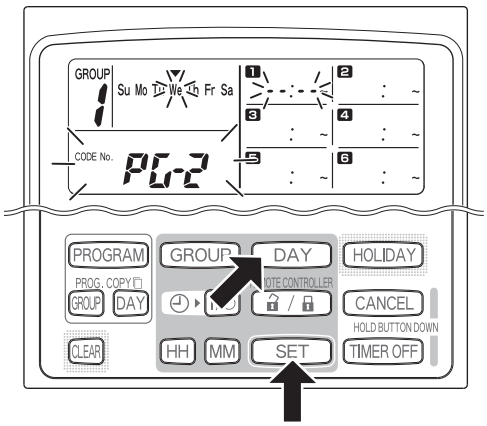


STEP 2 **Press the DAY button and select a day of the week for programmed operation.**

- When the SET button is pressed, the program schedule marker (▬) changes from blinking to lighting and, at the same time, the time set in program 1 starts blinking. Also, the present time indication changes to a blinking "PG-2".

NOTE

- The currently selected day of the week blinks slowly at this time.

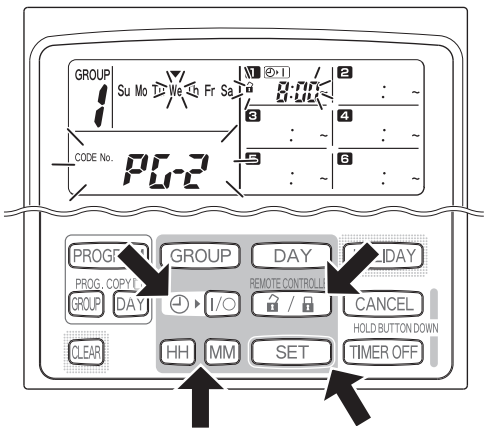


3

6. Schedule Timer

STEP 3 **Set up the program and press the SET button.**

- Select timer operation with the ⏲▸I/○ (timer ON/OFF) button and 🔓/🔒 (remote controller operation enable/disable) button. Then, set the trigger time with the HH and MM buttons, and press the SET button.
- When the SET button is pressed, the time set in program **1** changes from blinking to lighting and, at the same time, the time set in program **2** starts blinking.

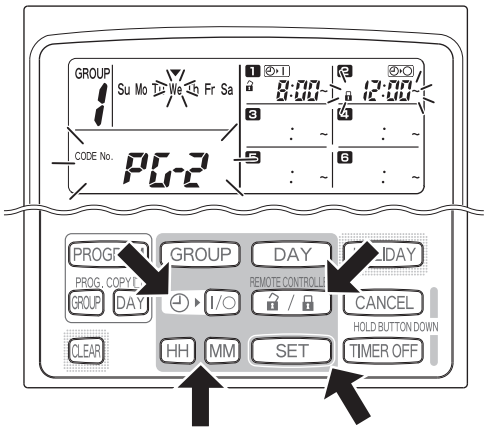


NOTE

- Every time the ⏲▸I/○ button is pressed, the timer indication changes in the order of ⏲▸I (ON) → ⏲▸○ (OFF) → no indication.
- Every time the 🔓/🔒 button is pressed, the remote controller indication changes in the order of 🔓 (enabled) → 🔒 (disabled) → no indication.
- The remote control operation enable/disable setting is disabled depending on installation conditions. In this case, only timer ON/OFF can be set.

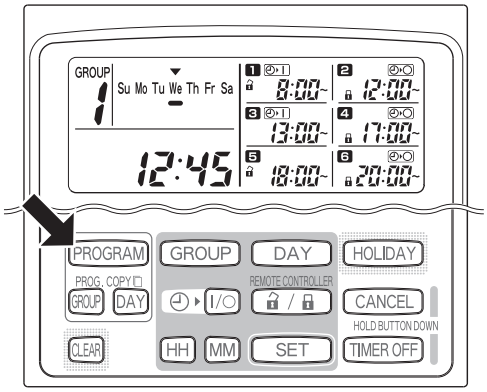
STEP 4 **Set up programs 2 ~ 6 in the same way.**

- When the SET button is pressed, settings are automatically arranged in the order of earliest time first.
- If the SET button is pressed without any new settings being made in the program, program **1** starts blinking again and settings can be changed.
- Similarly, if the SET button is pressed after setting up program **6**, program **1** starts blinking again.



STEP 5 **Press the PROGRAM button.**

- Program settings are entered and the normal display returns.



STEP 6 **Set up programmed operation for other groups and days of the week in the same way.**
Programs that have already been set up can be copied into other groups and days of the week. (Refer to page 92)

NOTE

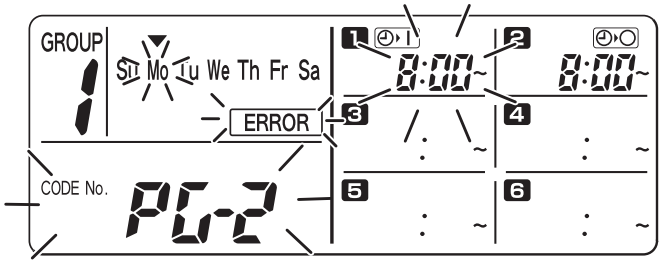
- **A "0:00" time setting is interpreted to mean 12:00 midnight.**
- **To cancel program settings during program setup (while "PG-1" or "PG-2"is blinking on the display), hold down the CANCEL button for more than 2 seconds. The normal display returns.**
- If settings are canceled without pressing the PROGRAM button, settings are not entered.

6. Schedule Timer

■ Setting Errors

If time is set as shown below while setting up a program, “ERROR” is displayed (the ERROR indication blinks). Therefore, correct the time setting.

If Program Times Are the Same



STEP 1 Every time the SET button is pressed, the setting mode switches between programmed operations of the same time setting (1 and 2 in the above example), therefore select the time setting to correct.

STEP 2 Change the time setting with the HH and MM buttons so that the times are no longer the same.

STEP 3 Press the SET button and check “ERROR” is not displayed.

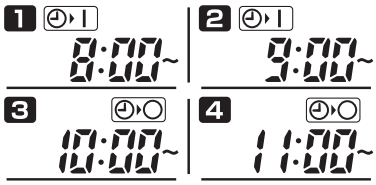
STEP 4 Press the PROGRAM button to end the setting mode.

3

Example Time Settings That Do Not Cause Errors

The below time settings do not generate an error.

1) When ON and OFF times are staggered



2) When OFF time is earlier than ON time



6. Schedule Timer

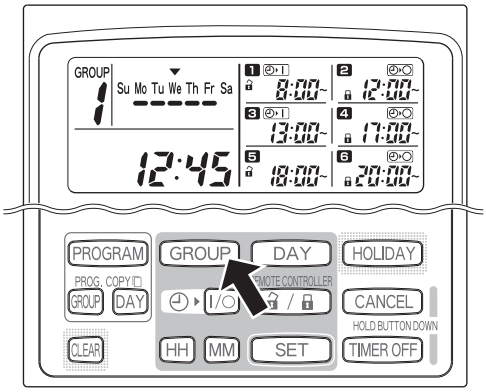
■ How to Check Program Times

You can check the programmed times for each group and day of the week.

STEP 1 **Press the GROUP button and select a group whose time you want to check.**

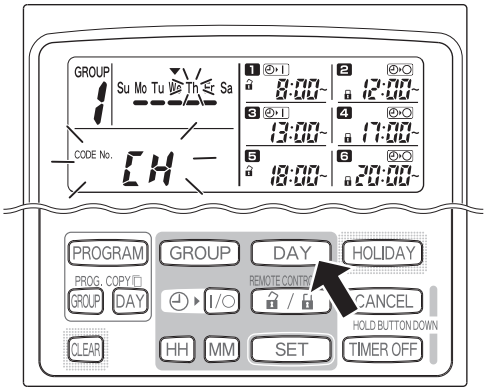
NOTE

- Group selection is disabled depending on installation conditions. If so, proceed to the next step.



STEP 2 **Press the DAY button.**

- When the DAY button is pressed the first time, tomorrow's day of the week starts blinking and the program settings for tomorrow are displayed.
- Every time the DAY button is pressed, the program settings change in order of the days of the week.
- Pressing the GROUP button displays the program settings of another group on that same day.

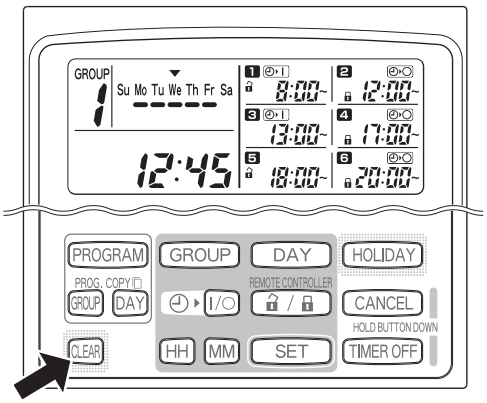


STEP 3 **End checking.**

- Press the CLEAR button. The normal display returns.

NOTE

- Holding down the CANCEL button for more than 2 seconds also returns the normal display.



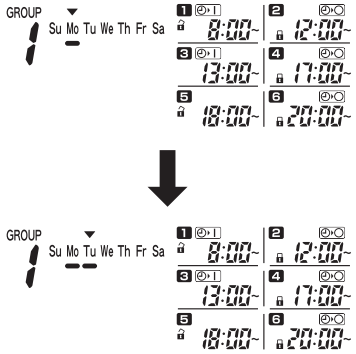
3

6. Schedule Timer

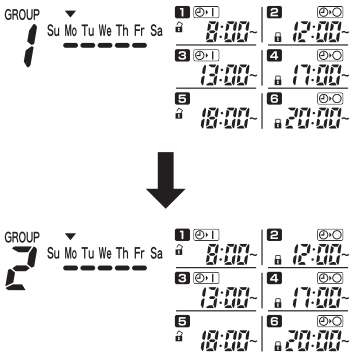
■ How to Copy Program Times

You can copy the already set program of one day into another day (Day Program Copying), as well as copy the entire week programmed for one group into another group (Group Program Copying).

Example of Day Program Copying (Copying Monday's program into Tuesday)



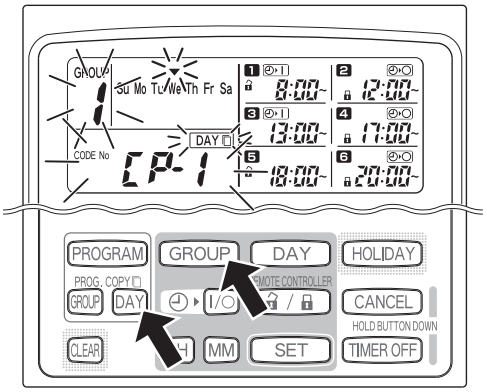
Example of Group Program Copying (Copying group No. 1's program into group No. 2)



How to Copy Day Programs

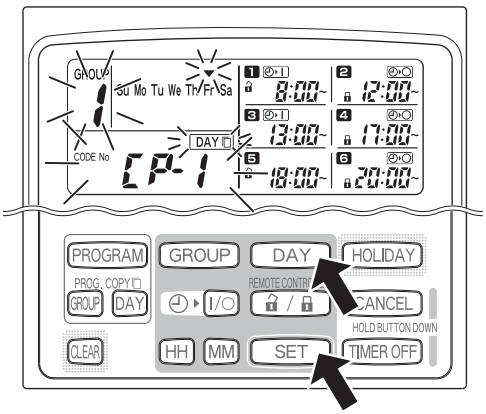
STEP 1 **Press the PROG. COPY DAY button.**

- The group No. and the ▼ over today's day start blinking and "CP-1" starts blinking in the present time display area. In this state, select a group in which to copy day programs, using the GROUP button.



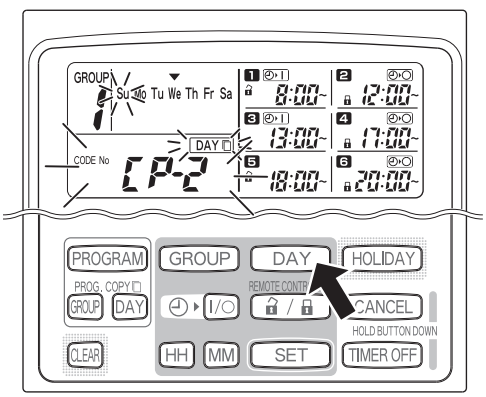
STEP 2 **Select a source day program to copy.**

- Every time the DAY button is pressed, the ▼ moves across the days of the week display, therefore select a day of the week that will serve as the copy source.
- Once having selected the copy source day, press the SET button to set it. The display changes to key you to select a copy destination day.



STEP 3 **Select a copy destination day.**

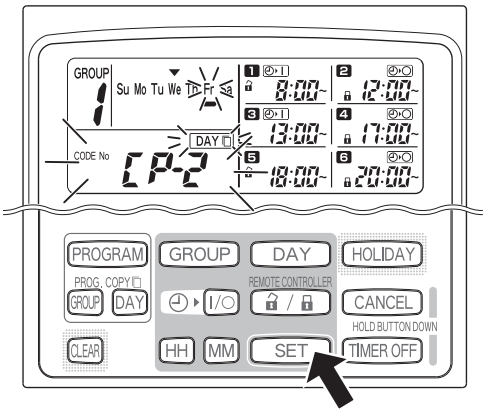
- When the schedule timer is ready for you to select a copy destination day, "CP-2" starts blinking in the present time display area, while the selected copy source day blinks in the days of the week. Therefore, select a day of the week as the copy destination, using the DAY button.



6. Schedule Timer

STEP 4 **Press the SET button to copy.**

- Press the SET button and the program schedule marker (▬) will be displayed.

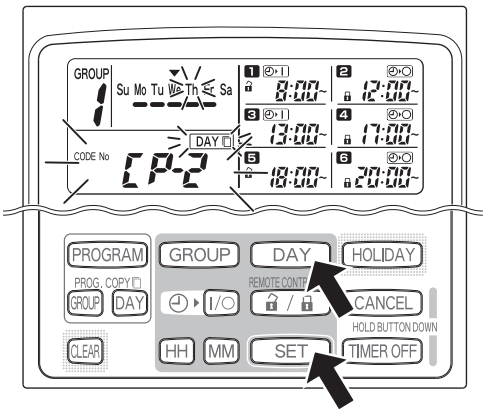


STEP 5 **Select other copy destination days if desired.**

- You can copy the selected source day program into other days by repeatedly pressing the DAY button to select a day of the week followed by the SET button to set it.

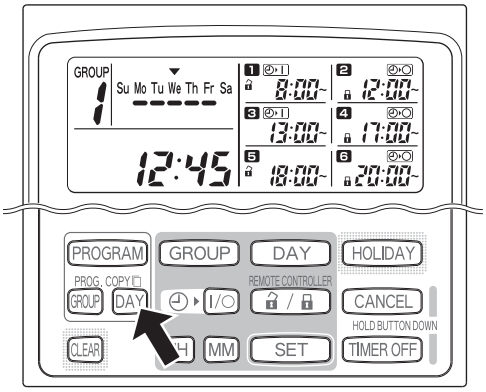
NOTE

- Pressing the CLEAR button extinguishes the program schedule marker (▬) and cancels the copy operation.



STEP 6 **Press the PROG. COPY DAY button to enter the copied program in the selected days.**

• The normal display returns.



NOTE

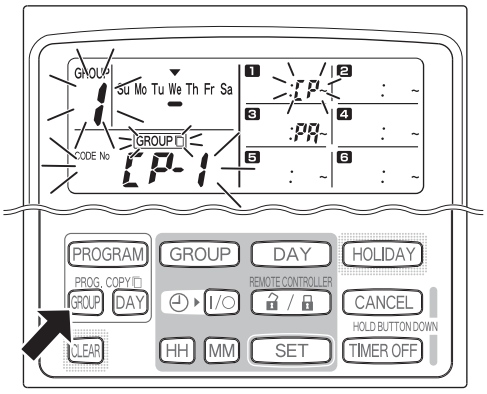
- **If a program already exists in the copy destination day, the newly copied program overwrites the existing program.**
- **If you accidentally copy over a program in the day program copy mode, holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROG. COPY DAY button in STEP 1. (All changes and copy operations made up until that point are cleared.)**

6. Schedule Timer

■ How to Copy Group Programs

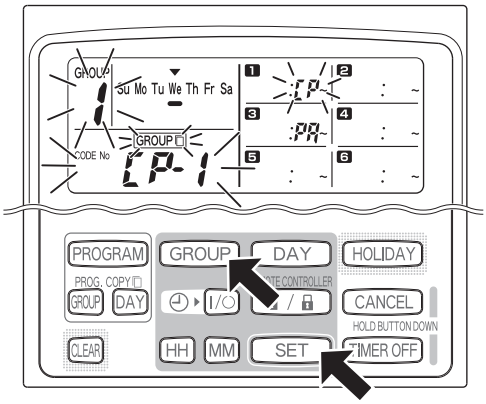
STEP 1 **Press the PROG. COPY GROUP button.**

- "CP-1" starts blinking in the present time display area and "CP" (copy) starts blinking in the program **1** area to indicate the copy source.



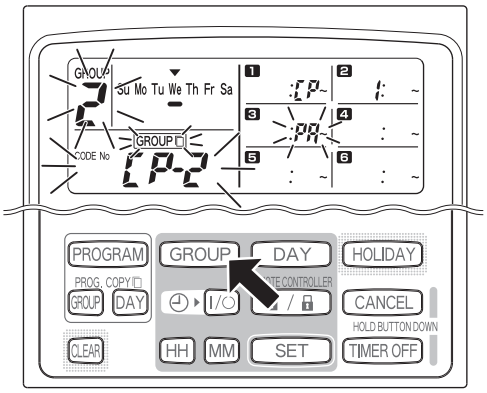
STEP 2 **Select a source group program to copy.**

- Select a copy source group using the GROUP button.
- Once having selected the copy source group, press the SET button to set it. The display changes to key you to select a copy destination group.



STEP 3 **Select a copy destination group.**

- After pressing the SET button, "CP-2" starts blinking in the present time display area, the copy source group No. set appears in the program **2** area, and "PA" (paste) starts blinking in the program **3** area to indicate the copy destination.
- Select a copy destination group using the GROUP button.

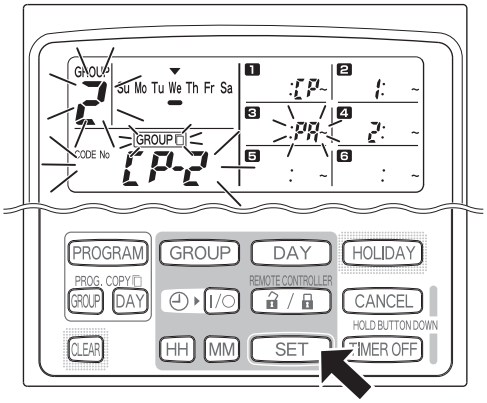


STEP 4 **Enter the selected copy destination group.**

- When the SET button is pressed, the number of the copy destination group appears in the program No. area.

NOTE

- If a group from numbers 1 to 4 was selected as the copy destination group, that number appears in the program **4** area. If a group from numbers 5 to 8 was selected, that number appears in the program **6** area.

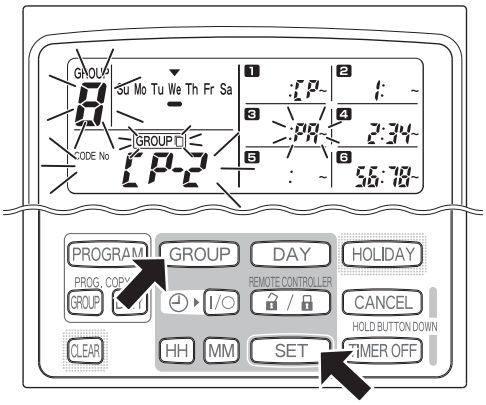


3

6. Schedule Timer

STEP 5 **Select other copy destination groups if desired.**

- You can copy the selected source group programs into other groups by repeatedly pressing the GROUP button to select a group followed by the SET button to set it.

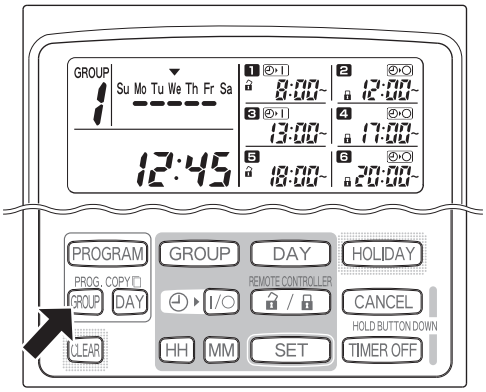


NOTE

- If a group from numbers 1 to 4 was selected as the copy destination group, that number appears in the program 4 area. If a group from numbers 5 to 8 was selected, that number appears in the program 6 area.

STEP 6 **Press the PROG. COPY GROUP button to enter the copied programs in the selected groups.**

• The normal display returns.



NOTE

- **If a program already exists in the copy destination group, the newly copied program overwrites the existing program.**
- **If you accidentally copy over a program in the group program copy mode, holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROG. COPY GROUP button in STEP 1. (All changes and copy operations made up until that point are cleared.)**

3

6. Schedule Timer

■ How to Set Holidays in a Scheduled Week of Operation

Operations programmed for a specific day during the week can be temporarily disabled by setting that day as a holiday.

- When the set holiday passes, the holiday setting is canceled and operation is resumed as programmed the following week.
- Holidays can be selected for the week starting from today's day. If today is selected as a holiday, the holiday setting is canceled from the next programmed operation. (Depending on the program, if the program is currently running, the program may not stop.)

Example Setting



Today is Thursday and Friday is set as a holiday.

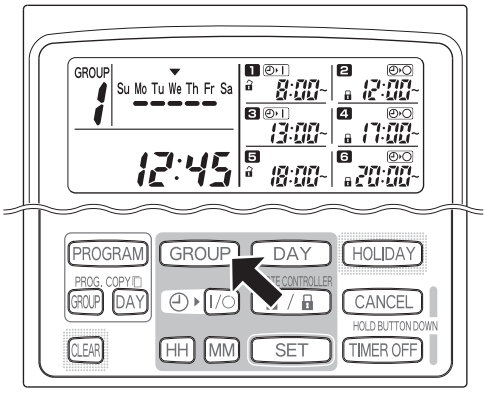
When Friday comes, the program set for that day does not run.

When Saturday comes, Friday's holiday setting is canceled.

STEP 1 **Press the GROUP button to select a group to go on holiday.**

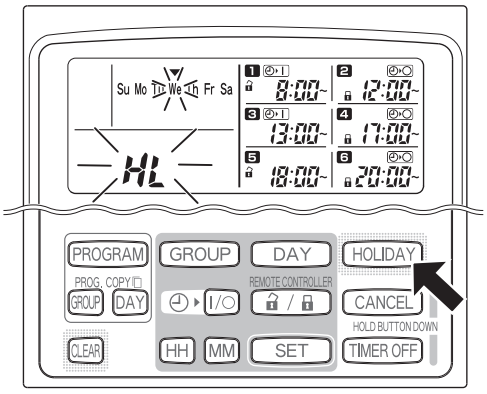
NOTE

- Depending on installation conditions, group selection is disabled or set so that all groups are automatically selected for the holiday feature. If so, proceed to the next step.



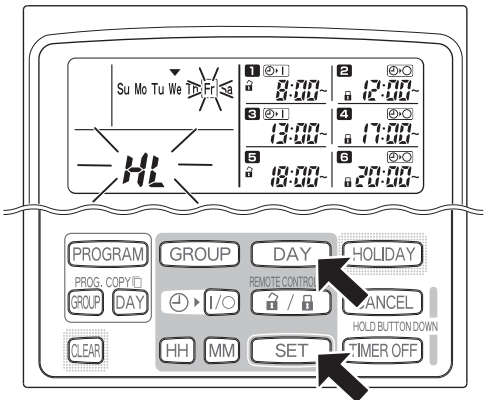
STEP 2 **Press the HOLIDAY button.**

- "HL" starts blinking in the present time display area and today's day of the week starts blinking.



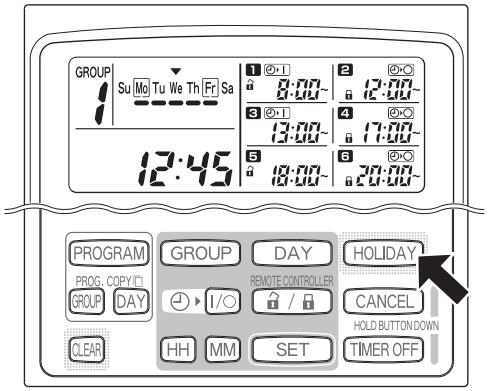
STEP 3 **Select a day as the holiday using the DAY button, and press the SET button.**

- A "_" appears over the selected holiday.
- To select other holidays, select a day using the DAY button and set it with the SET button.
- If you made a mistake or want to cancel a holiday, press the CLEAR button.



6. Schedule Timer

STEP 4 **Press the HOLIDAY button to enter the holiday.**
- The normal display returns.

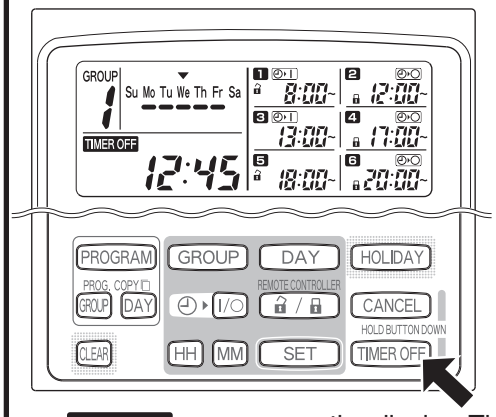


■ How to Disable the Timer Operation

To halt programmed operation for one week or more, you can disable all timer programs.
- Once the timer has been disabled, programmed operations are not run until the below procedure is performed.

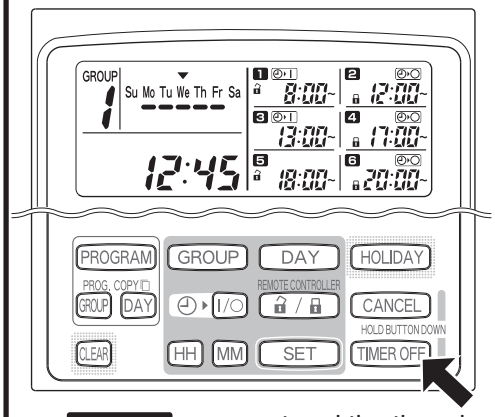
NOTE
- During installation, the remote controller may be set to disable the timer for individual groups. In this state, the timer is disabled only for the selected group, therefore press the GROUP button to confirm which group is selected.

Hold down the TIMER OFF button for more than 2 seconds



- TIMER OFF appears on the display. The timer is disabled from the next scheduled program.

To turn the timer back ON, hold down the TIMER OFF button for more than 2 seconds



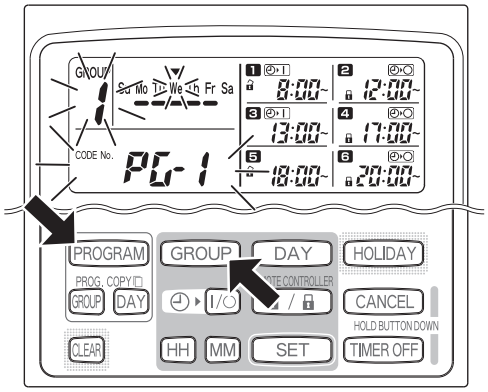
- TIMER OFF goes out and the timer is enabled from the next scheduled program.

3

6. Schedule Timer

■ How to Clear Programs

Press the PROGRAM button.

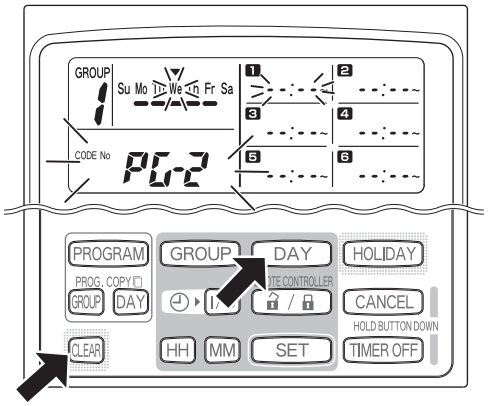


- When the PROGRAM button is pressed, the group No. and the present day of the week start blinking and the present time indication changes to a blinking “PG-1”.
- Press the GROUP button to select a group to clear.

NOTE

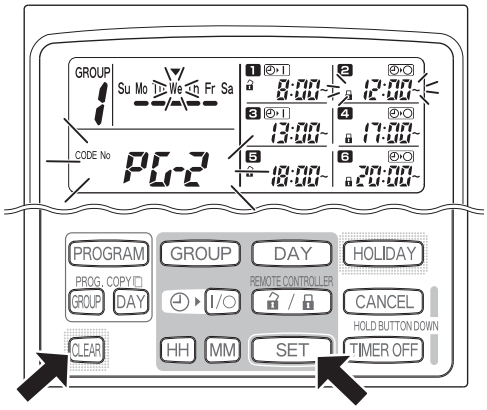
- Group selection may be disabled during installation. If so, proceed to the next step.
- Holding down the CANCEL button for more than 2 seconds returns the program to the point prior to pressing the PROGRAM button. (All operations made up until that point are cleared.)

To cancel specific days



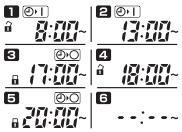
- Select a day to cancel using the DAY button and press the CLEAR button. All settings in programmed operations 1 through 6 are cleared. The display appears as shown above.
- Press the PROGRAM button to enter the clear operation. The normal display returns without the program schedule marker (▬) underneath the days of the week.

To cancel individual programs on specific days



- Select a day and press the SET button. Programmed operations 1 through 6 start blinking in rotation, therefore press the CLEAR button when the programmed operation to clear starts blinking. (The remaining programmed operations are automatically arranged in the order of earliest time first.)
- Press the PROGRAM button to enter the clear operation. The normal display returns.

Example:
Display after clearing programmed operation 2 above

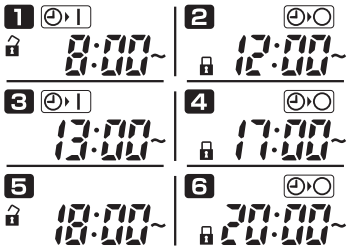


6. Schedule Timer

■ Schedule Timer and Air Conditioner Operation

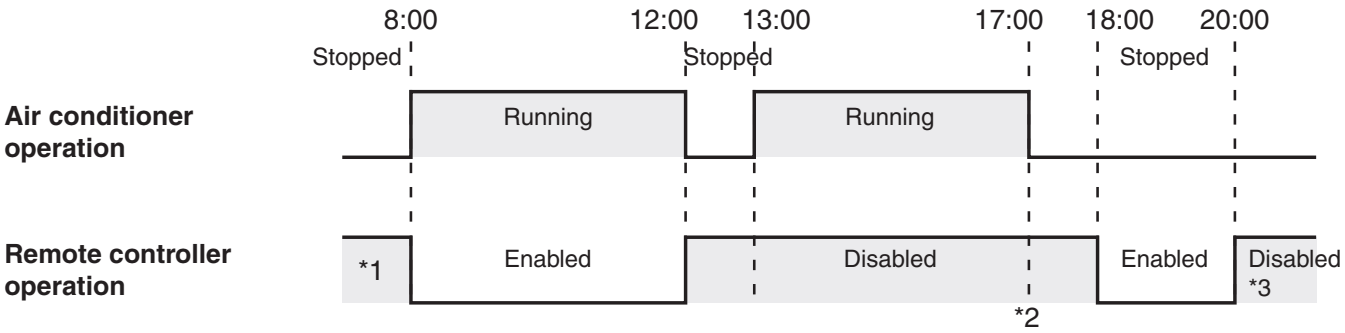
Air conditioners operate either according to operations programmed from the schedule timer (starting/stopping and remote control operation enable/disable) or according to a connected remote controller or system controller.

Schedule timer settings (Example)



Operation without system controller operation

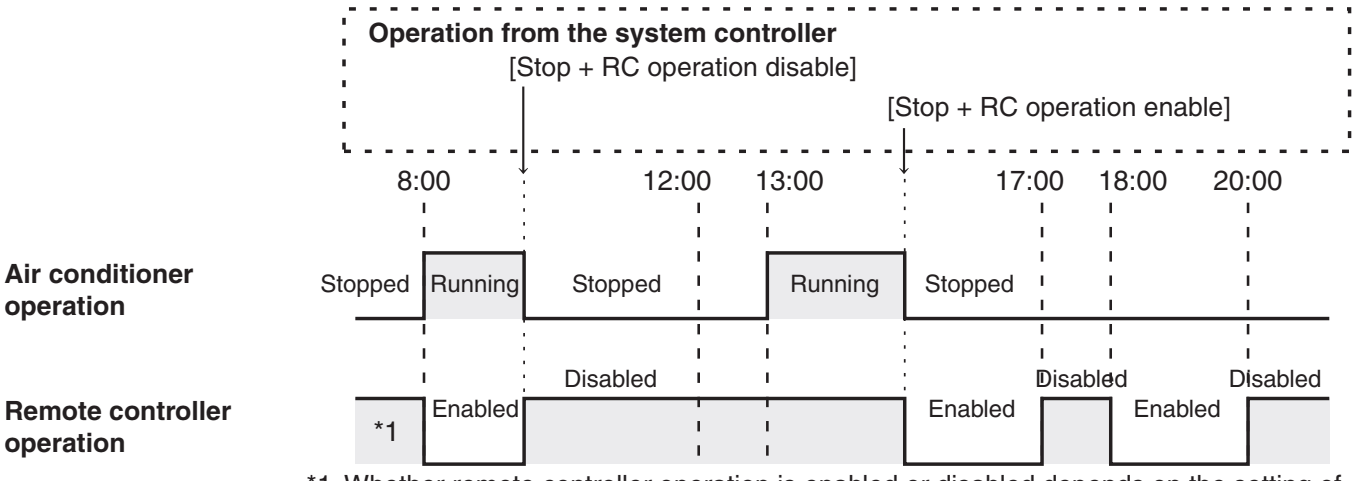
- If remote controller operation is enabled, the air conditioner can be started/stopped from the remote controller. (The air conditioner responds to the most recently pressed button.)



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.
*2 Since remote controller operation is disabled, operation remains disabled.
*3 The remote controller remains disabled the next day and thereafter until it is enabled in the remote controller operation enable/disable setting.

Operation with system controller operation

- If remote controller operation is enabled, the air conditioner can be started/stopped from the remote controller. (The air conditioner responds to the most recently pressed button.)
- The remote controller operation enable/disable set from the system controller (Centralized control 1 to 4) is canceled according to programmed operations.



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

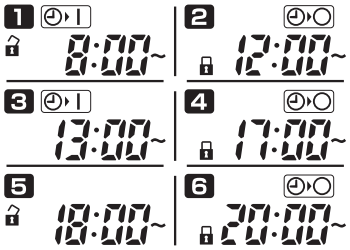
6. Schedule Timer

■ Power Outages

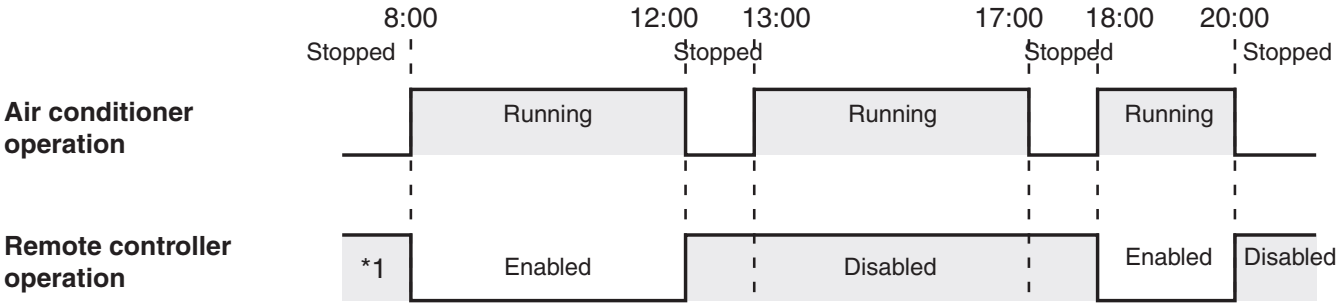
If the air conditioner is running when power is lost, the air conditioner remains OFF when power is restored. Also, if remote controller operation was disabled when power was lost, it is enabled for a few minutes when power is restored.

- Programmed operations scheduled for times that come after power is restored run as usual.
- Program settings are retained in the non-volatile memory of the schedule timer, therefore they are not cleared in the event of a power outage. Also, the present time and today's day of the week are retained for a maximum of 100 hours by the internal battery.

Schedule timer settings (Example)

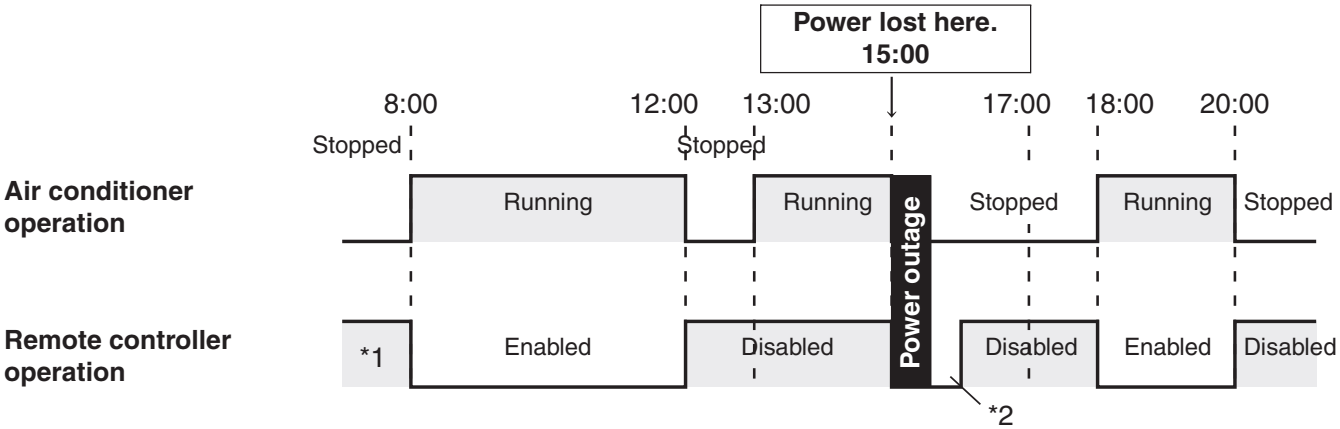


Operation when power is not lost



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

Operation when power is lost at 15:00 and subsequently restored



*1 Whether remote controller operation is enabled or disabled depends on the setting of the previous day.

***2 Remote controller operation is enabled for a few minutes after power is restored.**

6. Schedule Timer

■ Troubleshooting

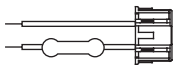
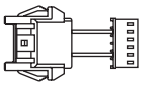
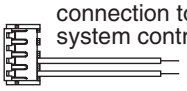
Before requesting servicing, check the following.

	Trouble	Cause/Remedy
Check before requesting servicing	SC An blinks on the display.	The schedule timer is performing initial communications with connected indoor units. Wait for communications to finish.
	Air conditioners do not operate as scheduled when the set time comes.	The timer has been disabled. (Refer to page 3-97) A holiday has been scheduled. (Refer to page 3-96)
	Air conditioners can be started and stopped from the remote controller even though the program disables remote controller operation.	Power to the air conditioner was lost and subsequently restored. (Refer to page 3-100)
	88:88 blinks in the present time display area.	Power to the air conditioner was lost for a long period of time. Set the present time and today's day of the week again. (Refer to pages 3-86 and 3-87)

If trouble persists despite taking the above action, stop the schedule timer, turn off the unit and report the serial number and problem to your dealer. Never service the unit yourself as this is dangerous.

6. Schedule Timer

■ Accessories for Schedule Timer

No.	Supplied parts	Q'ty
1	T10 power wire  (with current fuse) *1	1
2	T10 relay wire *2 	1
3	Power wire for connection to system controller 	1
4	Machine screw M4 × 30 	1

No.	Supplied parts	Q'ty
5	Spacers 	2
6	Wire joints 	7
7	Operation manual 	1
8	Installation manual 	1
9	Earth screw for T10 (for indoor unit) 4 × 8 - 3	1

*1 If the fuse blows as a result of a wiring short-circuit, mis-wiring, or overcurrent, replace it with a 125 V, 0.5 A fuse.

*2 Use with 3-series type (Fig. 3-65).

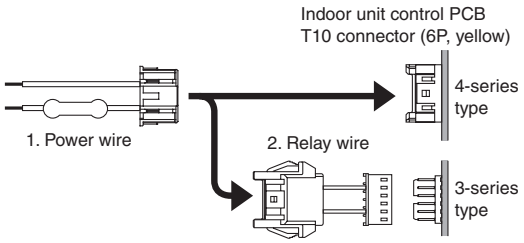


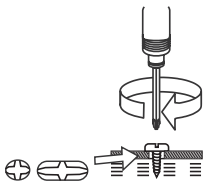
Fig. 3-65

■ Installing the Schedule Timer

NOTE

- Avoid twisting the inter-unit control wiring or the input/output wiring together with power or other wiring, and avoid running them in the same metal conduit. Doing so can cause malfunction.
- Install the schedule timer at a location away from any sources of electrical noise.
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

When mounting the back case to the electric junction box, tighten the screws securely unitl the screw heads touch the back case. Otherwise, a loose screw head may damage the PCB on the back of the top cover when mounting the top cover. But do not over-tighten the screws. Over-tightening may deform the back case and cause the unit to fall.



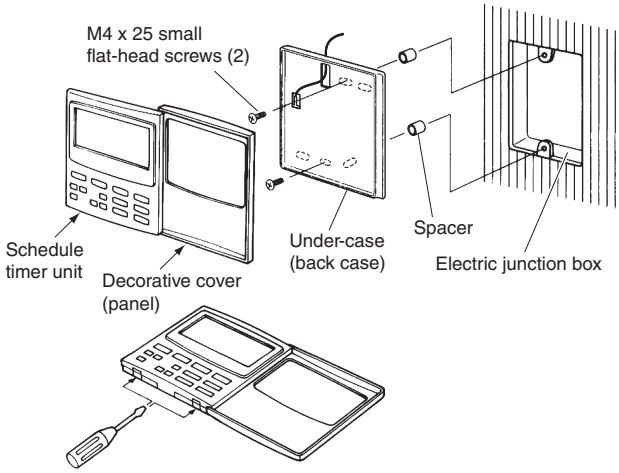


Fig. 3-66

(1) Open the panel on the schedule timer unit. Insert a standard (flat-head) screwdriver or similar tool into the notches on the bottom of the schedule timer unit to open and remove the back case.

(2) Use the 2 supplied M4 machine screws and install the schedule timer back case onto the switch box. Before installing, use a screwdriver or similar tool to press on and open the screw holes that correspond to the Electric junction box that is used. When fastening the case, use spacers and do not tighten the screws too much. If the schedule timer does not fit tightly against the wall, cut the spacers as required to make adjustments.

(3) Connect the supplied power wire (2-core) and inter-unit control wire (3-core) to the schedule timer unit. (Refer to "Wiring the Schedule Timer.")

(4) Align the schedule timer unit with the tabs on the back case and press to install it.

6. Schedule Timer

■ Installation of Connected Schedule Timers

When installing schedule timers (remote controller switches, system controllers, etc.) onto the wall, use the method shown in Figs. 3-71 and 3-72.

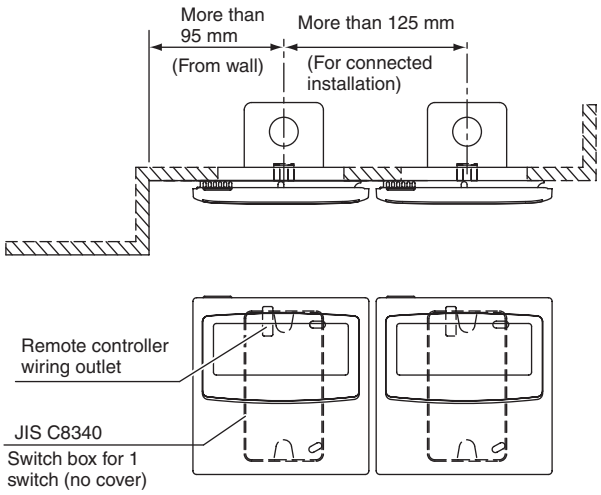
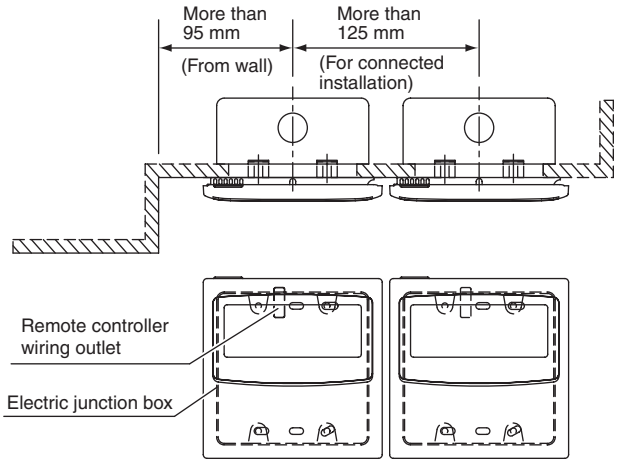


Fig. 3-67



* For maintenance reasons, leave a gap of 25 mm or more between the remote controller switch and schedule timer if they are arranged in parallel above/below each other.

Fig. 3-68

■ Wiring the Schedule Timer

- Before beginning wiring
- – Use 0.5 – 2 mm^2 wires for field supply wiring.
- – For inter-unit control wiring, use signal wires that allow the remote controller wiring to be differentiated from the power wiring, and take care to prevent miswiring. **(Miswiring will damage the schedule timer.)**
- – Check that the schedule timer communications wiring and power wiring are connected correctly. (Fig. 3-69)

<Basic Wiring Diagram>

- Route the A/C inter-unit control wiring for central control as shown in the figure at right.
- The maximum number of indoor units that can be connected to a single system is 64. The maximum number of outdoor units is 30.
- The maximum number of schedule timer units that can be connected is 8. (A maximum of 10 schedule timer units and other central control devices can be connected.)

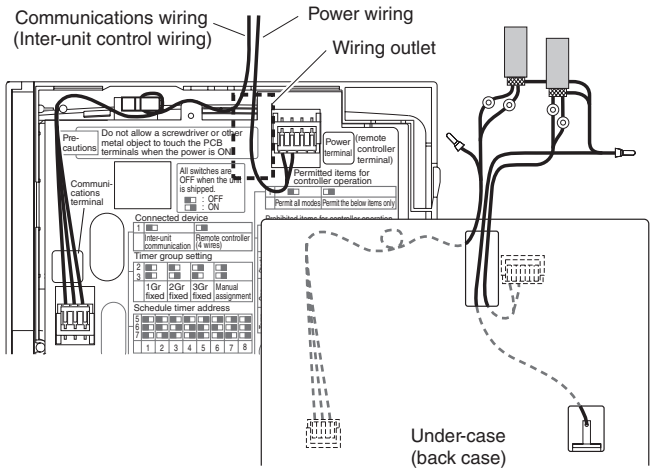


Fig. 3-69

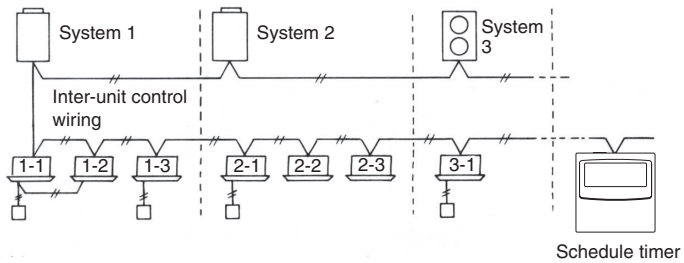


Fig. 3-70

NOTE Depending on the model of A/C, a local adapter may be required.

6. Schedule Timer

- Wiring

The schedule timer wiring can be connected by the following two methods. Select one of these connection methods according to the actual installation location.
When wiring, extend the lengths of the wires using wire joints (provided) and extension wires (field supply).

CAUTION

When installing multiple schedule timers, avoid the use of cross-over wiring.

- Connection diagram (Be sure to use the provided wires as the power wiring.)

If a system controller is also installed:

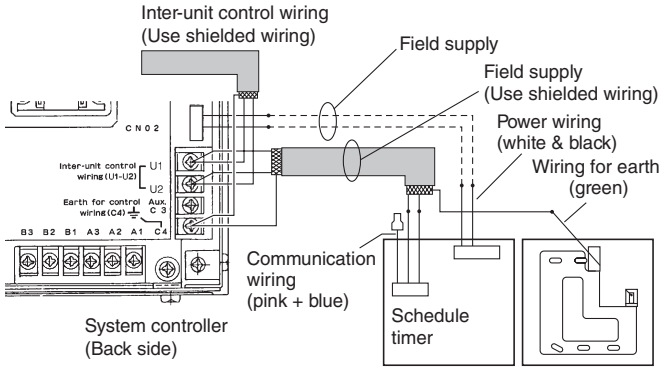


Fig. 3-71

Connect the wires for the schedule timer inter-unit control wiring (see Note below) to the U1 and U2 terminals on the system controller terminal board. Connect the system controller power wiring to CN02 and to the schedule timer power wires (white + black).

- The inter-unit control wiring has no polarity. The wiring may be connected in either direction to U1 and U2. (Use shielded wirng)
- The power wiring has no polarity. The wiring may be connected in reverse.
- **The length of the power wiring must be no more than 100 m.**

Note: The inter-unit control wires are pink + blue + blue (using wire joint crimping). Use pink + blue wires.

If a system controller is not installed (power is supplied from the indoor unit):

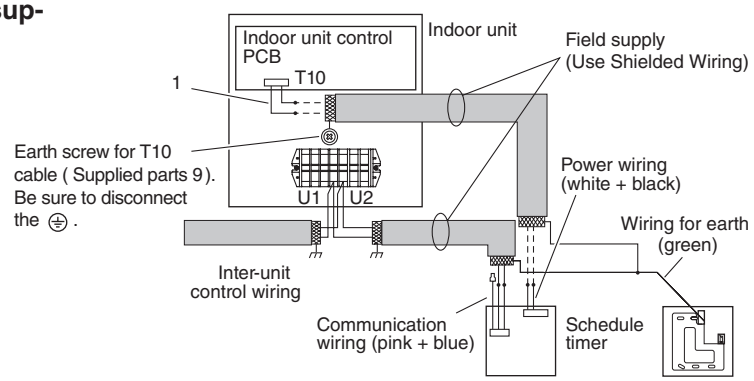


Fig. 3-72

If power is supplied from the indoor unit control PCB of a nearby indoor unit, connect the provided T10 terminal connection wires to the T10 terminal on the indoor unit control PCB, and to the schedule timer power wires.

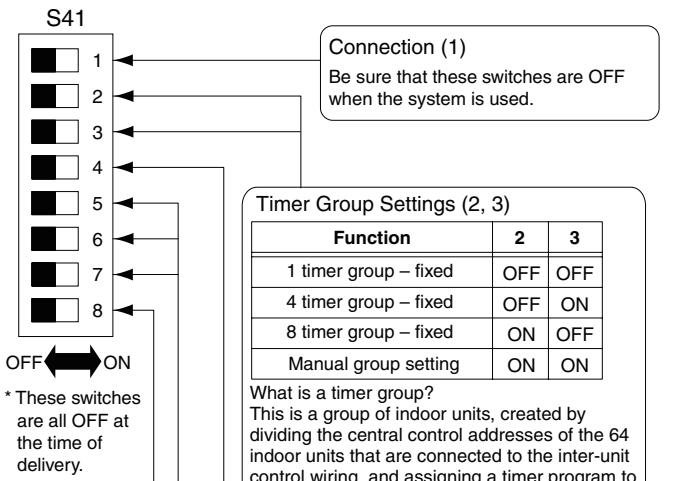
- The inter-unit control wiring has no polarity. The wiring may be connected in either direction to U1 and U2. (Use shielded wiring)
- If necessary, use a relay wire when connecting the wiring to the indoor unit control PCB.
- The power wiring has no polarity. The wiring may be connected in reverse. (Use shielded wiring)
- **The length of the power wiring must be no more than 200 m.**

NOTE The only functions of the schedule timer are indoor unit ON/OFF and remote controller enable/disable operations. It is therefore recommended that during installation, a system controller, remote controller, or similar device be installed next to the schedule timer so that the operation mode and other information can be checked.
(If the system controller or other central control device is not present, the schedule timer cannot be used in combination with a system that does not utilize remote controllers.)

6. Schedule Timer

■ About the Setting Switches

Complete the switch settings before turning ON the schedule timer power.



* These switches are all OFF at the time of delivery.

Connection (1)

Be sure that these switches are OFF when the system is used.

Timer Group Settings (2, 3)

Function	2	3
1 timer group – fixed	OFF	OFF
4 timer group – fixed	OFF	ON
8 timer group – fixed	ON	OFF
Manual group setting	ON	ON

What is a timer group?
This is a group of indoor units, created by dividing the central control addresses of the 64 indoor units that are connected to the inter-unit control wiring, and assigning a timer program to each group.

Central Control Main/Sub Switching (4) Sub: OFF Main: ON

(1) Set to "sub" (OFF) when using together with the AMY adapter, communications adapter, intelligent controller, multi-controller, LON I/F, and system controller.
(2) In cases other than (1) above, when using together with an ON/OFF central controller, set to "main" (ON) when only 1 schedule timer unit is used.
(3) In cases other than (1) above, and when using with multiple schedule timer units, set only 1 unit to "main" (ON) and set the remainder to "sub" (OFF).

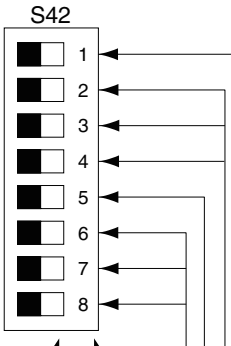
Schedule Timer Address Settings (5, 6, 7)

A maximum of 8 schedule timer units can be connected to the inter-unit control wiring. If multiple units are connected, use the setting switches and allocate the addresses, taking care to avoid duplication.

Function	5	6	7
Address 1	OFF	OFF	OFF
Address 2	OFF	OFF	ON
Address 3	OFF	ON	OFF
Address 4	OFF	ON	ON
Address 5	ON	OFF	OFF
Address 6	ON	OFF	ON
Address 7	ON	ON	OFF
Address 8	ON	ON	ON

Holiday and Operation Disable Settings for Each Group (8)

When this setting switch is OFF, units are all controlled together. When this switch is ON, the units are controlled by the settings for each timer group.



* These switches are all OFF at the time of delivery.

Remote Controller Enable Items (1)

If remote controller enable/disable is used, this switch sets the range for remote controller enable (cancel).
Enable all items* that can be controlled with the remote controller.
→ OFF
Enable only the items determined by setting switches 2, 3, and 4.
→ ON
This switch should be OFF for normal use, or when remote controller enable/disable is not used.

* This refers to the following items: start/stop, operation mode, temperature setting, flap, and fan speed.

Remote Controller Disable Item Switches (2, 3, 4)

When timer remote controller disable is used, set the remote controller disable item switches according to the items for which remote controller operation will be disabled.

Remote controller disabled items		2	3	4
Remote controller disable not used		OFF	OFF	OFF
Start/stop	Central 1	OFF	OFF	ON
Operation mode	Central 4	OFF	ON	OFF
Operation mode + Start/stop		OFF	ON	ON
Temperature setting		ON	OFF	OFF
Temperature setting + Start/stop		ON	OFF	ON
Temperature setting + Operation mode	Central 3	ON	ON	OFF
Temperature setting + Operation mode + Start/stop	Central 2	ON	ON	ON

Central 1 – 4 are the designations for the remote-controller disable modes for the system controller.

Simultaneous time communications (5) Disabled: OFF Enabled: ON

When multiple schedule timers are installed, set this switch to ON to perform time settings for multiple units simultaneously. One minute after the time is set, the time at the other schedule timers will change to match the set time. (Ordinarily this switch is OFF.)

Spare (6, 7, 8)

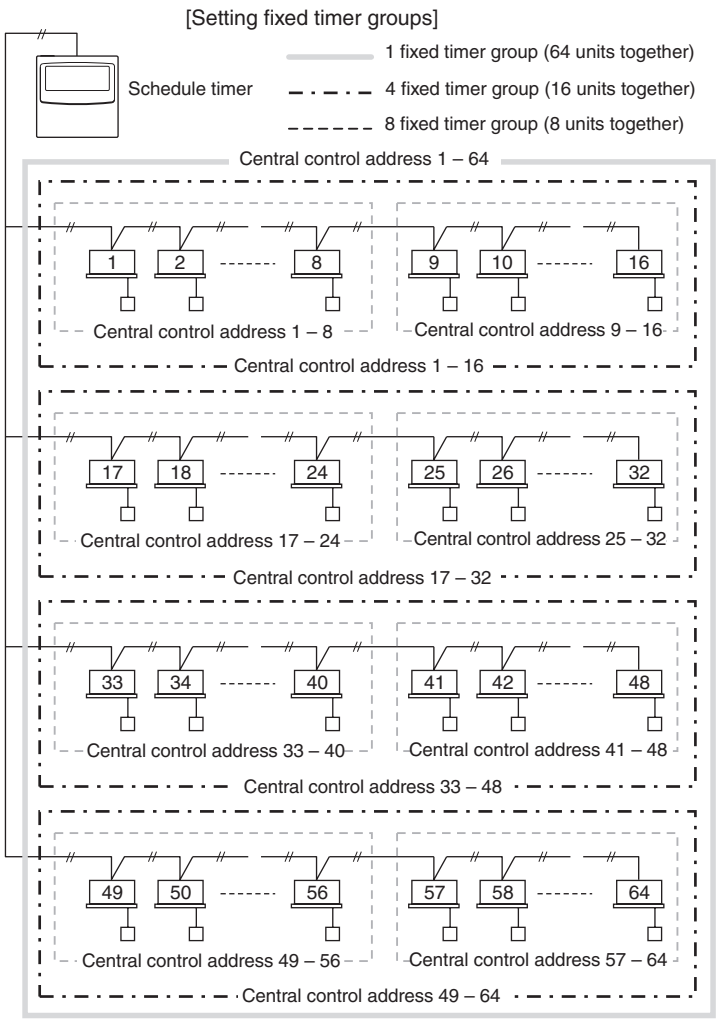
Be sure that these switches are OFF when the system is used.

3

6. Schedule Timer

■ Creating Timer Groups

The schedule timer can be set for 6 time status changes. These can be used to create up to 8 groups (timer groups). For systems in which schedule timers are used, set the timer groups to match the central control addresses of the indoor units that will be subject to group timer control.
The timer-group settings for the schedule timer involve assignment of central control addresses. Therefore, use the system controller (or other central control device) or wired remote controllers to set the central control addresses of the indoor units, then make the schedule timer settings.



- **Procedure for making fixed timer group settings (fixed groups)**

(1) First, use a different central control device (system controller or other device) or the wired remote controllers to set the central control addresses, as assigned in the figure above, to the indoor units that will be subject tom group timer control.

(2) Next, use S41 switches 2 and 3 to set the number of timer groups you wish to create.

(3) Finally, turn ON the schedule timer power. Initial communications are performed. (SCAn blinks in the display.) The normal display appears after several minutes, and the timer group settings are confirmed.

- **Procedure for making manual timer group settings (manual group assignments)**

Manual timer group settings allow central control addresses to be assigned freely within the timer groups.

(1) Turn ON S41 setting switches 2 and 3, then turn ON the power. Restart and initial communications are performed. (SCAn blinks in the display.) The normal display appears after several minutes.

(2) When the normal display appears, press and hold the schedule timer CLEAR button, the timer button, and the button for 4 seconds or longer. “Ad-01” appears, blinking, in the current time display. (Ad indicates “address” and 01 is the central address number.)

(3) Use the GROUP button in the area to select the timer group. Then use the DAY button in the area to select the central control address to assign and register for that timer group. Press the SET button to register the selected central control address.

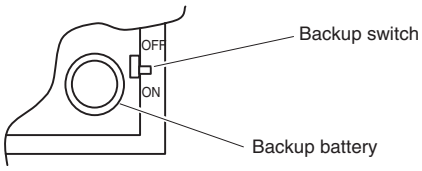
6. Schedule Timer

(4) To continue registering addresses, repeat step (3). (Central control address numbers will be added to the right side of the LCD display.) To cancel a registered central control address, use the GROUP button in the area to select the timer group, then use the DAY button in the area to select the central control address and press the CLEAR button.

(5) Repeat steps (3) - (4) for each timer group. When registration is completed, press the timer button. The schedule timer restarts automatically and performs initial communications. (SCAn blinks in the display.) The normal display appears after several minutes, and the manually assigned timer group settings are confirmed.

■ Memory Back-Up Switch

After installation is completed, check that the backup switch on the reverse side of the schedule timer PCB is turned to ON. (The backup battery will retain the current time for up to 100 hours.)



■ Checking the Central Control Addresses and Operating the Units that are Controlled by the Schedule Timer

The schedule timer communicates with the indoor units to check which central control addresses can be controlled with the current timer control. The schedule timer can then be used to start and stop these units.

(1) Press and hold the schedule timer button, TIMER OFF button, and CLEAR button for 4 seconds or longer. “Ad-(central control address)” appears in sequence, blinking.

(2) Use the GROUP button in the area to display the blinking central control addresses in sequential order. In this way, it is possible to check which central control addresses in the displayed timer group can be operated by the timer.

(3) With the selected timer group displayed, press the timer button. Each time the button is pressed the indoor units in the displayed timer group start or stop. Pressing the button in this mode permits all items (operation start/stop, operation mode, temperature setting items) at the indoor units in the displayed timer group where remote controller prohibit is in effect.

(4) After checking the addresses and operating the units, press and hold the CANCEL button for 2 seconds or longer. The schedule timer display returns to the normal display and all controllable indoor units stop.

■ Explanation to Customers

- After work is completed, present the Operation Manual and Information for the Person in Charge of Installation (Electrical) Work to the customer.
- Explain to the customer the methods for use of the system, as described in the Operation Manual.

6. Schedule Timer

■ Installation Work Plan

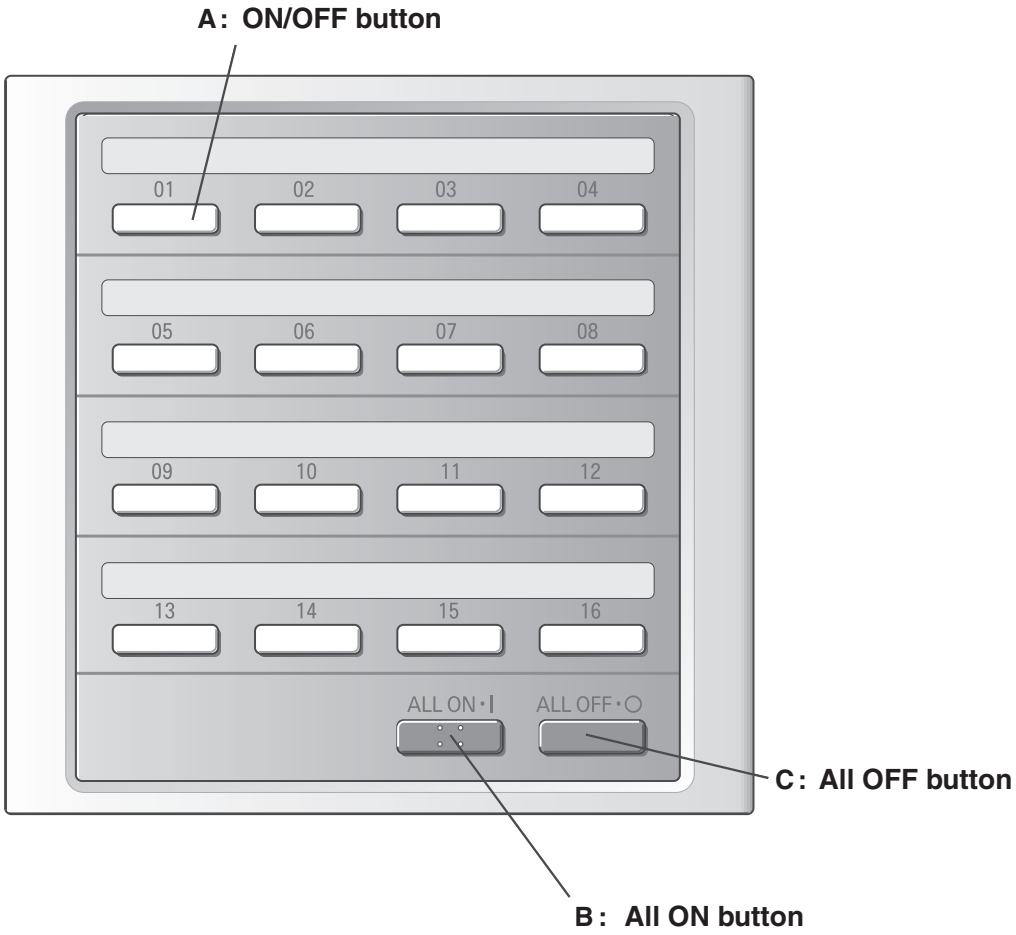
- Use the wired remote controller to check the unit No. of the indoor units.
  (Start the A/C unit with the wired remote controller, then press the remote controller UNIT SELECT button once to display the unit No. of the main unit.)

Schedule timer			Central control addresses	Indoor unit Unit No. System - Indoor	Room name
Fixed timer group					
1	4	8			
1 At the time of shipment	1	1	1	- , -	
			2	- , -	
			3	- , -	
			4	- , -	
			5	- , -	
			6	- , -	
			7	- , -	
			8	- , -	
		2	9	- , -	
			10	- , -	
			11	- , -	
			12	- , -	
			13	- , -	
			14	- , -	
			15	- , -	
			16	- , -	
	2	3	17	- , -	
			18	- , -	
			19	- , -	
			20	- , -	
			21	- , -	
			22	- , -	
			23	- , -	
			24	- , -	
		4	25	- , -	
			26	- , -	
			27	- , -	
			28	- , -	
			29	- , -	
			30	- , -	
			31	- , -	
			32	- , -	
	3	5	33	- , -	
			34	- , -	
			35	- , -	
			36	- , -	
			37	- , -	
			38	- , -	
			39	- , -	
			40	- , -	
		6	41	- , -	
			42	- , -	
			43	- , -	
			44	- , -	
			45	- , -	
			46	- , -	
			47	- , -	
			48	- , -	
	4	7	49	- , -	
			50	- , -	
			51	- , -	
			52	- , -	
			53	- , -	
			54	- , -	
			55	- , -	
			56	- , -	
		8	57	- , -	
			58	- , -	
			59	- , -	
			60	- , -	
			61	- , -	
			62	- , -	
			63	- , -	
			64	- , -	

7. ON/OFF Controller (CZ-ANC2)

1. How to Use the ON/OFF Controller

■ Functions of buttons



A: ON/OFF button 01 ～ 16	Press this to start up or stop an individual air conditioner.
B: All ON button ALL ON	Press this to start up all the air conditioners at the same time. **NOTE** **The indoor units which can be operated by the ON/OFF controller now start operating in sequence at intervals of 1 to 2 seconds.**
C: All OFF button ALL OFF	Press this to stop all the air conditioners at the same time.

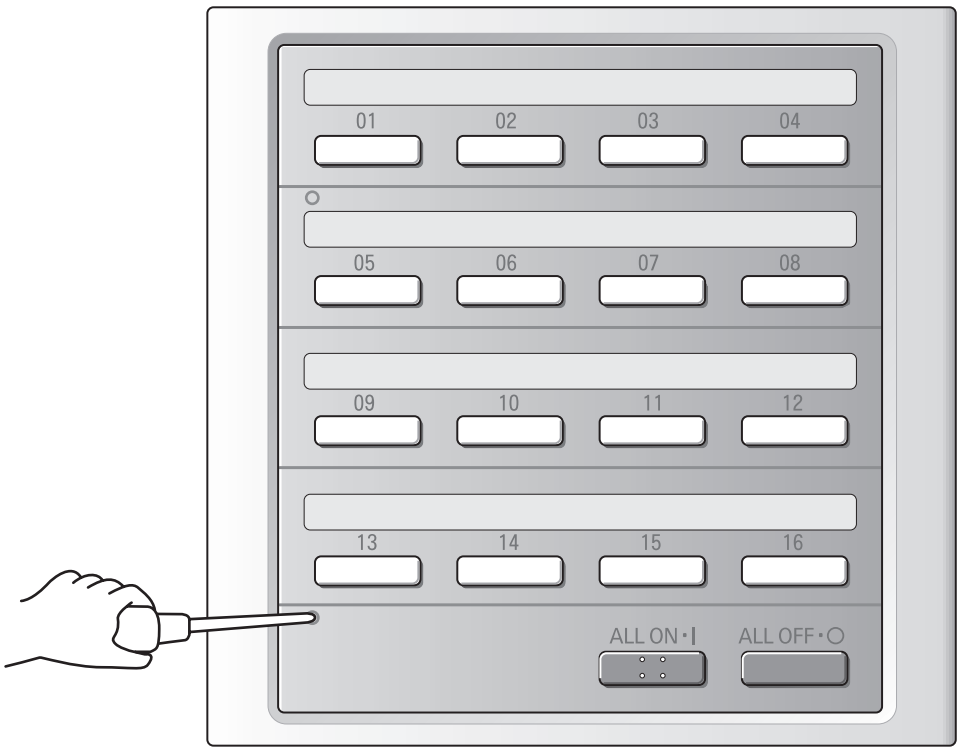
7. ON/OFF Controller (CZ-ANC2)

■ How to use the nameplate

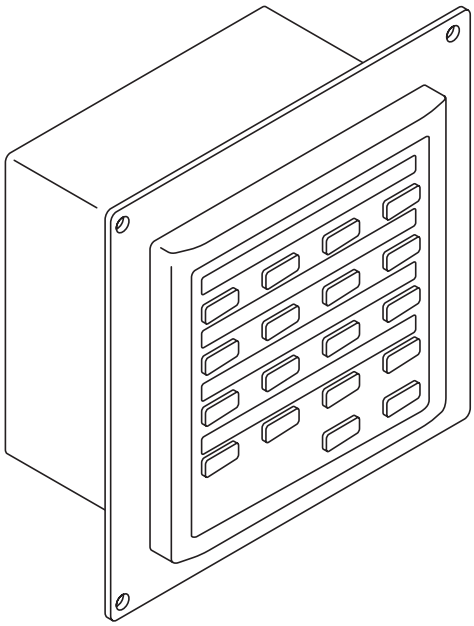
The nameplate shows the rooms where the air conditioners are to be operated, and it enables the operating statuses of the air conditioners in those rooms to be checked by the operation indicator lamps.

Steps

1. Insert an implement such as a ballpoint pen into the hole on the left of the transparent cover, and remove the cover.
2. Use a writing instrument such as an oil-based pen to write the names of the rooms on the switch name labels provided, and adhere the labels to the name displays.



Panasonic®



CZ-ANC2

INSTALLATION INSTRUCTIONS

7. ON/OFF Controller (CZ-ANC2)

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3

Product Information

If you have problems or questions concerning your Air Conditioner, you will need the following information. Model and serial numbers are on the nameplate on the bottom of the cabinet.

Model No. CZ-ANC2 Serial No. _____

Date of purchase _____

Dealerís address _____

Phone number _____

Alert Symbols

The following symbols used in this manual, alert you to potentially dangerous conditions to users, service personnel or the appliance:



WARNING

This symbol refers to a hazard or unsafe practice which can result insevere personal injury or death.



CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

Installation Location

- We recommend that this ON/OFF controller be installed properly by qualified installation technicians in accordance with the Installation Instructions provided with the ON/OFF controller.

WARNING

- Do not install this ON/OFF controller where there are fumes or flammable gases, or in an extremely humid space such as a greenhouse.
- Do not install the ON/OFF controller where excessively high heat-generating objects are placed.

Electrical Requirements

1. All wiring must conform to the local electrical codes. Consult your dealer or a qualified electrician for details.
2. Wiring must be done by a qualified electrician.

CAUTION

To warm up the system, the power mains must be turned on at least five (5) hours before operation.
Leave the power mains ON unless you will not be using this appliance for an extended period.

Safety Instructions

- Read this booklet carefully before using this ON/OFF controller. If you still have any difficulties or problems, consult your dealer for help.
- The air conditioner is designed to give you comfortable room conditions. Use this only for its intended purpose as described in the Instruction Manual.

WARNING

- Never touch the unit with wet hands.
- Never use or store gasoline or other flammable vapor or liquid near the air conditioner – it is very dangerous.
- The air conditioner has no ventilator for intaking fresh air from outdoors. You must open doors or windows frequently when you use gas or oil heating appliances in the same room, which consume a lot of oxygen from the air. Otherwise there is a risk of suffocation in an extreme case.

CAUTION

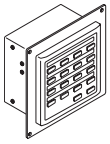
- Do not turn the air conditioner on and off from the power main switch. Use the ON/OFF operation button.
- Do not stick anything into the air outlet of the outdoor unit. This is dangerous because the fan is rotating at high speed.
- Do not let children play with the air conditioner.
- Do not cool or heat the room too much if babies or invalids are present.

7. ON/OFF Controller (CZ-ANC2)

■ General

This booklet briefly outlines where and how to install the ON/OFF controller. Please read over the entire set of instructions for the indoor and outdoor units and make sure all accessory parts listed are with the controller before beginning.

NOTE Give these instructions to the customer after finishing the installation.

Part Name	Figure	Q'ty	Remarks
ON/OFF controller		1	
Tapping screw	Truss-head Phillips 4 x 16 mm 	4	For securing the system controller
Rawl plug		4	For securing the system controller
Manual		1	For installation
		1	For operation

3

■ Installation site selection

- Install the ON/OFF controller at a height of between 1 and 1.5 meters above the floor.
- Do not install the ON/OFF controller in a place where it will be exposed to direct sunlight or near a window or other place where it will be exposed to the outside air.
- Besure to install the ON/OFF controller vertically, such as on a wall.

■ How to install the ON/OFF controller

CAUTION

- Do not twist the control wiring together with the power wiring or run it through the same metal conduit, because this may cause a malfunction.
- Install the ON/OFF 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.

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

7. ON/OFF Controller (CZ-ANC2)

Overview of the ON/OFF controller

Unit: mm

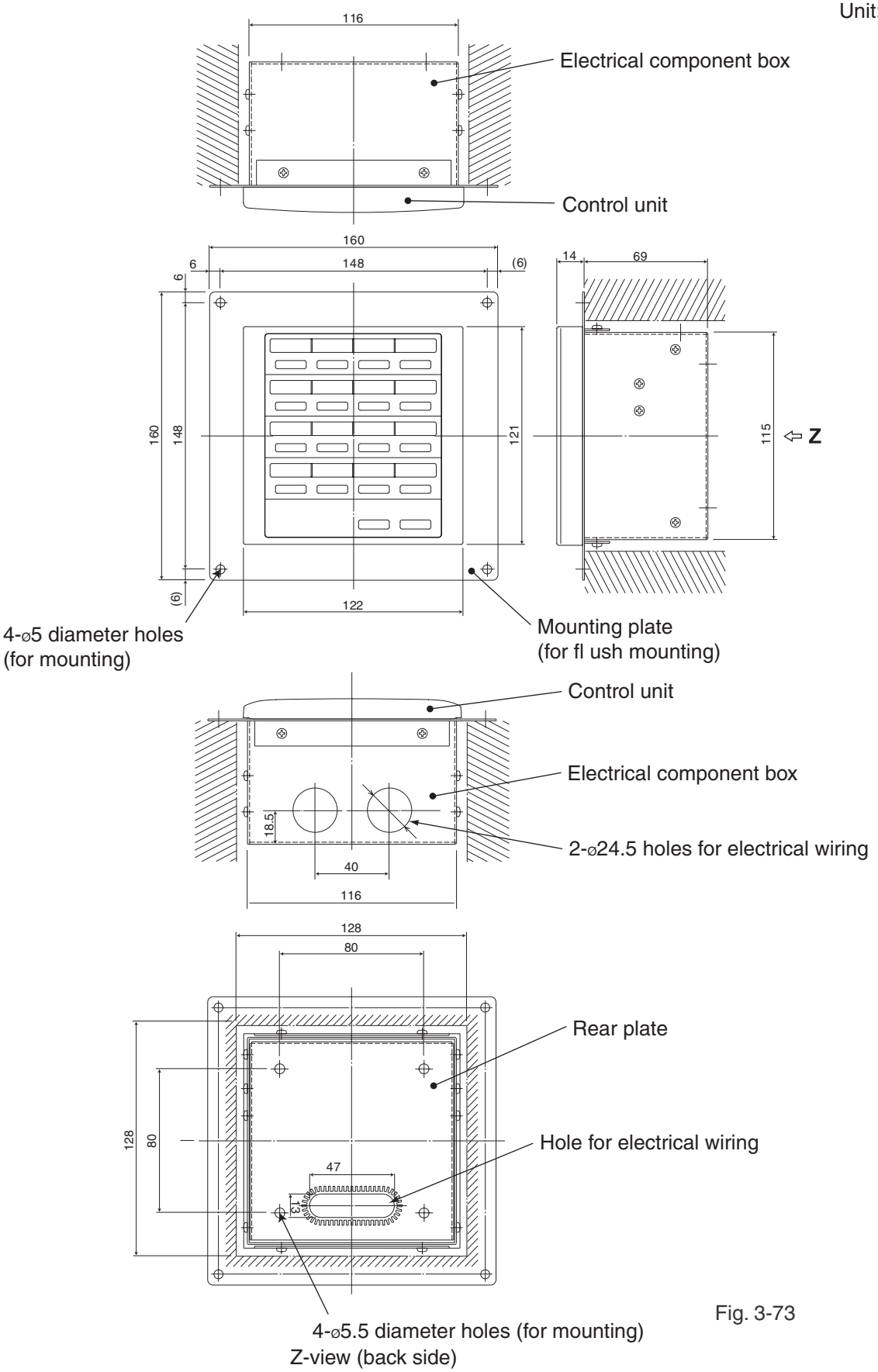
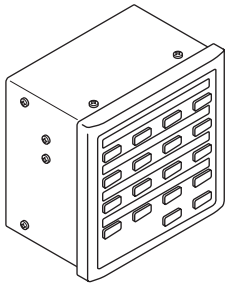


Fig. 3-73

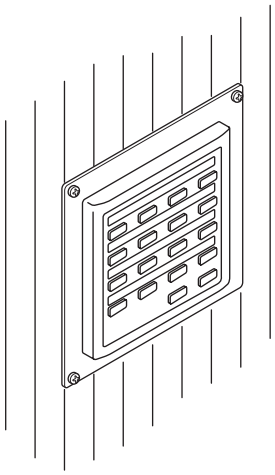
* In order to mount the ON/OFF controller flush with the wall, an opening measuring 128 mm × 128 mm is necessary.

7. ON/OFF Controller (CZ-ANC2)

Installation procedure



a): Normal mounting



b): Flush mounting

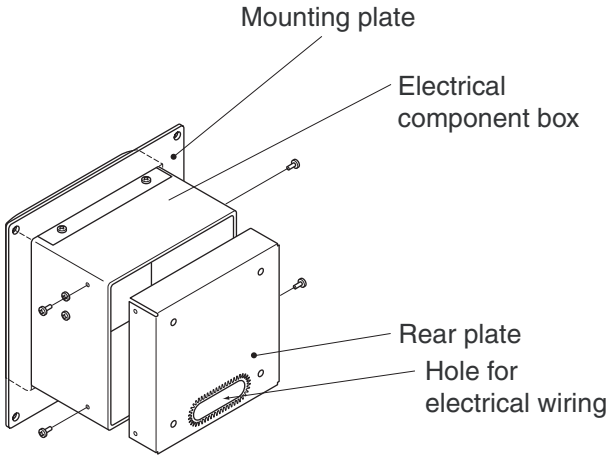


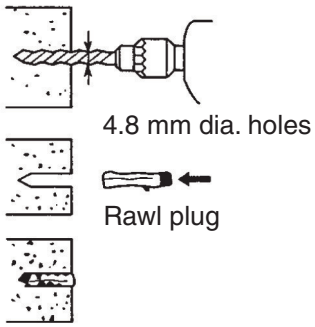
Fig. 3-74

1. Decide how the ON/OFF controller will be mounted: in the normal manner or flush with the wall.
   a) To mount the ON/OFF controller in the normal manner, remove the mounting plate. Then reattach the four screws to the electrical component box.
   b) To mount the ON/OFF controller flush with the wall, make an opening in the wall measuring 128 mm × 128 mm. The opening must be at least 85mm deep as measured from the outside surface of the wall.

2. Remove the rear plate and connect the electrical wiring.
   1) Remove the four screws located on both sides of the rear plate.
   2) Either the hole in the bottom of the electrical component box or the hole in the rear plate may be used to feed the electrical wiring.

3. Secure the ON/OFF controller in place.
   a) If the ON/OFF controller is being mounted in the normal manner, first attach the rear plate to the wall using the screws and Rawl plugs provided. Next, place the body of the ON/OFF controller over the rear plate and secure it in place using four screws.
   b) If the ON/OFF controller is being mounted flush with the wall, fit it through the mounting plate on the wall and secure it in place using the screws and Rawl plugs provided.

NOTE To mount the ON/OFF controller on a wall made of cinder block, brick, concrete, or a similar material, drill 4.8 mm diameter holes in the wall and insert Rawl plugs to anchor the mounting screws.



7. ON/OFF Controller (CZ-ANC2)

Layout of electrical terminals

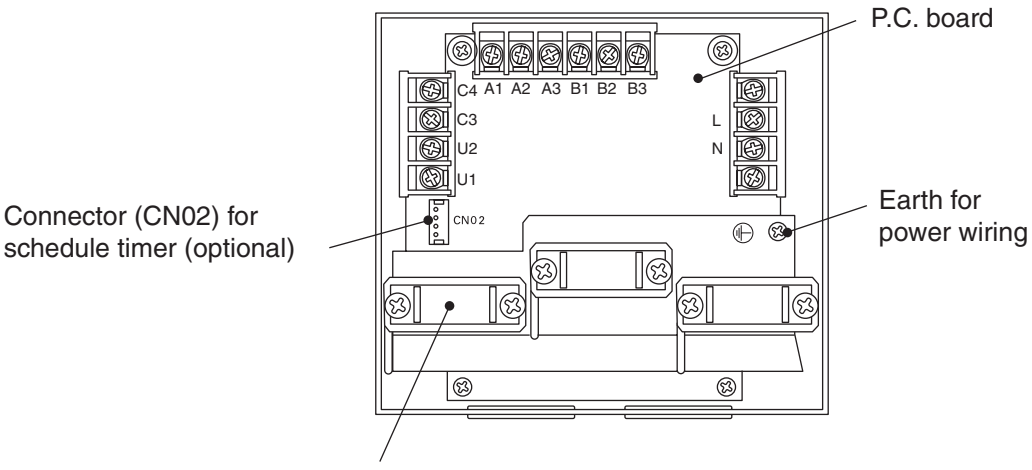
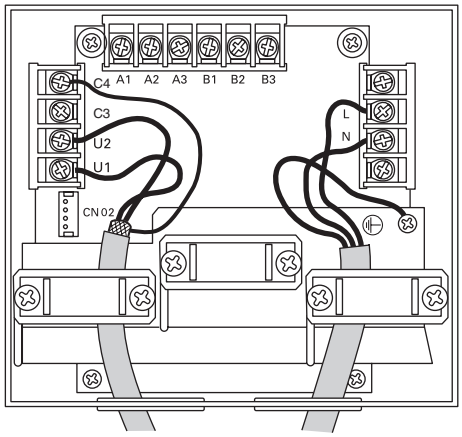


Fig.3-75

How to connect electrical wiring

1) Basic wiring



N: L: Power supply (220-240 V ∿ 50/60 Hz)

U1: U2: Inter-unit control wiring. (Low voltage) (Use shielded wiring)

C3: Reserve

C4: Earth for inter-unit control wiring

2) Terminals for remote monitoring

A1: Input for turning on air conditioners concurrently.

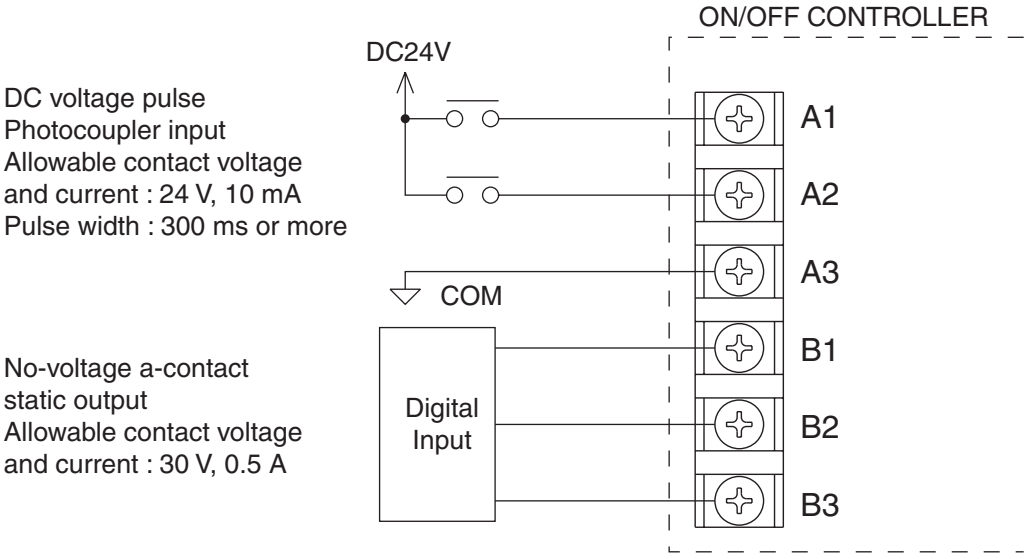
A2: Input for turning off air conditioners concurrently.

A3: Common input for turning air conditioners on or off.

B1: On operation state indicator output.

B2: Alarm indicator output.

B3: Common indicator output.



7. ON/OFF Controller (CZ-ANC2)

Basic wiring diagram

CAUTION

Ensure that wiring connections are correct.
(Incorrect wiring will damage the equipment.)

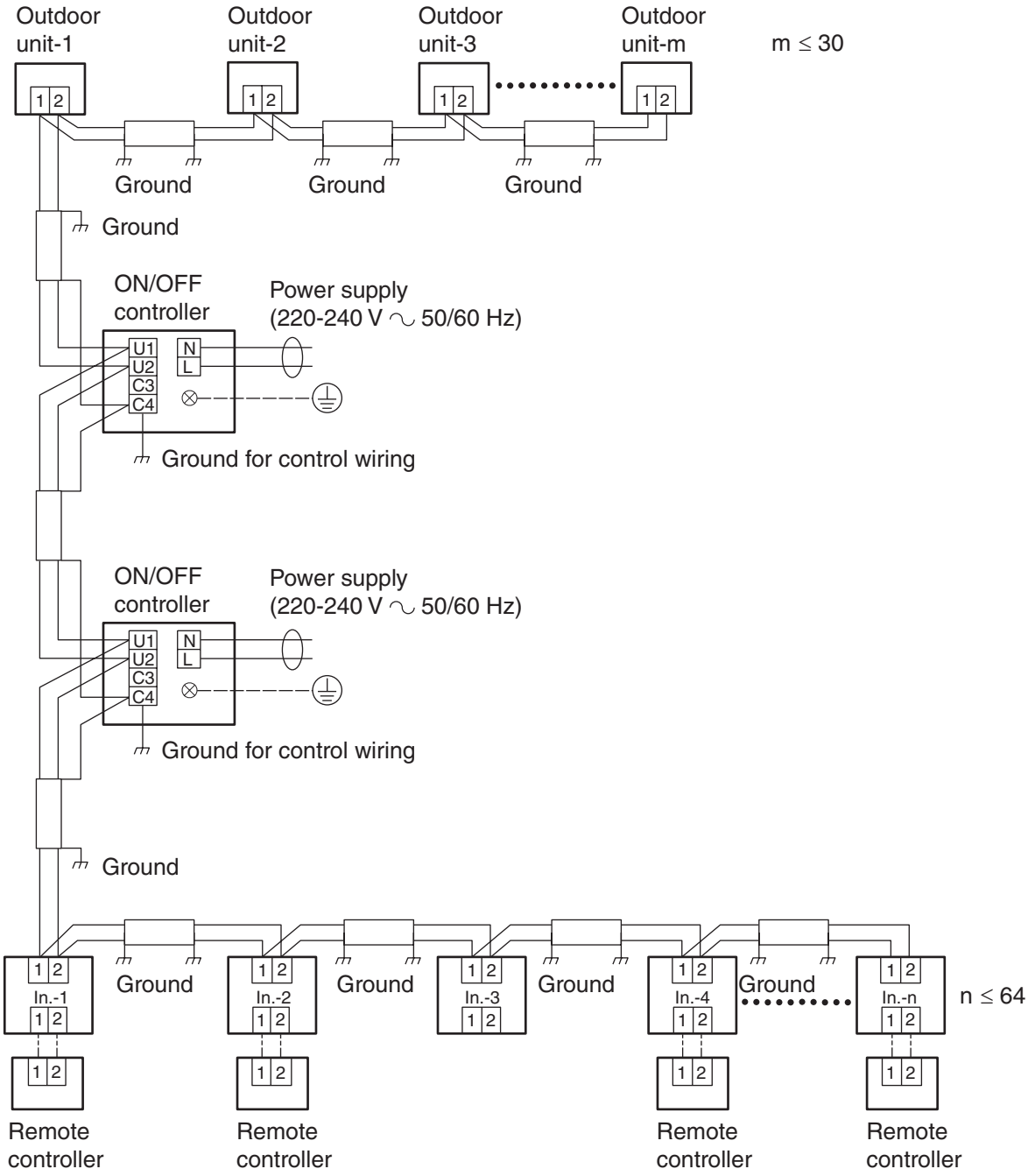


Fig. 3-76

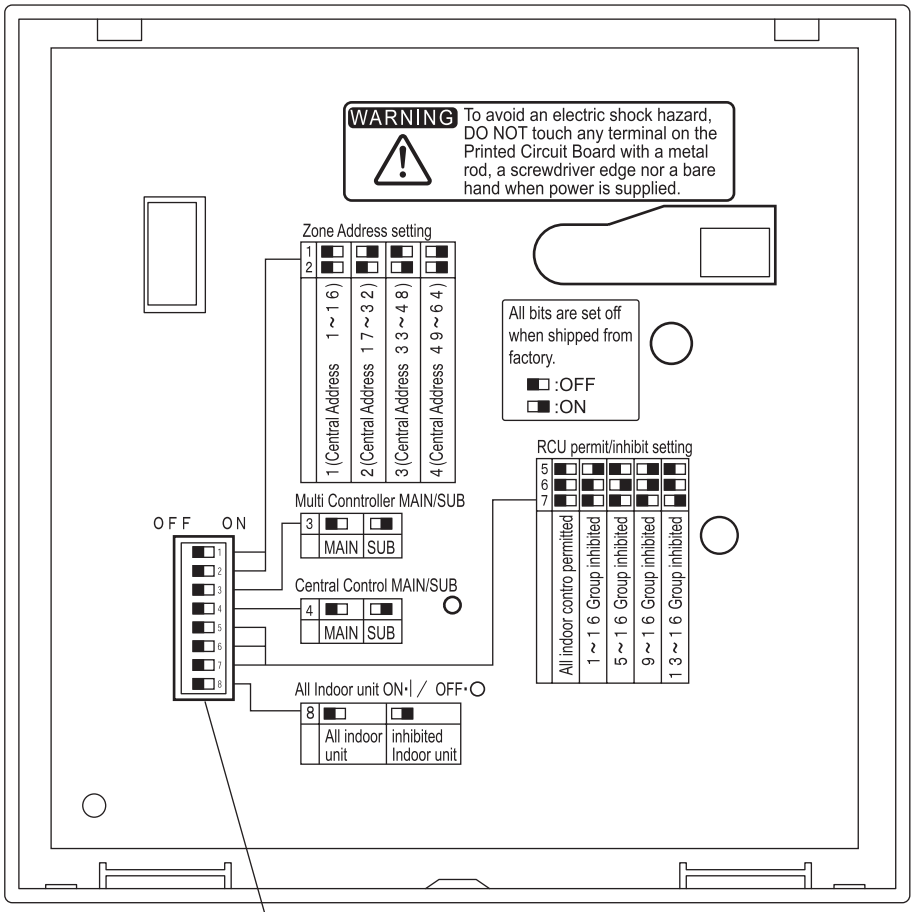
NOTE

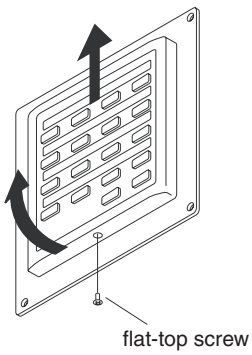
1. The following figure is the inter-unit control wiring.

   Use the shielded wiring.
2. In. means indoor unit.
3. One ON/OFF controller can connect up to two units – one main unit and one sub unit – for each zone.

7. ON/OFF Controller (CZ-ANC2)

■ Dip switch setting



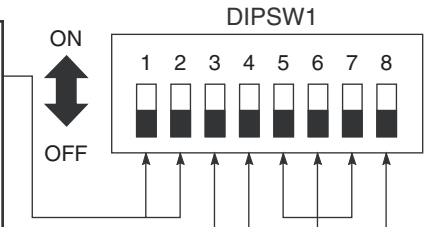


How to reach the P.C. board
Remove the flat-top screw on the bottom of the back case.
Raise the bottom of the control unit, and now remove the unit by sliding it upward.
The P.C. board on the back of the control unit is now visible.

NOTE Do not force the bottom of the control unit open. Doing so may damage the notch at the top and make it impossible to install the control unit.

7. ON/OFF Controller (CZ-ANC2)

DIPSW1



Zone address switches

Use these to set the zone addresses.

	1	2
1(Central Adress 1-16)	OFF	OFF
2(Central Adress 17-32)	ON	OFF
3(Central Adress 33-48)	OFF	ON
4(Central Adress 49-64)	ON	ON

ON/OFF controller main/sub selection switch

This is normally used at the main (OFF) setting.
When the ON/OFF controller is to be used by a main unit and a sub unit (2 units) in one zone, set one unit to main (OFF) and the other unit to sub (ON).

OFF: ON/OFF controller operates as main controller.
ON: ON/OFF controller operates as sub-controller.

NOTE
- Set the zone address switch of the sub ON/OFF controller to the same address as the main ON/OFF controller.
- One ON/OFF controller must always be set as the main ON/OFF controller.

Central control main/sub selection switch
(OFF: main, ON: sub)

This is normally used at the main (OFF) setting.
Set it to sub (ON) when a communication adapter, intelligent controller or system controller is to be used concurrently.

Group inhibited/all indoor unit control permitted selection switch

Use these to switch between the group inhibited and all indoor unit control permitted statuses for each of the four groups.

	5	6	7
All indoor unit control permitted	OFF	OFF	OFF
1-16 Group inhibited	ON	OFF	OFF
5-16 Group inhibited	OFF	ON	OFF
9-16 Group inhibited	ON	ON	OFF
13-16 Group inhibited	OFF	OFF	ON

All indoor run/stop selection switch

Use this to select the units to be run or stopped when the ALL ON. or ALL OFF.O button has been pressed.

OFF : All indoor unit
ON: inhibited indoor unit

Fig. 3-77

* All switches are OFF position at shipment.

■ Zone address setting

The zone addresses must be set (using #1 and #2 of DIPSW1) when the ON/OFF controllers are to be controlled in a multiple number of zones.

- Set to zone 1 when the ON/OFF controller is to be used in one zone only.
- When the ON/OFF controllers are to be used in a multiple number of zones, one of them must be set to zone 1 without fail.

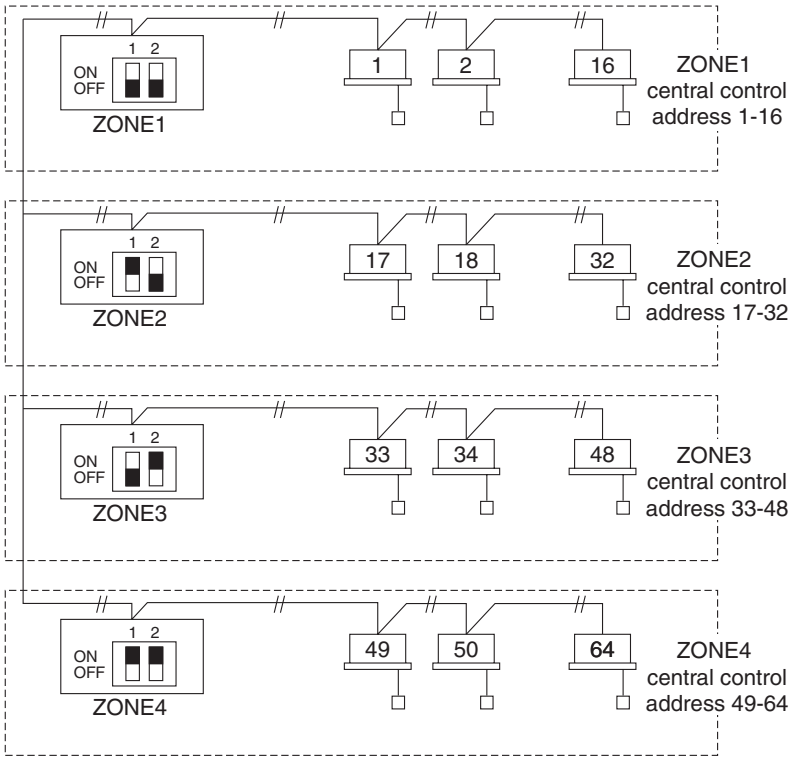


Fig. 3-78

■ How to perform zone registration

To operate the ON/OFF controller properly, zone registration is required after finishing the test run (and after setting all indoor unit addresses)using one of the following methods.

(a) Zone registration using the remote controller
Refer to page 3-124

(b) Zone registration using the system controller
Refer to page 3-125

(c) Automatic zone registration using the system controller
Refer to page 3-126

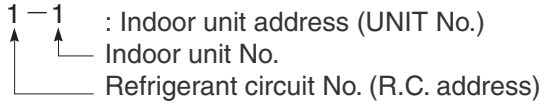
For methods (a) and (b), you should make a zone registration table manually before performing the registration as shown on the page 3-123.

For method (c), zone registration is executed automatically, proceeding from small indoor unit address and small central addresses to larger numbers in numerical order. For example:

Central address	1	2	3	4	5	6	
ZONE-group1	1-1	1-2	1-3	1-4	1-5	1-6	
Indoor unit address	1-1	1-2	2-1	2-2	2-3	3-1	

NOTE

1. An indoor unit address is assigned to each indoor unit during automatic address operation. Each indoor unit address combines an R.C. address and indoor unit number as follows:

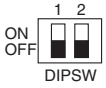
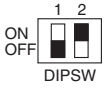
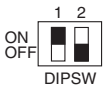
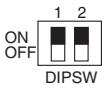


   This address is displayed on remote controller for UNIT No. when the UNIT button is pressed.

2. The central address represents the zone and group number. These addressed are assigned in ascending numerical order.

7. ON/OFF Controller (CZ-ANC2)

ZONE registration table

ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location	ZONE	GROUP	Central address	Indoor unit address (UNIT No.)	Unit location
1 	1	1			3 	1	33		
	2	2				2	34		
	3	3				3	35		
	4	4				4	36		
	5	5				5	37		
	6	6				6	38		
	7	7				7	39		
	8	8				8	40		
	9	9				9	41		
	10	10				10	42		
	11	11				11	43		
	12	12				12	44		
	13	13				13	45		
	14	14				14	46		
	15	15				15	47		
	16	16				16	48		
2 	1	17			4 	1	49		
	2	18				2	50		
	3	19				3	51		
	4	20		4		4	52		
	5	21		5		5	53		
	6	22		6		6	54		
	7	23				7	55		
	8	24				8	56		
	9	25		9		9	57		
	10	26				10	58		
	11	27				11	59		
	12	28				12	60		
	13	29				13	61		
	14	30		1		4	62		
	15	31		1		5	63		
	16	32		1		6	64		

NOTE

1. Assign indoor unit addresses to the desired positions (central addresses) manually.
2. For group control, only the main indoor unit should be assigned. Sub indoor units cannot be assigned.

7. ON/OFF Controller (CZ-ANC2)

(a) Zone registration using the remote controller
(Determination of central address)

- In this case, after confirming which indoor unit is connected to the remote controller and that the air conditioner in the OFF state, you set the central addresses one at a time.
- If the system has no remote controller, connect a remote controller to the system temporarily. Then follow this procedure.

NOTE

The indoor unit address must already have been set before performing zone registration. If necessary, refer to the Installation Manual supplied with the outdoor unit.

(1) Press the [🔧] and [🏠] buttons at the same time of the remote controller for more than 4 seconds.

(2) Do not press [UNIT] button.

(3) Once in this mode, the UNIT No., CODE No., No. of SET DATA and SETTING indications will flash on the display as shown Fig. 3-79.

NOTE

In case of group control "ALL" instead of "UNIT No." will flash on the display. Select the main indoor unit address by pressing the [UNIT] button once.

(4) Set CODE No. to 03 using the [▲] and [▼] (🌡) buttons.

NOTE

CODE No. 03 must be selected to perform zone registration using the remote controller.

(5) Set the Central address which you want to assign to the indoor unit address using the [▲] and [▼] (🕘) buttons according to the zone registration table.

(6) Press the [SET] button. The CODE No. and Central address changes from flashing to ON state. If you make a mistake, then press the [CANCEL] button and reset the central address.

(7) Press the [🔧] button to finish zone registration.

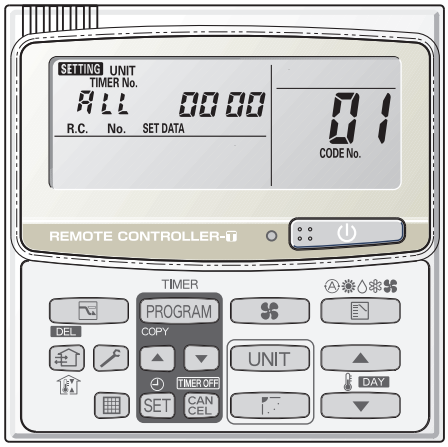


Fig. 3-79



For example, in this case
Indoor unit address: 1-8
Central address : 17 (ZONE 2, GROUP 1)

Fig. 3-80

(b) Zone registration using the system controller

- In this case, you set all Central addresses by system controller at once manually.

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) After confirming that CODE No. C1 is displayed, press the [SET] button. Once in this mode, a change takes place shown in Fig. 3-81.

(3) Select the zone and group No. which you want to set with [ZONE] and [◀] [▶] (GROUP) buttons.
If already set, press the [CL] buttons.

(4) Set the unit No. (Indoor unit address) with [📠] and [🏠] buttons, according to the zone registration table.

R.C. No.. ..... [📠] button

Indoor unit No.. ..... [🏠] button

(5) Press the [SET] button.
GROUP No. turns ON and UNIT No. (Indoorunit address) changes from flashing to ON state. UNIT No. is registered to selected ZONE No. and GROUP No.
If you make mistake, then press the [CL] button and reselect the ZONE, GROUP and UNIT No.

(6) Register the other UNIT Nos. in the same way by following the steps (3) to (5).

(7) Finally, complete the registration by pressing the [🔧] button.
SETTING flashes for a few minutes, then goes OFF.

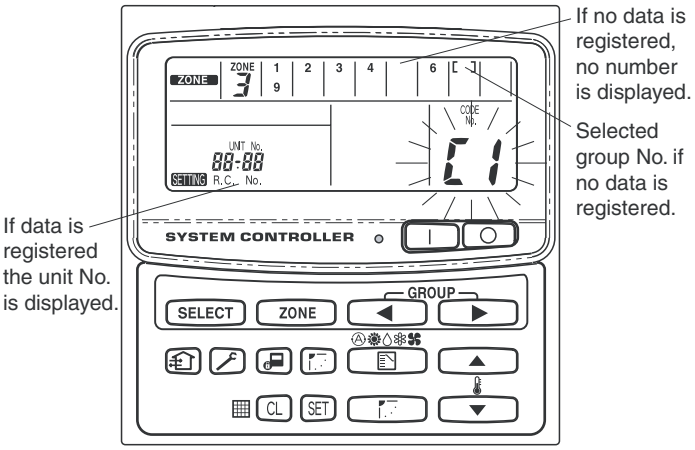
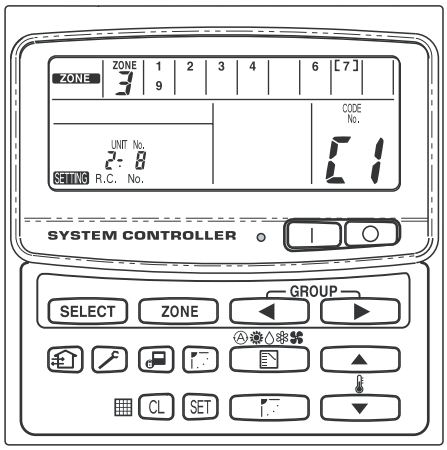


Fig. 3-81



For example, in the case at left
Zone 3, group No. 7
Unit No. (indoor unit address) 2-8

Unit No. 2-8 is registered to zone3-group 7.

Fig. 3-82

(c) Automatic zone registration using the system controller

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE. No. C2 by pressing [▲] and [▼] (🌡) button and press the [SET] button.
C2 changes from flashing to ON state and automatic zone registration will start.

(3) All registered GROUP Nos. will be disappeared.

(4) Central address will be assigned from small indoor unit address to large one in numerical order automatically.
After automatic zone registration is completed, SETTING changes from flashing to OFF.

(5) If an error occurs “CHECK” starts flashing and zone registration finishes at this time. Press the [CL] button.

(6) Finally, complete automatic zone registration mode by pressing the [🔧] button.
SETTING flashes for a few minutes, then goes OFF.

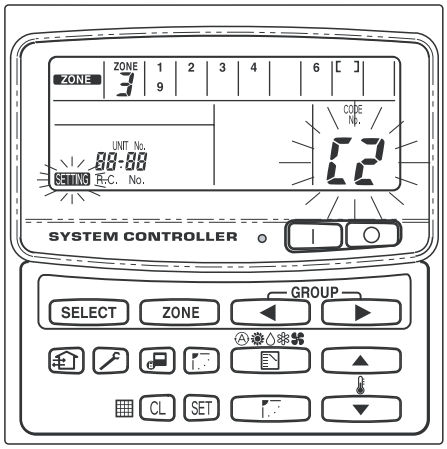


Fig. 3-83

3

7. ON/OFF Controller (CZ-ANC2)

■ How to check overlapping of central address no.

(1) Press the [🔧] and [ZONE] buttons at the same time for more than 4 seconds.
SETTING and CODE No. C1 will flash.

(2) Select CODE. No. C3 by pressing [▲] , [▼] (🌡) button and press the [SET] button.
C3 changes from flashing to ON state and SETTING will flash. Then auto overlap checking will start.

(3) If C3 changes from ON to flashing and SETTING stops flashing and disappears, there is no overlapping.
Then complete the auto overlap checking mode by pressing the [🔧] button.

(4) If some of GROUP No., ZONE No. and UNIT No. flash, you should try the zone registration again.

① Select CODE No. C1 by pressing [▲] , [▼] (🌡) button and press the [SET] button.

② Select the flashing GROUP No. with ZONE and GROUP button. Then press the [CL] button and reselect the ZONE, GROUP and UNIT No.

③ Then complete the auto overlap checking mode by pressing the [🔧] button.

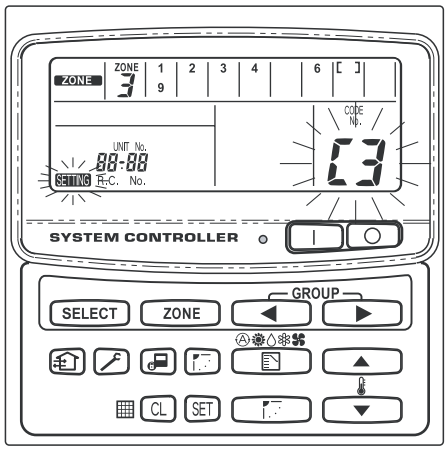


Fig. 3-84

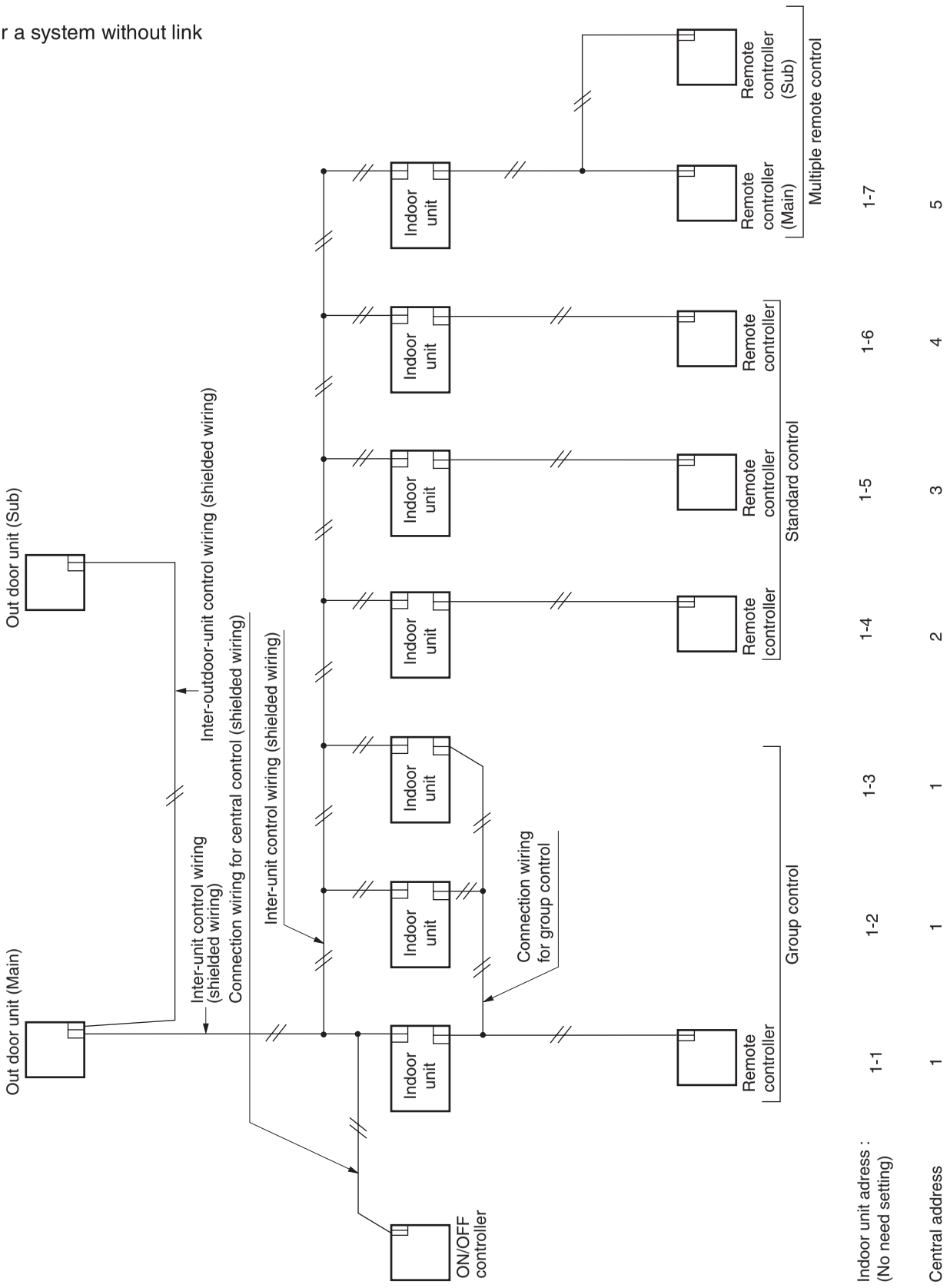
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7. ON/OFF Controller (CZ-ANC2)

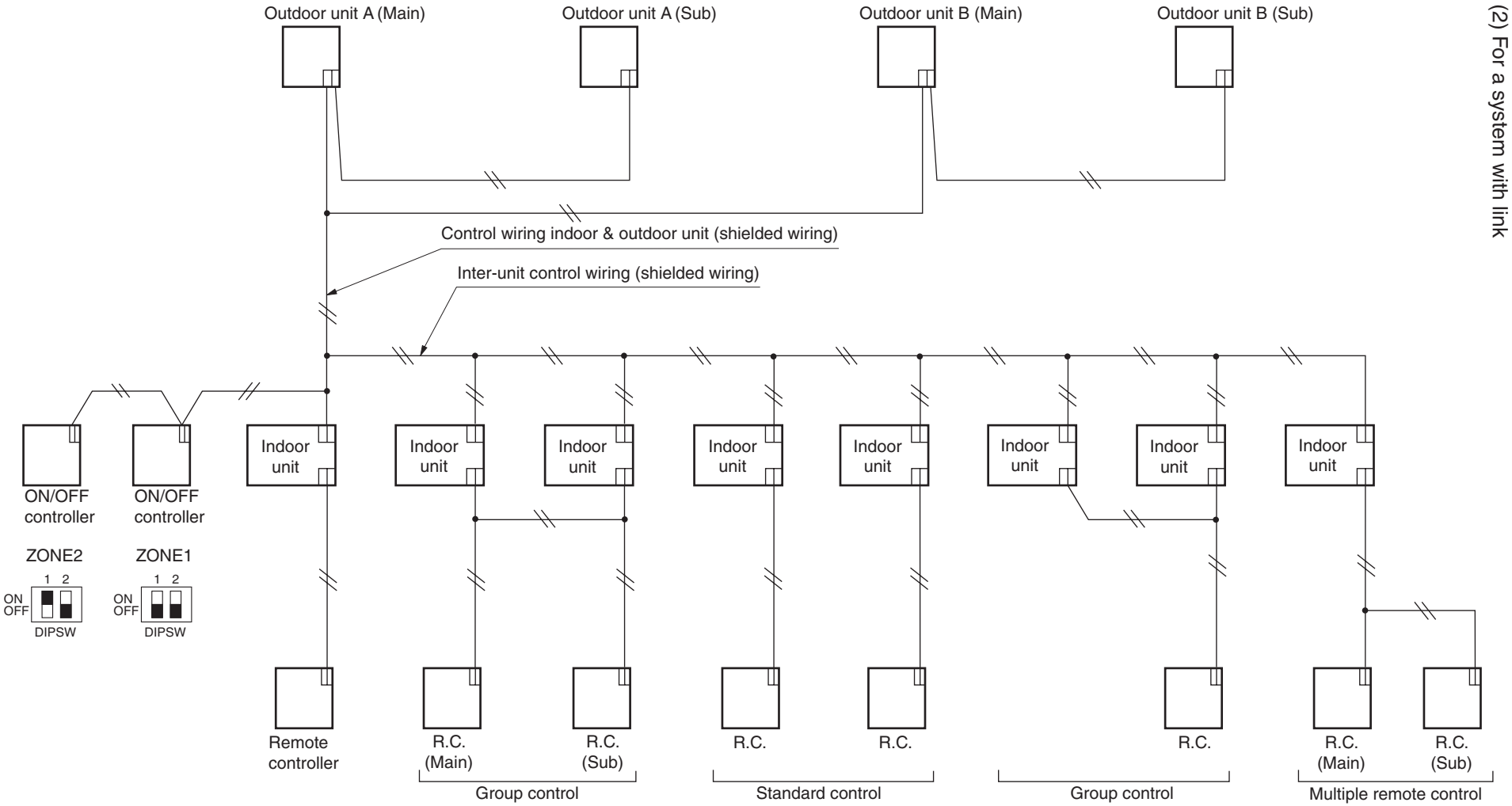
■ System examples

The following diagrams show system examples and the correct setting of the switches on the PCB.

(1) For a system without link



(2) For a system with link



Indoor unit Zone registration (*)								
Central address (Zone-Group)	1 (1-1)	2 (1-2)	2 (1-2)	3 (1-3)	17 (2-1)	18 (2-2)	18 (2-2)	19 (2-3)
Indoor unit adress (No need setting)	1-1	1-2	1-3	1-4	2-1	2-2	2-3	2-4

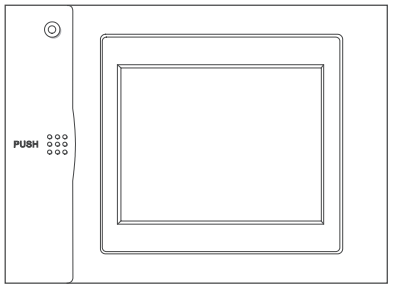
* Regarding the zone registration for ON/OFF controller, please refer to Installation manual of ON/OFF controller.

Panasonic

Centralized Control System
CZ-256ESMC2
Operation Manual

INTELLIGENT CONTROLLER

Thank you for choosing the CZ-256ESMC2 Intelligent Controller.
Before using the system, be sure to read this manual carefully. In particular, be sure to read the “Important Safety Instructions”.
After reading this manual, store it in a convenient place.



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INTELLIGENT CONTROLLER
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1 Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".

The precautions given in this manual consist of specific "⚠ Warnings" and "⚠ Cautions". They provide important safety related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures.

● The labels and their meanings are as described below.

⚠Warning This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.

⚠Caution This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

● Meaning of symbols

⚠ Indicates "Warning" or "Caution".

⃠ Indicates "Prohibited".

❗ Indicates an action that should always be performed.

● After reading this manual, save it in a convenient place.
Be sure to provide this manual to any person who may use the product.

Installation Precautions

⚠ Warning

Do not install yourself

Installation should always be performed by your dealer or a professional service provider. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.

Use only specified air conditioners

Always use only air conditions specified by dealer.

Electrical work must be carried out by qualified personnel

Contact your dealer for installation. Do not attempt to install the product yourself.

Location

⚠ Caution

Do not install in damp locations or locations subject to vibrations

Damage to the product can result.

Do not install under direct sunlight or in places near heat sources

The product may be damaged.

Do not install near sources of noise

Malfunctions can result.

Elevators,
Automatic doors,
Industrial machinery,
etc

Avoid static electricity during cabling work

Before starting cabling work, touch ground to discharge static electricity from the body.

Avoid installation in the following locations

- Locations subject to inflammable gas leakage
- Near beaches or other places with a large amount of salt
- Hot springs or other locations subject to sulfuric gas
- Locations near water and oil (including industrial lubricants), and water and oil sprays
- Locations with large changes in voltage
- Near machines generating electromagnetic waves
- Locations close to organic solvents

Keep televisions, radios, PCs, etc, at least 1m away from the central controller, indoor units, and remote controls

Picture breakup and noise can occur.

Do not use heaters near the Intelligent Controller

Plastic parts of the Intelligent Controller may be deformed or discolored.

Precautions for Use

⚠ Warning

Do not touch switches with wet hands



Prohibited

Electric shock and damage to the system can result.

Protect the Intelligent Controller from water



Prohibited

Damage to the system can result.

Stop the system and turn the power off if you sense unusual smells or other irregularities



Turn off the power.

Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system. Contact your dealer

⚠ Caution

Do not drop the system or subject it to strong shocks



Prohibited

Damage to the system can result.

Use only fuses with the correct capacity



Prohibited

Use of pins or copper wire can result in fire and damage to the system.

Use only the specified power source



Use of any other power source can result in fire and damage to the system.Use single-phase 100-240V power.

⚠ Caution

Use the special supplied touch pen



Prohibited

Touching the touch panel with any pen other than the supplied touch pen can damage the system.

Moving and Repair Precautions

⚠ Warning

Do not disassemble or repair



Prohibited

Never disassemble or repair the system yourself. Contact your dealer for repair. Electric shock or fire may result if an inexperienced person attempts to repair the system.

Contact your dealer before moving the system



Contact your dealer or a professional service provider about moving and reinstalling the system. Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

Do not touch the LCD if it is leaking



Prohibited

If the touch panel is damaged, the liquid crystal from inside the display may leak out. Do not ingest the liquid or allow it to contact your skin.

If accidental contact with skin occurs, rinse the area of contact thoroughly under running water for at least 15 minutes.

If accidental swallowing occurs, rinse the inside of your mouth thoroughly with water. Drink plenty of water and induce vomiting, and then seek immediate medical attention.

2 Features of the System

The Intelligent Controller is a centralized air conditioning management system dedicated to PAC and GHP for small and medium sized buildings.

- ● Number of connectable units
  - • By connecting communication adaptors to one Intelligent Controller, up to 256 indoor units can be connected.
  - • Up to 120 outdoor units can be connected.
- ● Display
  - • Touch panel type 6.5-inch TFT color (640x480 pixel VGA) LCD display
- ● Operation functions
  - • Start and stop, temperature settings, operation mode selection, fan speed settings, fan direction settings, ventilation etc.
- ● Operating monitoring
  - • All unit monitoring of operation status (operating/stopped, operation mode, alarms)
  - • Display of alarm logs
  - • One-operation checking of all filter cleaning signs and engine oil inspection signs
  - • External output of all errors, external output of all operations (relay connections)
- ● Program timers
  - • Up to 50 types of weekly timers can be programmed by combining 50 types of daily timers (50 times per day).
- ● Air conditioning energy distribution
  - • Recording and display of accumulated operating time and total number of operations for each indoor unit.
  - • Calculation of gas and electricity distribution ratios and energy amounts used (m^3, kWh) for each indoor unit and each tenant.
  - • Distributions are available in two modes: the “simple distribution” calculated based on the operating time and “loaded distribution” calculated based on the actual air conditioning capacity, respectively. (In order to make operation in the “Loaded distribution” mode, the air conditioner side needs to be adaptable to the “Loaded distribution”.
  - • Distribution by time zones (regular hours, out of hours, special days).
  - • Recording of up to past 24 months of cut-off data.
- ● Printing display
  - • All operating screens can be printed out with a dedicated printer connected (hardcopy).

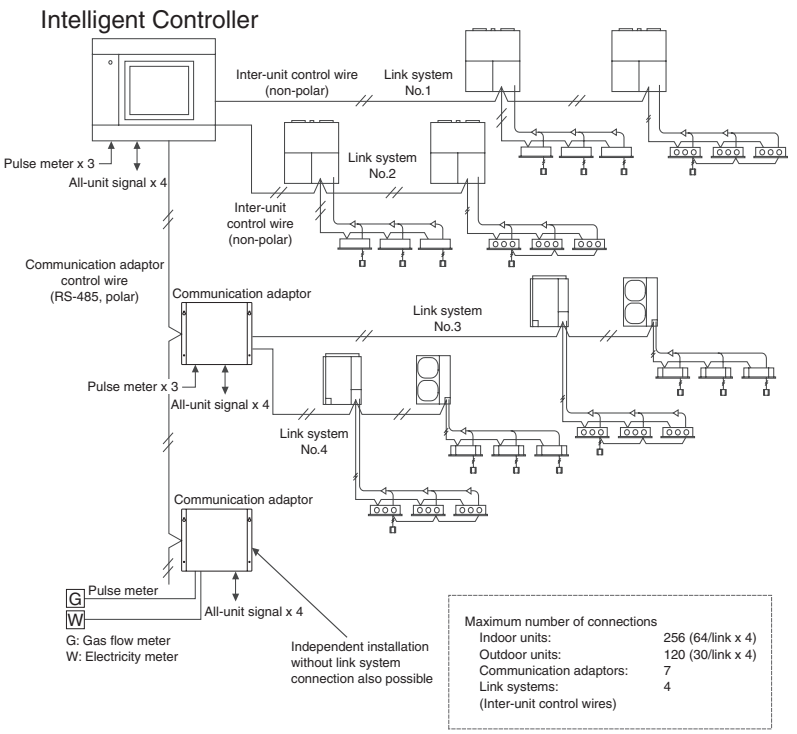
Terms and abbreviations used in this manual and in the system software

Full term	Abbreviation
Adaptor address	Adaptor
Link system address	Link system
Outdoor unit system address	Outdoor unit system, Outdoor unit, Outdoor system, Outdoor, O/D
Indoor unit address	Indoor unit, Indoor, I/D
Distribution group number	Distribution group No., Distribution group
Tenant number	Tenant No., Tenant
Zone number	Zone No., Zone
Unit name	Unit
Air conditioning distribution ratio	Distribution ratio, Distr. ratio
Central control address	Central address, CNTR
Thermostat	T/S

* For more information about terms, see “11 Terms”.

3 System Configuration

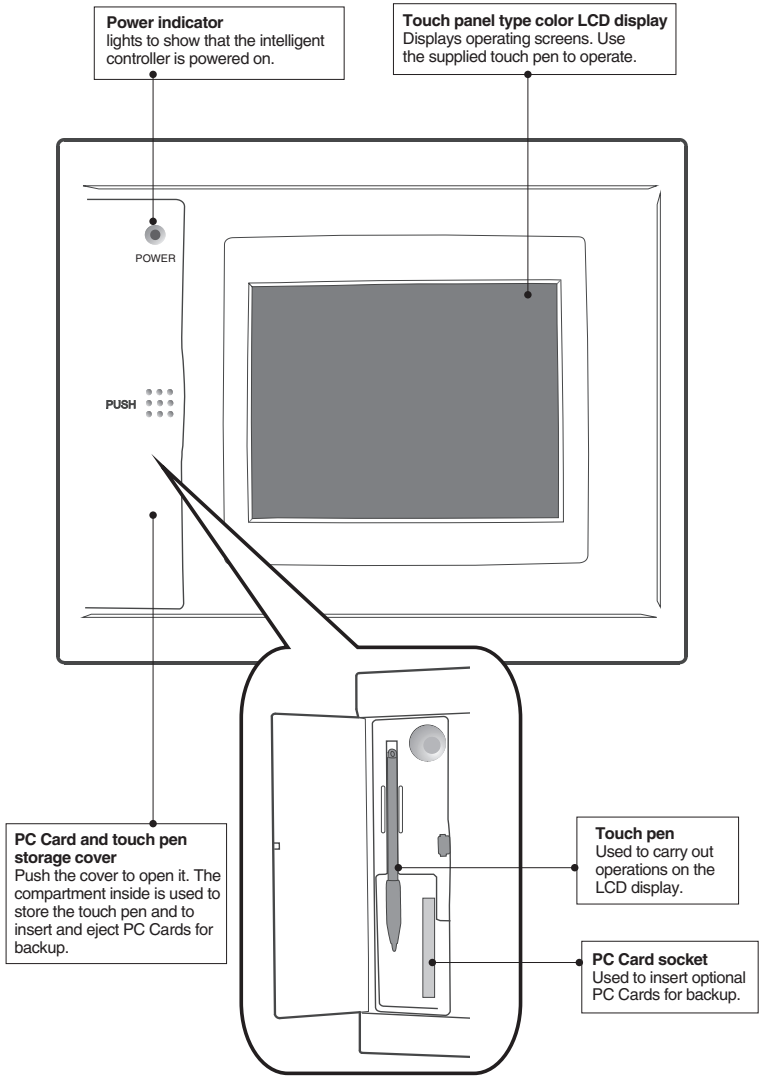
System Configuration Example



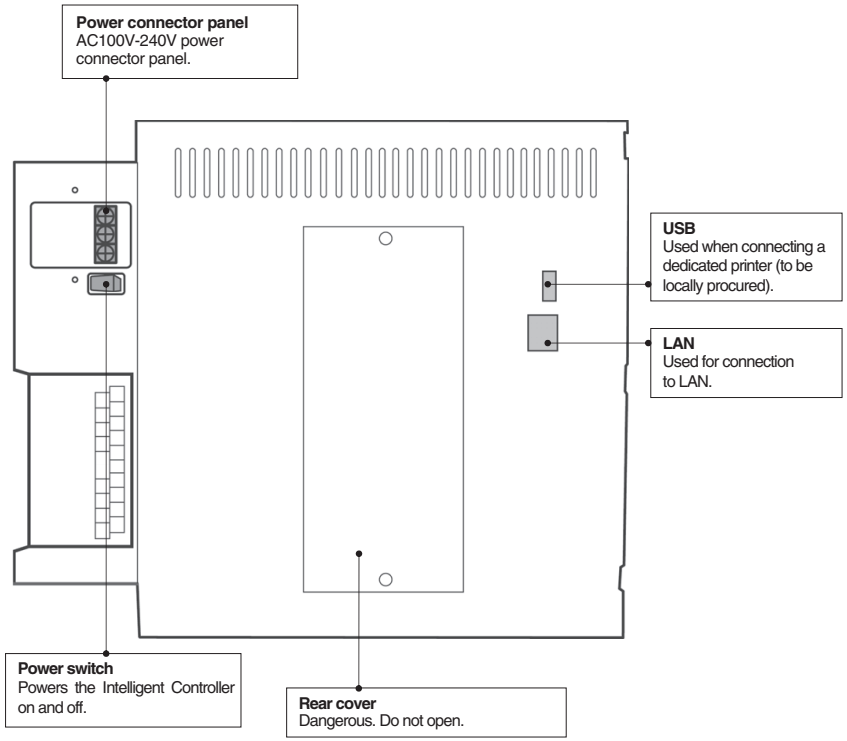
* When connecting link systems (Inter-unit control wires), always connect beginning with LINK1 and LINK2 on the Intelligent Controller. Up to 4 link systems can be connected.

4 Names and Functions of Parts

● Front Panel

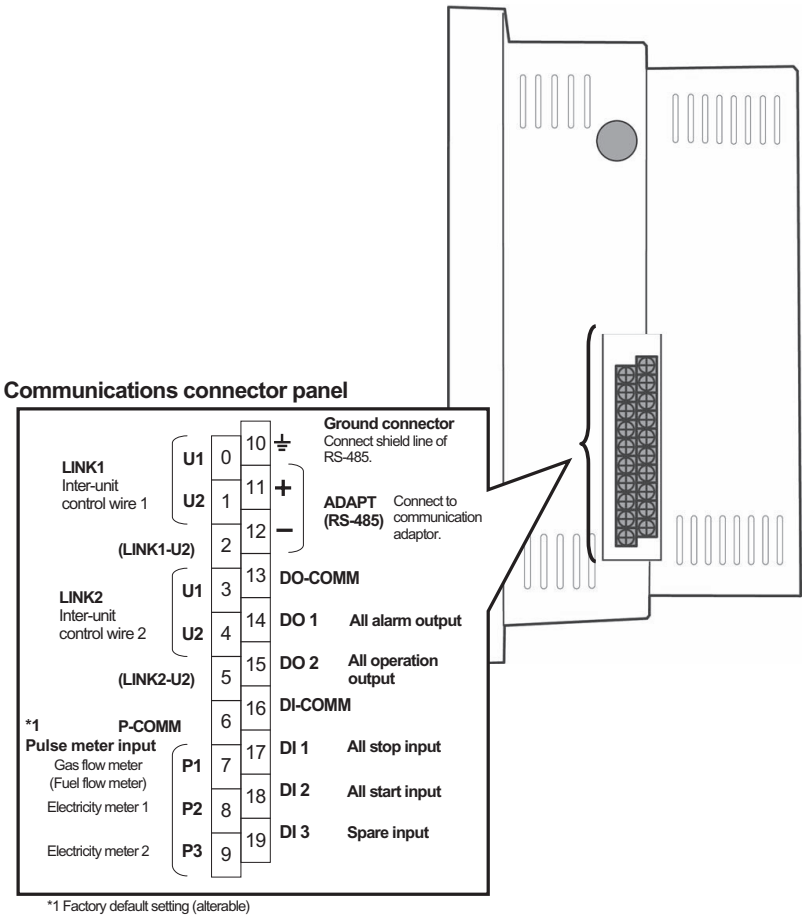


● Rear Panel



4 Names and Functions of Parts

● Right side panel



*1 Factory default setting (alterable)

5 Quick Reference

Menu List

Main Menu

1.Status/Control
2.Total data/Cut-off
3.Distrib. ratio/Usage
4.Maintenance/Test Run
5.Initial settings
6.Auxiliary settings

Sub Menu

1.Status/Control

	1.Each tenant	➢page 31
	2.Each tenant details	➢page 35
	3.Each zone	➢page 36
Ⓒ	4.Each zone details	➢page 37
	5.All units	➢page 38

2.Total data/Cut-off

	1.Each I/D unit	➢page 39
	2.Each tenant	➢page 40
Ⓑ	3.Each O/D unit	➢page 41
	4.Pulse meter	➢page 42
Ⓐ	5.Cut-off/Data backup	➢page 43

3.Distrib. ratio/Usage

	1.Each I/D unit	➢page 46
Ⓑ	2.Each tenant	➢page 47

4.Maintenance/Test Run

	1.Inspection sign	➢page 49
	2.Alarm log	➢page 50
Ⓐ	3.Test run	➢page 52

5.Initial settings

	1.Date/Distrib.	➢page 22
	2.CNTR/Unit/Ten. No.	➢page 24
Ⓐ	3.Ten. name/Distrib. Gr.	➢page 26
	4.Pulse meter setting	➢page 28
	5.Clear accum. data	➢page 30

Start the Initial settings first.

6.Auxiliary settings

	1.Zone name	➢page 53
	2.ZoneNo./Mng.target	➢page 54
	3.Program timer	➢page 56
	4.Ten.Ho/TimerSp.Day	➢page 60
	5.Prohibit R/C	➢page 61
	6.Distribution time zone	➢page 62
	7.Special distrib. day	➢page 63
	8.I/D unit settings	➢page 64
	9.Other settings	➢page 65
Ⓐ	10.WEB settings	➢page 69
	11.User settings	➢page 72

Ⓐ▭ shows screens protected using "Setting" password.

Ⓑ⬚ shows screens protected using "Distribution" password.

Ⓒ⬚ shows screens protected using "Operation" password. (Only the soft-remote controller is protected. The status is visible.)

5 Quick Reference

Menu List

Listed are only typical functions.

How to operate air conditioners

Operating all units collectively desired	→ 6.4.1.3 Operating all connected units	☞ Page 34
Operating units individually desired	→ 6.4.1.1 Operating units individually	☞ Page 32
Operating units by tenant desired	→ 6.4.1 Displaying general information by tenant	☞ Page 31
Operating units by zone desired	→ 6.4.3 Displaying general information by zone	☞ Page 36
Varying operation modes desired	→ 6.4.1.1 Operating units individually	☞ Page 32
Varying setting temperatures desired	→ 6.4.1.1 Operating units individually	☞ Page 32
Resetting filter signs desired	→ 6.4.1.1 Operating units individually	☞ Page 32
Varying fan direction and speed	→ 6.4.1.1 Operating units individually	☞ Page 32
Prohibiting remote controlling desired	→ 6.4.1.1 Operating units individually	☞ Page 32

Monitoring status of air conditioner operation

Monitoring status of inspection signs desired	→ 6.7.1 Checking inspection signs	☞ Page 49
Monitoring operation status collectively desired	→ 6.4.5 Displaying and operating all indoor units	☞ Page 38
Checking the alarm history desired	→ 6.7.2 Checking the alarm logs	☞ Page 50
Checking current and past total calculation times desired	→ 6.5.1 Displaying total data by indoor unit	☞ Page 39
Checking current and past distribution ratios and energy consumption desired	→ 6.6.1 Displaying distribution ratios and energy usage by indoor unit	☞ Page 46

Setting the system

Changing the unit names desired	→ 6.3.3 Setting central addresses, unit names and tenant numbers	☞ Page 24
Changing tenant names desired	→ 6.3.4 Setting tenant names and distribution groups	☞ Page 26
Changing zone names desired	→ 6.8.1 Registering zone names	☞ Page 53
Adjusting dates and times desired	→ 6.3.2 Setting the date, cut-off date, and distribution ratio calculation method	☞ Page 22
Changing type of pulse meter (power meter or gas meter)	→ 6.3.5 Making pulse meter settings	☞ Page 28
Setting timer operation desired	→ 6.8.3 Programming timers	☞ Page 56
Setting security displayed on the screen desired	→ 6.8.9.2 Registering passwords	☞ Page 66
Stopping or sounding the buzzer	→ 6.8.9.4 Buzzer sounds	☞ Page 66

Others

Backing up PC cards desired	→ 6.5.5.4 Restoring data	☞ Page 45
Powering off Intelligent Controllers desired	→ 6.8.9.8 Power off button	☞ Page 68
Outputting distribution in progress desired	→ 6.5.5.3 Outputting distribution data in progress	☞ Page 44
Printing desired	→ 9. Printing	☞ Page 82
Calibrating touch panel deviations	→ 6.8.9.7 Calibrating touch panels	☞ Page 67

6 Using the System

6.1 Powering the System On

Check the wiring, (air conditioners, communication adaptors, etc.) and then turn the power switch on (see page 12). The system starts automatically.
When the system is powered on for the first time, about 10 minutes are required for the normal system screen to appear. Wait until it appears.

6.2 Names and Functions of Screen Parts

6.2.1 Initial communications screen

The figure below shows the initial communications screen, which appears when the Intelligent Controller starts.



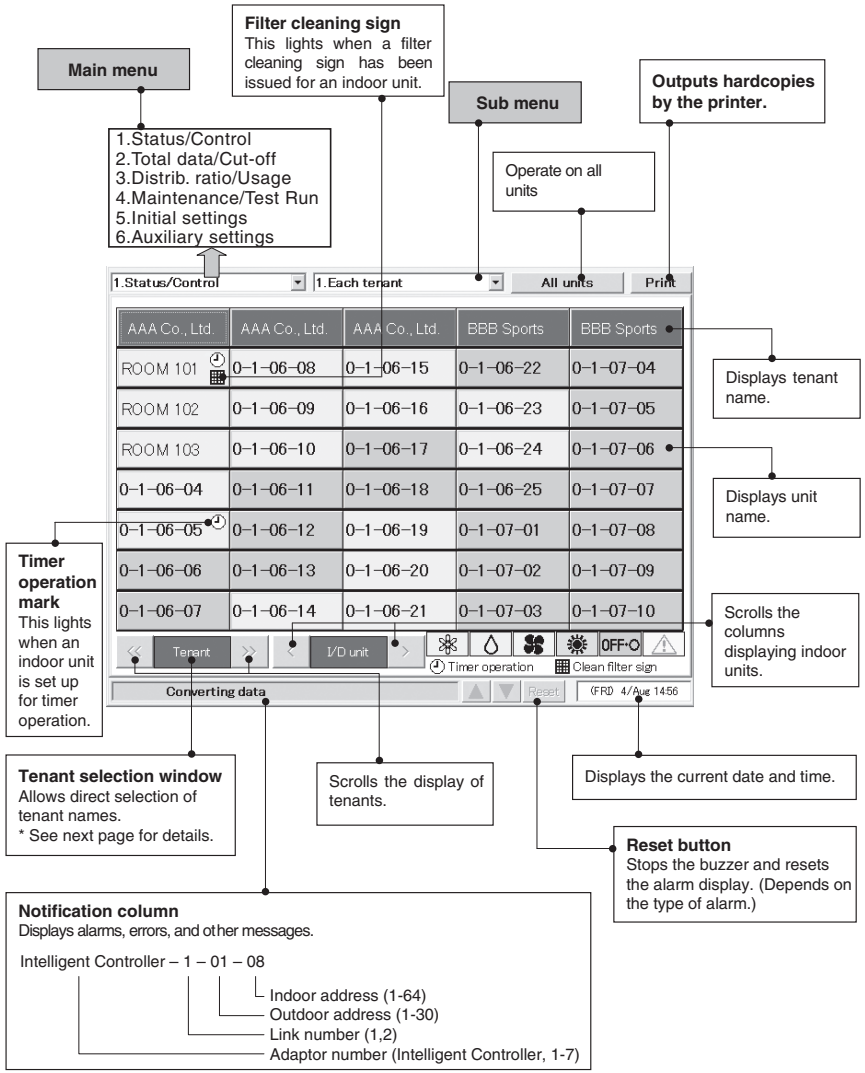
★ System power off procedure ★

Always use the following procedure to power the Intelligent Controller off.

In the “Other settings” menu (Main 6 Sub 9), select the last item, Power off.
⇩
The message “Exit this program?” appears. Press the OK button.
⇩
The message “It is now safe to turn off the Intelligent Controller.” appears (∗). Turn the power off.
(∗ Several minutes may be required before the message appears.)

6.2.2 Operating screen example

The figure below shows a typical operating screen.

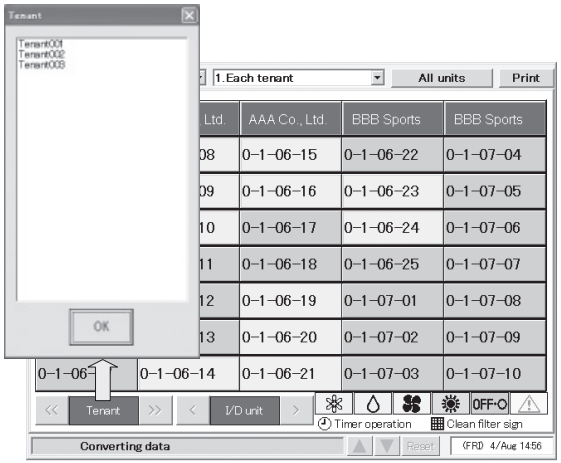


Filter cleaning signs are issued only as approximate guides. We recommend that filters be cleaned regularly, even if no sign has been issued.

* Selection windows

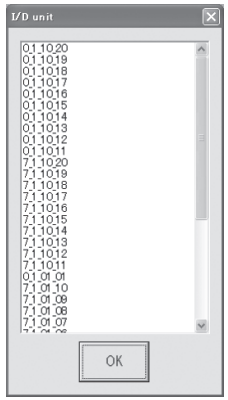
When you touch [Tenant] (or whatever is displayed in blue between the scroll buttons) shown on the previous page, the items available for selection appear in a list as follows, enabling direct selection.

[Tenant] list

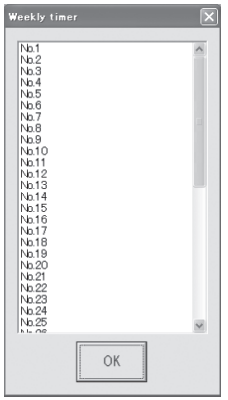


A similar list appears for the other buttons.

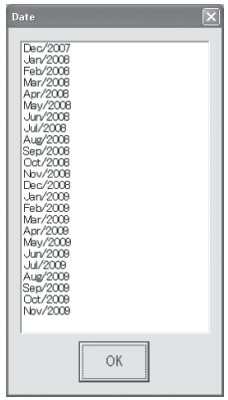
[I/D unit] list



[Weekly timer] list



Tenant holiday [Date] list



6.3 Initial Settings

The items in the “Initial settings” menu (main menu 5) must be set in order to use the Intelligent Controller. Be sure to set these items.
Before making the settings, read the following and decide what kind of information you want to obtain from the system.

(1) Setting central addresses
Central addresses must be set on the “CNTR/Unit/Ten.No.” screen (Main 5 Sub 2).
Be aware that using them along with the system controller, ON/OFF-controller and so on, may affect zone control classification.

(2) Decide whether or not to use distribution ratios. (See “6.3.2 Setting the date, cut-off date, and distribution ratio calculation method”.)
Question: Do you need to display and record **distribution ratios** for each indoor unit and each tenant?
Yes → Select “T/S ON+OFF time” or “T/S ON time” as calculation target of power distribution.
No → Select “No Distrib.” as calculation target of power distribution.

If all you need to do is to monitor air conditioning status, operate the system, and view total data for operating time and so on, you should select “No”. (Information you do not need will not be displayed.)
When you select “No”, the following displays are disabled.
Setting items : Distribution group registration in Main 5 Sub 3.
Display items : Time zones in Main 2 Sub 1 and Main 2 Sub 2.
Menus : Main 3 Sub 1 and Main 3 Sub 2, Main 6 Sub 6, Main 6 Sub 7, and Main 6 Sub 8

(3) If you will be using distribution ratios, decide which **calculation method** to use. (See “6.3.2 Setting the date, cut-off date, and distribution ratio calculation method”.)
Question: Do you need to consider electricity of indoor units?
Yes → Select “T/S ON+OFF time” as calculation target of power distribution.
No → Select “T/S ON time” as calculation target of power distribution.

If pulse (electricity) meters are installed for measuring both indoor and outdoor units, select “T/S ON+OFF time”.
If only outdoor units are measured, select “T/S ON time”.

(4) Pulse meter settings (See “6.3.5 Making pulse meter settings”.)
When you need to display air conditioner distribution ratios for (1) above,
Question: Do you require monthly **energy usage** display?
Yes → Install a pulse meter for each distribution group.
No → Pulse meter installation is unnecessary.
When pulse meters are not set, “0” is displayed for usage.

You can remove connected units from management by this system. For details, see “6.8.2 Setting zone numbers and management targets”.

6.3.1 System setting flow

❍: Settings are necessary.
▲: Settings are necessary depending on circumstances.
×: Settings are unnecessary.

Basic settings are completed by setting items of “❍” one by one in accordance with the system management of the customer.
Items of “▲” need to be set only when making necessary settings and maintenance upon customer request regardless of the said management.

	Air conditioner operation only	Displaying distribution ratios (simple distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
START					
↓					
Main 5 Sub 1 Date/Distrib.					
(1) Setting the current date	❍	❍	❍	❍	❍
(2) Setting the cut-off date	▲ *Note 1*	❍	❍	❍	❍
(3) Calculation target of power distribution	×	❍	❍	❍	❍
(4) Setting the energy saving distribution	×	×	▲ *Note 2*	×	▲ *Note 2*
(5) Language	❍	❍	❍	❍	❍
↓					
Main 5 Sub 2 CNTR/Unit/Ten.No.					
(1) Central addresses *Note 8*	❍	❍	❍	❍	❍
(2) Unit name	❍	❍	❍	❍	❍
(3) Tenant No.	▲ *Note 3*	❍	❍	❍	❍
↓					
Main 5 Sub 3 Ten.name/Distrib.Gr.					
(1) Tenant name	▲ *Note 3*	❍	❍	❍	❍
(2) Distribution group	×	❍	❍	❍	❍
Product type	×	▲ *Note 4*	▲ *Note 5*	▲ *Note 4*	▲ *Note 5*
Distribution “Loaded” or “Simple” *Note 14*	×	×	❍	×	❍
↓					
Main 5 Sub 4 Pulse meter setting					
(1) Pulse meter type	×	×	×	▲	▲
(2) Distribution group	×	×	×	❍	❍
(3) Pulse unit value	×	×	×	❍	❍
(4) Ice heat accumulation night power / system selection	×	×	×	×	❍

6 Using the System

Main 5 Sub 1

		Air conditioner operation only	Displaying distribution ratios (simple distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
↓						
Main 5 Sub 5 Clear accum.data	Note 6	▲ *Note 1*	❍	❍	❍	❍
↓						
Main 6 Sub 1 Zone name	Note 7	▲	▲	▲	▲	▲
↓						
Main 6 Sub 2 ZoneNo./Mng.target	Note 7					
(1) Zone No.		▲	▲	▲	▲	▲
(2) Management target		▲	▲	▲	▲	▲
↓						
Main 6 Sub 3 Program timer						
(1) Daily timer		▲	▲	▲	▲	▲
(2) Weekly timer		▲	▲	▲	▲	▲
↓						
Main 6 Sub 4 Ten.Ho/TimerSp.Day		▲	▲	▲	▲	▲
↓						
Main 6 Sub 5 Prohibit R/C		▲	▲	▲	▲	▲
↓						
Main 6 Sub 6 Distribution time zone		×	▲	▲	▲	▲
↓						
Main 6 Sub 7 Special distrib. day		×	▲	▲	▲	▲
↓						
Main 6 Sub 8 I/D unit setting						
(1) Indoor unit capacity	Note 9	×	▲	×	▲	×
(2) Electric heater capacity		×	×	▲	×	▲
↓	Note 10					
Main 6 Sub 9 Other settings		▲	▲	▲	▲	▲
(1) Checking system configuration						
(2) Set/Clear password						
(3) No-communications mode	Note 11					
(4) Buzzer						
(5) Initialization	Note 12					
(6) Auto display off						
(7) Touch panel calibration	Note 15					
(8) Power off						

6 Using the System

Main 5 Sub 1

		Air conditioner operation only	Displaying distribution ratios (simple distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
↓						
Main 6 Sub 10 WEB settings	Note 17	▲	▲	▲	▲	▲
↓						
Main 6 Sub 11 User settings	Note 17	▲	▲	▲	▲	▲
↓						
Main 2 Sub 5 Cut-off/Data backup						
(1) Manual cut-off	Note 6	×	❍	❍	❍	❍
(2) Data backup	Note 13	▲	▲	▲	▲	▲
(3) Restore	Note 13 and 16	▲	▲	▲	▲	▲
↓						
END						

Note 1 Settings are necessary when you would like to monitor operation accumulated time only and distribution ratio is not needed.
Note 2 Settings are necessary only when air-conditioners include a 3-Way type unit.
Note 3 Make settings even when no distribution is made, if you would like to control units as a bundle of the group of tenants.
Note 4 Settings are necessary only when the indoor unit has a interface adaptor and is set at almighty.
Note 5 Settings are necessary only for the indoor unit set at almighty.
Note 6 Immediately before delivery, execute “Clear accum.data” to clear total data taken during test runs. When clearing the test run data after storing it, make “Cut-off” (Main 2 Sub 5) manually.
Note 7 Make the settings when you would like to operate the unit by optional grouping.
Note 8 When using the unit along with the system controller or ON/OFF-controller, the controller-side control classification needs to be taken into consideration. The system controller or ON/OFF-controller-side zone varies as varying central addresses from the Intelligent Controller.
Note 9 Settings are necessary only for interface adaptor.
Note 10 Settings are unnecessary for the simple distribution as they will be taken into consideration in calculation only for the loaded distribution.
Note 11 Always set the mode at “NO (Normal)”.
Note 12 Do not make any initialization imprudently as it may cause missing of all the set and cut-off data.
Note 13 The system works only with the backup PC card inserted, which is separately available.
Note 14 Always manually make the cut-off processing in advance to vary the method of distribution.
Note 15 Although the touch panel is adjusted before factory shipment, calibrate deviations if any.
Note 16 Do not restore any data imprudently as it may return them to their backed-up status.
Note 17 Settings are necessary when you would like to control/monitor the unit via network.

Main 5 Sub 1

6.3.2 Setting the date, cut-off date, and distribution ratio calculation method

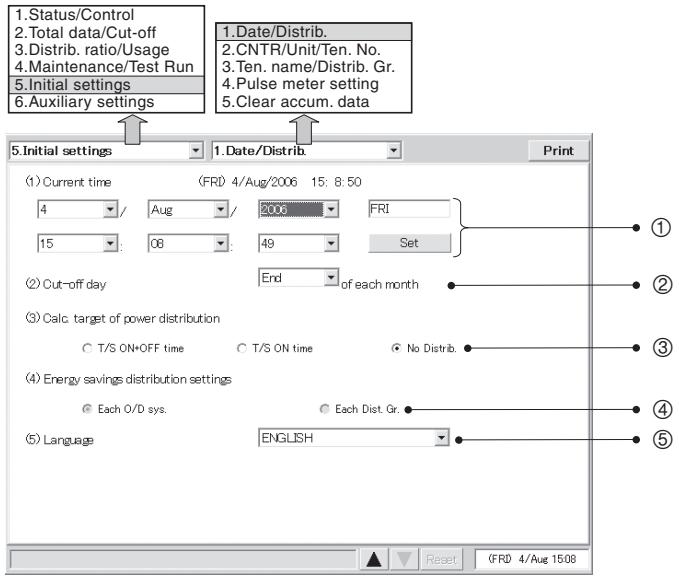
Use this screen to set the current date and time, and make settings related to time.
These settings are needed for program timers and distribution ratio calculation, **so be sure to make them before starting operation of the system**.

Procedure

Select 5.Initial settings in the main menu and 1.Date/Distrib. in the sub menu, then proceed as follows.

① Set the current date and time.
Under "(1) Current time", select the current year, month, day, hour, minute, and second from the drop-down lists(▼).
The day of the week is shown automatically.
Press the Set button to set the settings.

② Set the monthly cut-off day.
Under "(2) Cut-off day", select a number from 1 to 28 or End (to select the last day of the month) from the drop-down list(▼).



If the time set is ahead of the current time, the program timer set in that period becomes invalid and transmission is not performed.

Main 5 Sub 1

③ Select the calculation target of power distribution.
(3) Select T/S ON+OFF time, T/S ON time, or No Distrib.
- T/S ON + OFF time
  To be selected when taking power both for the outdoor and indoor units to make distribution calculation.
- T/S ON time
  To be selected when taking power only for the outdoor unit to make distribution calculation.
- No Distrib.
  To be selected when distribution calculation for gas and electricity is unnecessary.

④ Select the energy savings distribution settings.
(4) Select Each O/D sys. or Each Dist. Gr..
This item cannot be selected when No Distrib. has been set for "(3) Calc. target of power distribution".
Select a range where the energy savings effect in 3 WAY units can be reflected on the distribution calculation.
- Each O/D sys.
  The energy savings operation in 3 WAY units is reflected only on the air conditioning distribution for the tenant for the outdoor system.
- Each Dist.Gr.
  The energy savings operation in 3 WAY units is reflected on air conditioning distributions for all the tenants in the overall distribution group including them.
  (However, this is effective only when plural distribution groups have been set.)

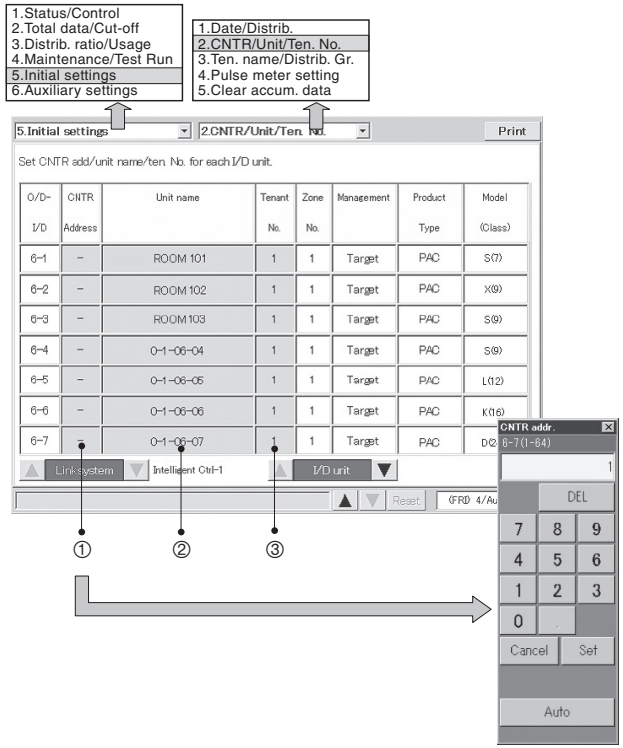
⑤ In the Language pull-down menu (5), select the language you would like to use.

6.3.3 Setting central addresses, unit names and tenant numbers

Use this screen to set central addresses, names of units connected to the system and tenant numbers.

Procedure

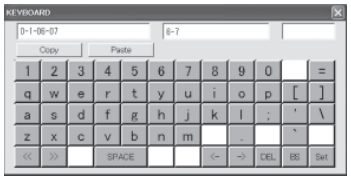
Select 5.Initial settings in the main menu and 2.CNTR/Unit/Ten. No. in the sub menu, then proceed as follows.



① When you touch a central address column, a screen will be displayed as shown on the right.
Input a number 1 to 64 to set central address.
When you touch [Auto], the central address will be automatically set.

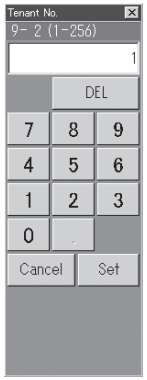
Two identical central address settings cannot be used within a link system. If you input an existing address, the input data is cancelled.
It may take several minutes before the central address settings are reflected in the display.
When other central controllers (system controller, etc.) are connected, it is recommended to set the central addresses on those units.

② Touch an unit name column. A keyboard window like the one shown below appears.
Use the keyboard to enter an unit name. Unit names can be up to 12 characters long.



* See “7 Entering Text and Numbers” for details about entering text in keyboard windows.
* You can copy and paste text using the [Copy] and [Paste] buttons. See “7.2 Entering Text” for details.

③ Touch a tenant number.A keyboard window like the one shown below appears. Use the keyboard to enter the tenant number.



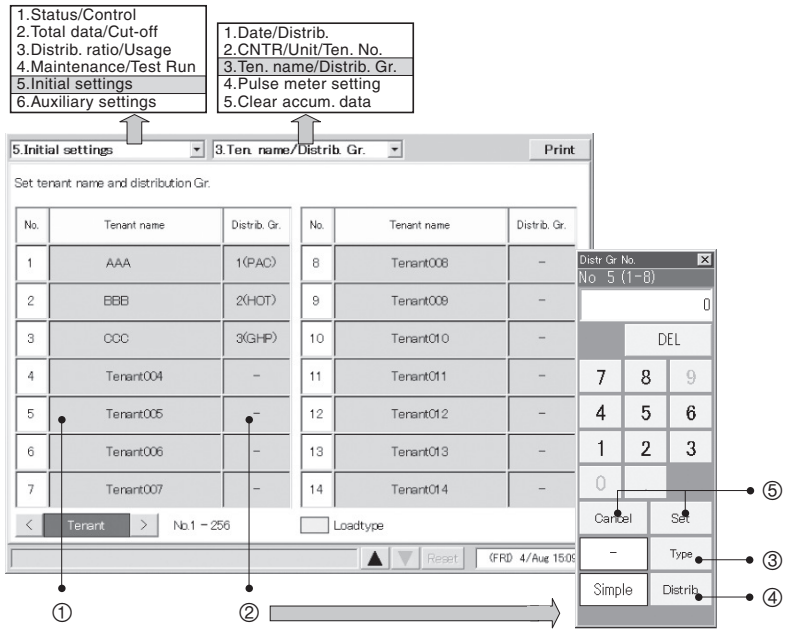
*** The tenant number range is from 1 to 256.**

6.3.4 Setting tenant names and distribution groups

Use this screen to set tenant names and distribution groups.
You can also use this screen to set the product type (PAC, GHP, HOT, etc.) of indoor units.

Procedure

Select 5.Initial settings in the main menu and 3.Ten. name/Distrib. Gr. in the sub menu, then proceed as follows.



① Touch a tenant name. A keyboard window appears. Use the keyboard to enter the tenant name.
Tenant names can be up to 20 characters long.

* See “7 Entering Text and Numbers” for details about entering text on software keyboards.

* The tenant number range is from 1 to 256.

② Touch a distribution group. A keyboard window like the one shown above appears. Use the keyboard to enter a distribution group number and to select the product type from among PAC, GHP and HOT. Select “Simple” or “Load” in the distribution methods.

* Refer to “10. Calculating air conditioner distribution” for details.
The tenant set at “Load” distribution will have its “No” box display in light blue.

* The distribution group number range is from 1 to 8.

* This button is invalid when “No Distrib.” has been set. (Refer to Main 5 Sub 1)

* The distribution group column set at loaded distribution has no product type such as “PAC” and “GHP” displayed.

* Make manual cut-off in advance to change the distribution method.

③ Press the Type button to select “PAC” or “GHP” for the following unit that is unable to automatically recognize product type.
- Interface Adaptor
This is only for “Simple distribution” setting.

④ Specify which distribution method, “Simple” or “Load,” to apply to the selected distribution group.

⑤ Touch Set to confirm the setting, or Cancel to cancel it.

- PAC, GHP, and HOT cannot be mixed in the same group. Set up a separate distribution group for each type.
- HOT multi units cannot be recognized automatically (they are recognized as PAC). Manually set the product type to HOT.
- HOT Tenants cannot be set at the “Load” distribution.
- “Load” distribution tenants cannot be set at “HOT”.
- Air conditioners unadaptable to loaded distribution cannot be set at “Load” Distribution.
- Interface Adaptors are also unadaptable to loaded distribution.

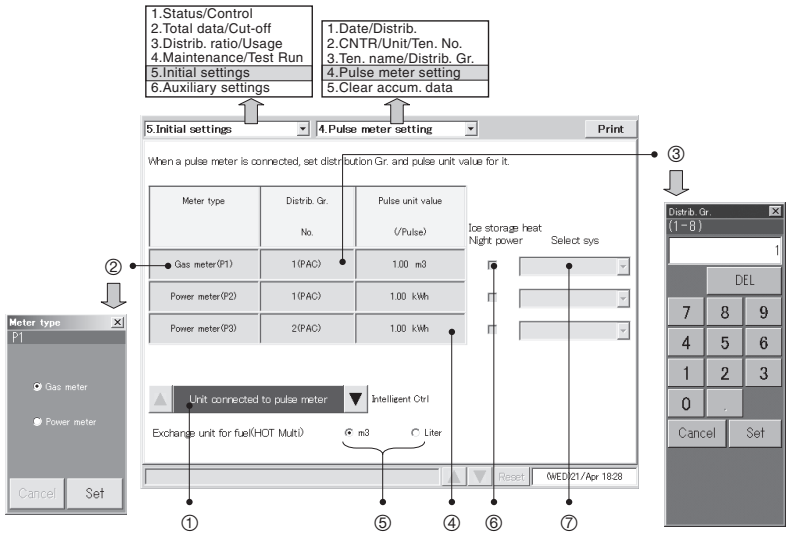
Main 5 Sub 4

6.3.5 Making pulse meter settings

If you have connected pulse meters, use this screen to set the target distribution groups and the amount of electricity or gas per pulse.

Procedure

Select 5. Initial settings in the main menu, and 4. Pulse meter setting in the sub menu.



① Select the pulse meter connection destination.

② You can change the type of pulse meter (power meter or gas meter). The above indicates the factory default state. When you touch the Meter type area, the Meter type window appears so that you can select the type of pulse meter to use.

③ Touch a distribution group number. A numeric keypad appears for the distribution group. Use the keyboard to enter the distribution group number.

* The distribution group number range is from 1 to 8.

* The distribution group buttons are disabled when you have chosen not to perform distribution rate calculations (see Main 5 Sub 1).

④ Touch the pulse unit amount column and enter the amount of electricity (kWh) or gas (m^3) per pulse.

⑤ If the product type is HOT Multi, select the unit for fuel metering.

⑥ Select this check box for ice heat accumulation night power meters. (Enabled during loaded distribution setting only.)

* This cannot be set for electricity meters configured for use with HOT Multi or simple distribution.

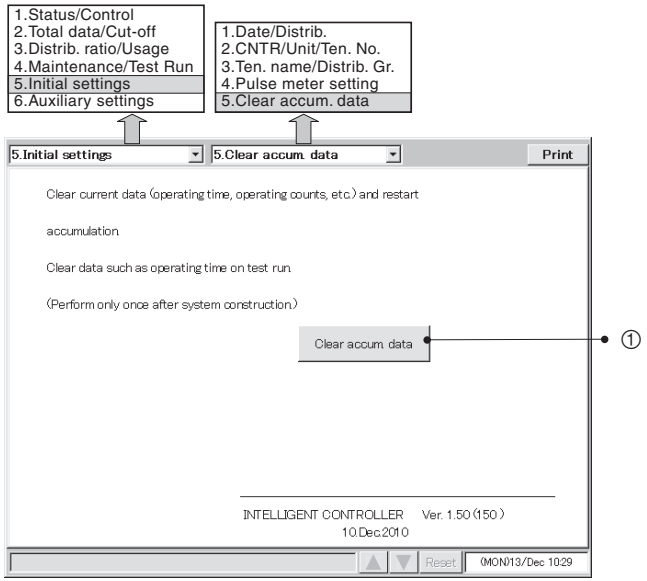
⑦ For the night power meter set in ⑥, select which outdoor system to meter ice heat accumulation by selecting the address.

6.3.6 Clear accumulation data

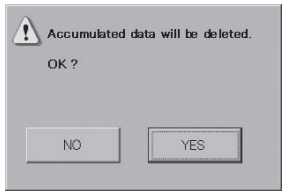
Use this screen to erase total data after test runs, and to restart total calculations for operating time, operating counts, and so on.

Procedure

Select 5.Initial settings in the main menu and 5.Clear accum. data in the sub menu, then proceed as follows.



① Touch Clear accum. data.
A window like the following appears.



Touch Yes. Total data up to now is erased, and calculation of total operating time restarts.

6.4 Status Monitoring and Operation Screens

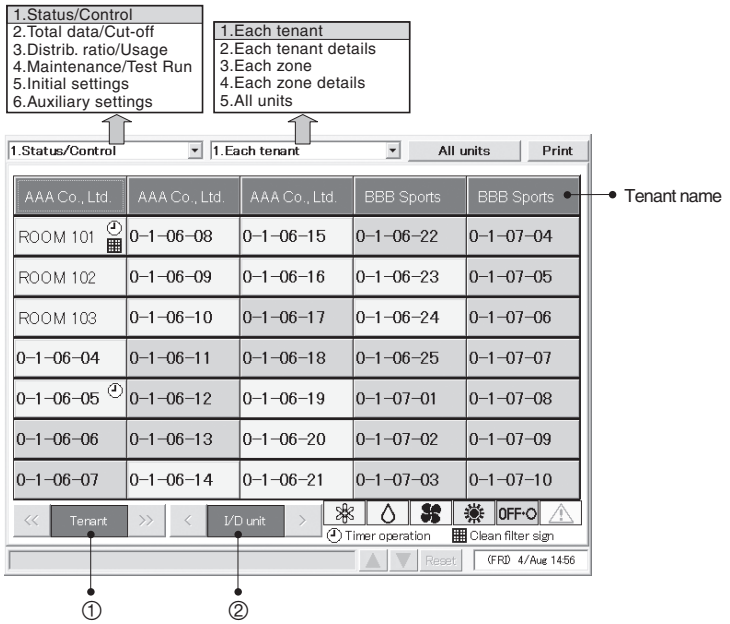
6.4.1 Displaying general information by tenant

Use this screen to display information about all connected indoor units by tenant.

Procedure

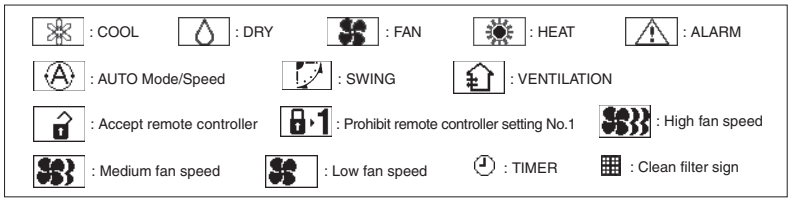
Select 1.Status/Control in the main menu and 1.Each tenant in the sub menu.

The indoor units for each tenant are displayed.



① Scrolls the display one tenant at a time.
② Scrolls the display one row at a time.

Meaning of symbols



"---" is displayed in the tenant name row for indoor units not registered to a tenant.
The first 12 characters are displayed for tenant names and unit names.
If an Interface Adaptor is used, the color becomes light purple during the ON operation.

Main 1 Sub 1

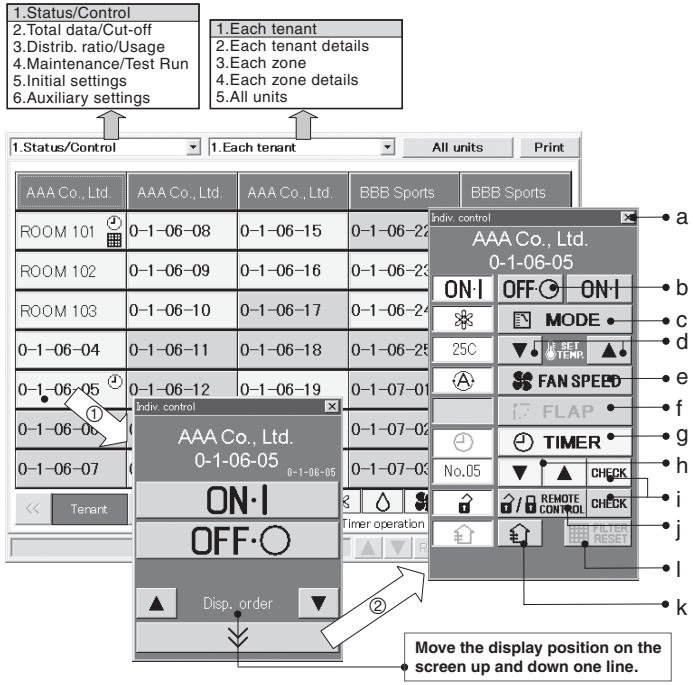
6.4.1.1 Operating units individually

Use this screen to operate individual indoor units.

Procedure

Select 1.Status/Control in the main menu and 1.Each tenant in the sub menu.

① When you touch the unit that you want to set, a remote control window for individual on/off operations appears.
② When you touch ⌄⌄, a remote control window appears. This window allows you to make detailed settings for operations on individual units.



a. Closes the remote control window.
b. Sets to either Start or Stop.
c. Sets the operating mode.
d. Set the temperature.
e. Sets the fan speed.
f. Sets the fan direction. This setting is applied to the entire group. You cannot change the sub unit setting independently.
g. Sets and cancels timer operation.
h. Sets timer number from No. 1 to No. 50.
i. Displays a window that allows you to check timer setting status and remote control prohibition status.
j. Displays one of “Prhbt1/ Prhbt2/ Prhbt3/ Prhbt4/ Accept”.
k. Turns the ventilation function ON and OFF. (You cannot press the button when air conditioners have no ventilation functions).
l. Resets filter cleaning signs.

- For multiple units, the operation mode for one unit may not be varied while another indoor unit is under operation. In such a case, once stop the unit, hold it for several minutes, and then vary the operation mode.
- In the remote control window, the first 16 characters for tenant names and the first 12 characters for unit names are displayed.

Main 1 Sub 1

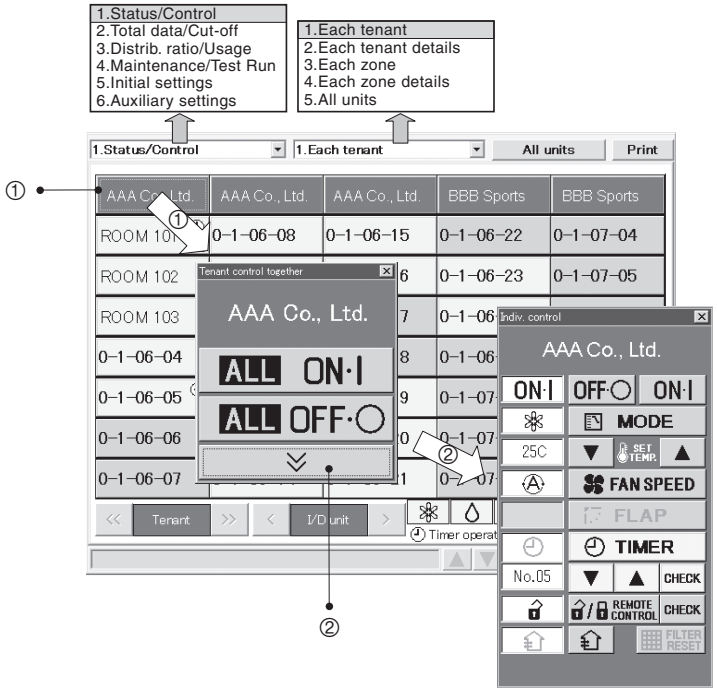
6.4.1.2 Operating all units by tenant

Use this screen to operate all connected indoor units of each tenant.

Procedure

Select 1.Status/Control in the main menu and 1.Each tenant in the sub menu.

① When you touch a tenant name, a remote control window appears. This window allows you to perform on/off operations for all units of the tenant.
② When you touch ⌄⌄, a remote control window appears. This window allows you to make detailed settings for operations on all units of the tenant.



6 Using the System

Main 1 Sub 1

6.4.1.3 Operating all connected units

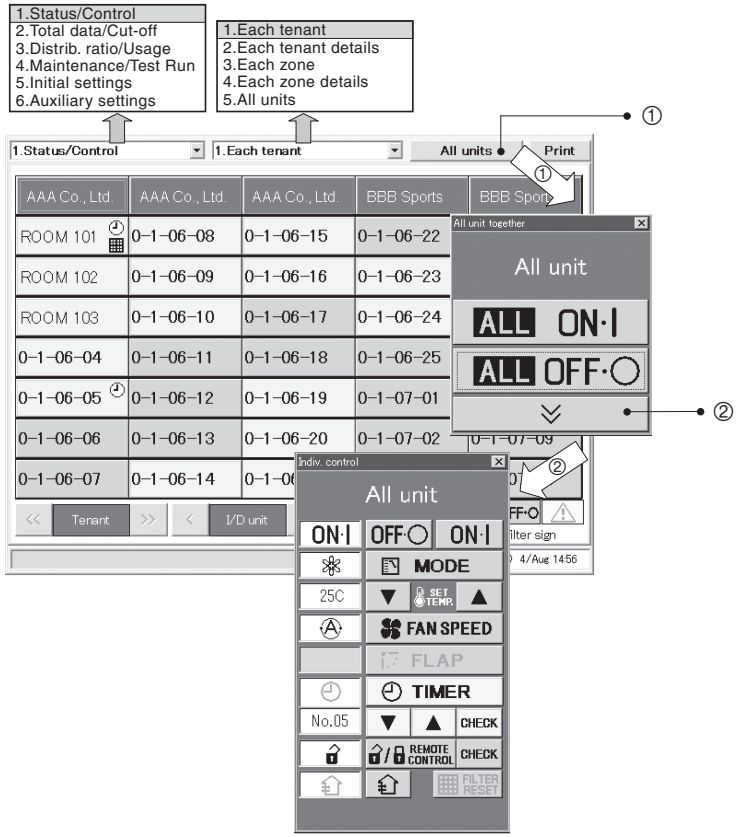
Use this screen to operate all connected indoor units.

Procedure

Select 1.Status/Control in the main menu and 1.Each tenant in the sub menu.

① When you touch All units, a remote control window appears. This window allows you to perform on/off operations for all connected units.

② When you touch ⩛, a remote control window appears. This window allows you to make detailed settings for all connected units.



6 Using the System

Main 1 Sub 2

6.4.2 Displaying detailed information by tenant

Use this screen to display detailed settings and operating for each tenant.

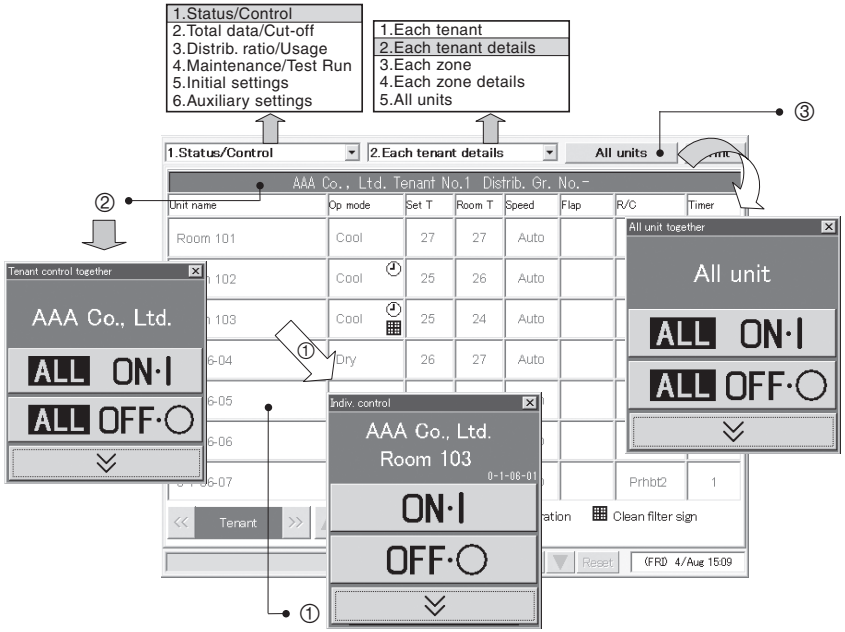
Procedure

Select 1.Status/Control in the main menu and 2.Each tenant details in the sub menu.

① When you touch a unit name, a remote control window for individual operations appears.

② When you touch a tenant name, a remote control window for operating all tenant units appears.

③ When you touch All units, a remote control window for operating all connected units appears.



Main 1 Sub 3

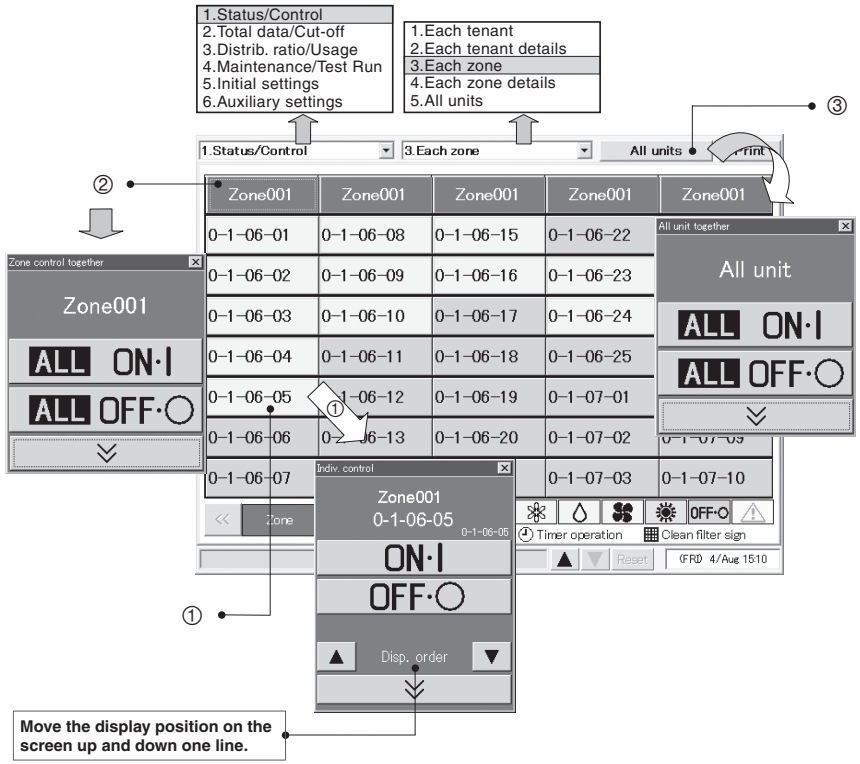
6.4.3 Displaying general information by zone

Use this screen to display the state of all units in a zone and to operate those units.

Procedure

Select 1.Status/Control in the main menu and 3.Each zone in the sub menu.

① When you touch a unit name, a remote control window for individual operations appears.
② When you touch a zone name, a remote control window for operating all units in the zone appears.
③ When you touch All units, a remote control window for operating all connected units appears.



The first twelve characters are displayed for zone names and unit names.

Main 1 Sub 4

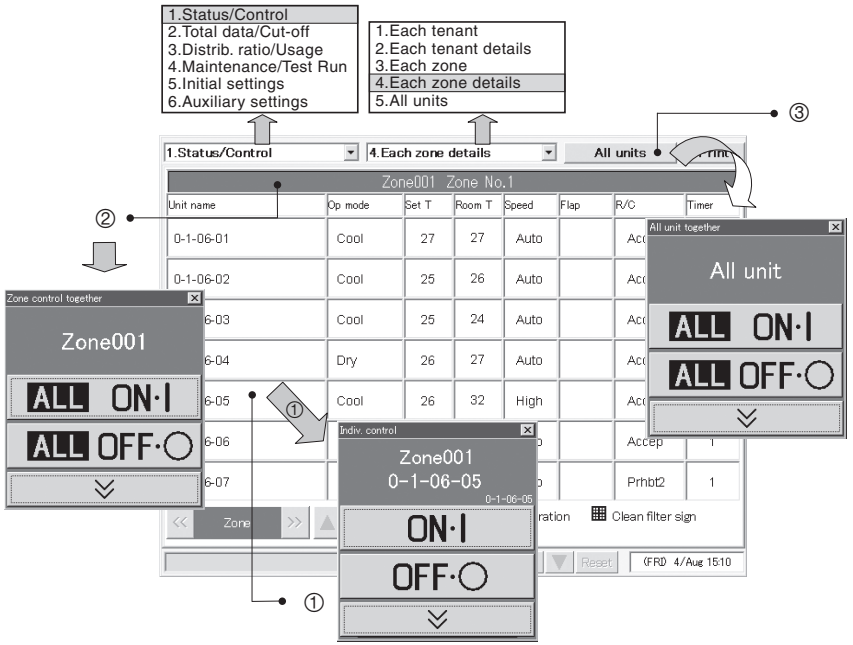
6.4.4 Displaying detailed information by zone

Use this screen to display detailed settings and operating for each zone.

Procedure

Select 1.Status/Control in the main menu and 4.Each zone details in the sub menu.

① When you touch a unit name, a remote control window for individual operations appears.
② When you touch a zone name, a remote control window for operating all units in the zone appears.
③ When you touch All units, a remote control window for operating all connected units appears.



6.4.5 Displaying and operating all indoor units

Use this screen to display information about the state of all indoor units and to operate all indoor units at once.

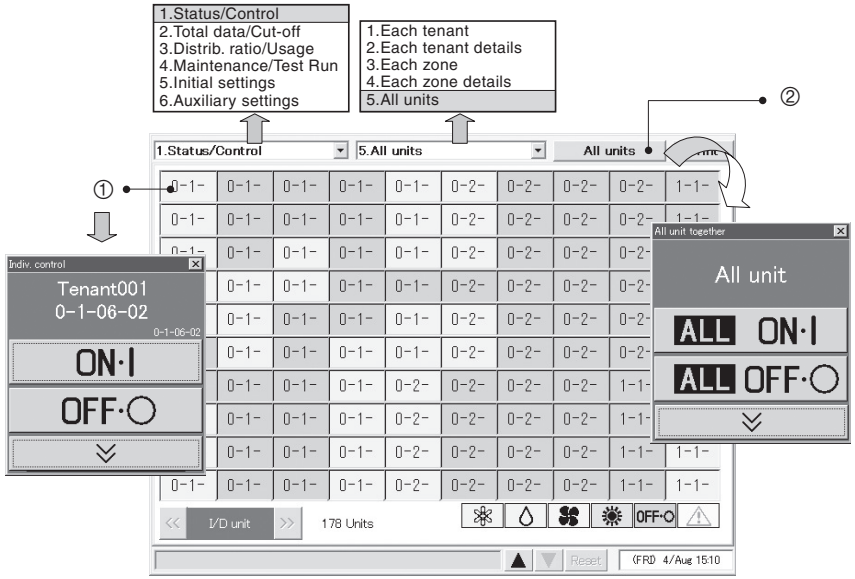
Procedure

Select 1.Status/Control in the main menu and 5.All units in the sub menu.

One screen displays up to 100 indoor units in order of their tenant. The units can be operated individually or all at once.

① When you touch a unit name, a remote control window for individual operations appears.

② When you touch All units, a remote control window for operating all connected units appears.



The first four characters are displayed for unit names.

6.5 Total Data and Manual Cut-Off Processing

6.5.1 Displaying total data by indoor unit

Use this screen to check total data such as the operating time and the number of operations for each indoor unit.

Procedure

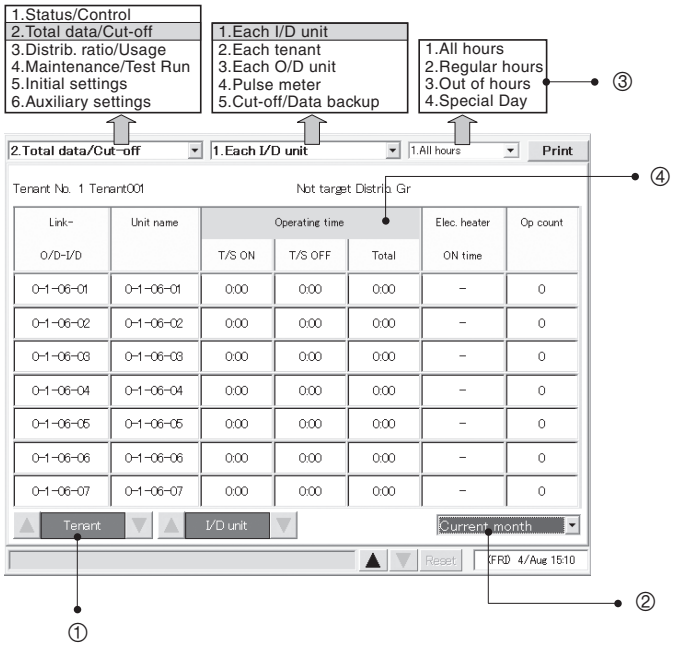
Select 2.Total data/Cut-off in the main menu and 1.Each I/D unit in the sub menu.

① Selects the tenant to display.

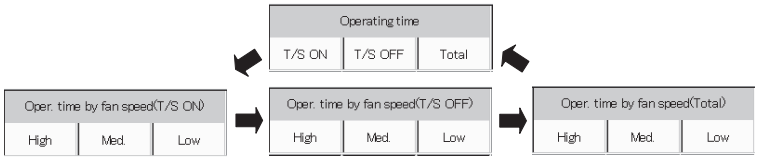
② Selects either the current or the past (maximum 24 months) cut-off data.

③ Selects the time zone to display.

* This button will be invalid when setting the mode at “No Distrib.”. (see Main 5 Sub 1)



④ If you want to display operating time by fan speed, touch Operating time. The display changes as shown below.



6.5.2 Displaying total data by tenant

Use this screen to check total data such as the operating time and the number of operations for each tenant.

Procedure

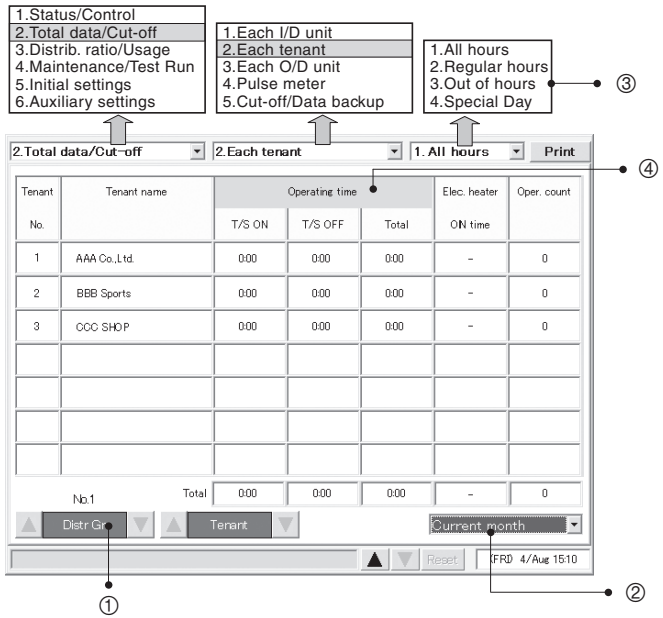
Select 2.Total data/Cut-off in the main menu and 2.Each tenant in the sub menu.

① Selects the distribution group to display.

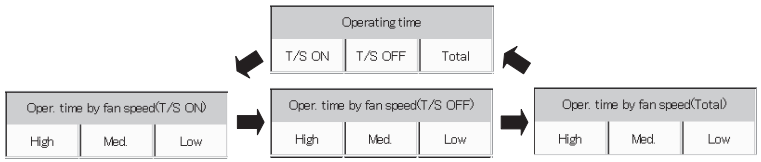
② Selects either the current or the past (maximum 24 months) cut-off data.

③ Selects the time zone to display.

* This button will be invalid when setting the mode at “No Distrib.”. (see Main 5 Sub 1)



④ If you want to display operating time by fan speed, touch Operating time. The display changes as shown below.



6.5.3 Displaying total data by outdoor unit

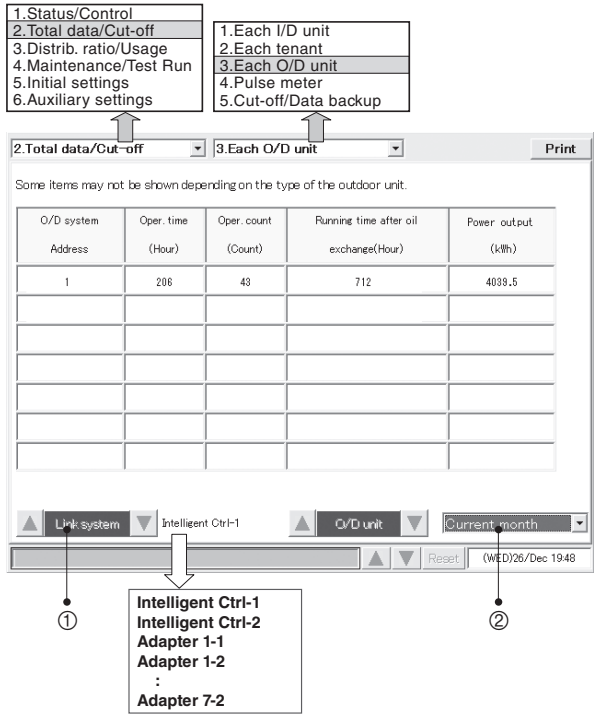
Use this screen to check total data such as the operating time and the number of operations for each outdoor unit.

Procedure

Select 2.Total data/Cut-off in the main menu and 3.Each O/D unit in the sub menu.

① Selects the connection destination link system to display.

② Selects either the current or the past (maximum 24 months) cut-off data.



- You should make frequent checks of the running time after oil exchanges. When the time approaches for an oil exchange, contact your dealer or service provider to request an early oil exchange. The engines of GHP type outdoor unit can be damaged by operation without exchanging the oil.
- For double multiple models comprising two or more outdoor units with the same address, data with a typical unit are displayed.
- Depending on the model of the outdoor unit, some items may not be displayed.
- Monthly values are displayed for “Operating time” and “Operating count”. (The values reset to “0” after cut-off processing.)
- Cumulative values from the starting point are displayed for “Running time after oil exchange (Hour)” and “Power output (kWh)”. (The values do not reset to “0” even after cut-off processing.)

6.5.4 Displaying pulse meter total data

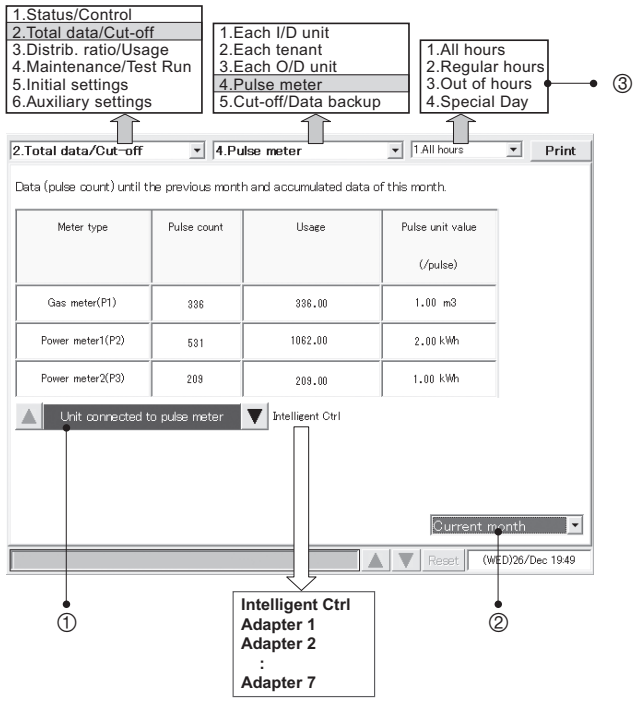
Use this screen to check the pulse count and other such cumulative data for pulse meters.

Procedure

Select [2. Total data/Cut-off] in the main menu, and [4. Pulse meter] in the sub menu.

① Selects the pulse meter connection destination.
② Selects either the current or the past (maximum 24 months) cut-off data.
③ Selects the time zone to display.

* This button will be invalid when setting the mode at "No Distrib.". (see Main 5 Sub 1)



If the product type is HOT Multi, unit amount will be displayed in m^3 or liters. The meter type will be "fuel metering".

6.5.5 Performing manual cut-off processing and saving data

Use this screen to perform manual cut-off processing, and to back up setting and total data to optional PC Cards.

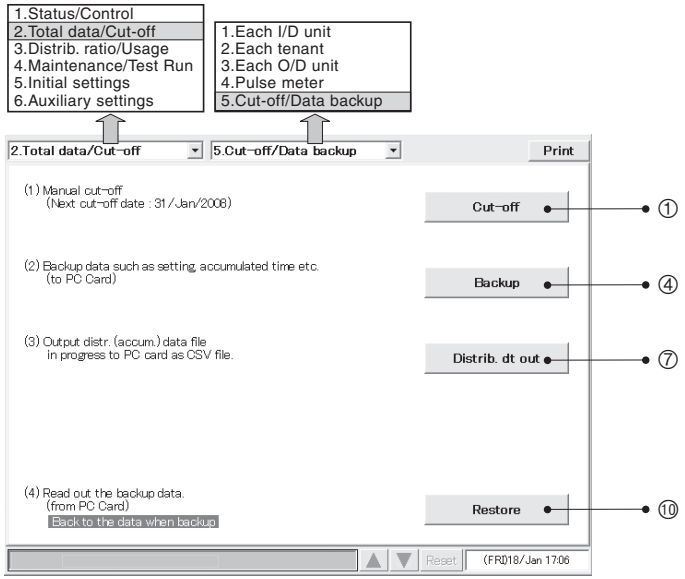
6.5.5.1 Manual cut-off processing

Proceed as follows to manually perform cut-off processing.

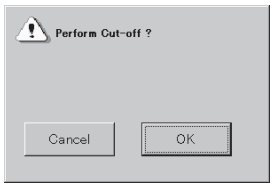
Procedure

Select [2.Total data/Cut-off] in the main menu and [5.Cut-off/Data backup] in the sub menu.

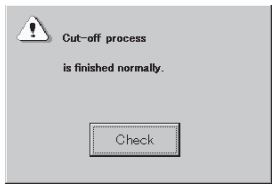
① Touch [Cut-off].



② When a window like the one shown below appears, touch the [OK] button.



③ When a window like the one shown below appears, touch the [Check] button.



6.5.5.2 Saving data

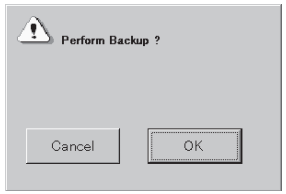
Proceed as follows to back up setting data and totals data to optional PC Cards.

Procedure

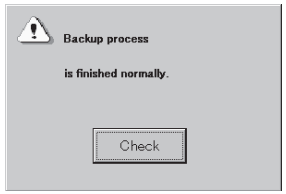
Complete the cut-off processing described in “6.5.5.1 Manual cut-off processing” and then execute the following backup procedure.

④ Insert a PC card and touch the [Backup] button.

⑤ When a window like the one shown below appears, touch the [OK] button.



⑥ When a window like the one shown below appears, touch the [Check] button.



* When keeping the PC card inserted in a unit, data therein are automatically backed up once a day (at every 0 o’clock at midnight).

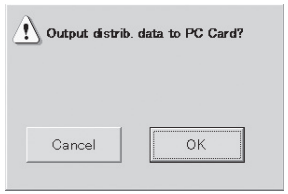
6.5.5.3 Outputting distribution data in progress

Save distribution data (total data) in progress before cut-off processing in PC cards (optionally available) following the procedure stated below.

Procedure

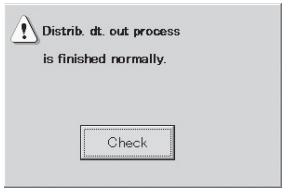
⑦ Insert a PC card and touch the [Distrib. dt out] button.

⑧ When a screen like the one shown below appears, touch the [OK] button.



As data output by pressing the [Distrib. dt out] button are strictly in progress, it is impossible to apply these data for cut-off processing for the tenant who leaves halfway. (Manual cut-off processing is necessary).

⑨ When a screen like the one shown below appears, touch the [Check] button.



[File form]
A file name is fixed as follows according to the year, month, and date when the distribution data output was carried out.

20060316A.csv (Example of a file output on March 16, 2006)

When outputting repeatedly on the same day, the last “A” varies as B, C, D, and so forth.
(Outputting is possible up to 26 times a day).
Data composition in the file is the same as that in a cut-off processing file.

[Caution]
Distribution data files are stored in the “Data” folder.
Copy output distribution data files to your PC and then delete them from the PC card.
When distribution data files are too many, normal backups of cut-off data may become impossible.

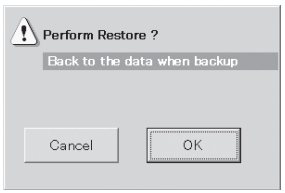
6.5.5.4 Restoring data

Proceed as follows to restore setting data and total data from optional PC Cards.

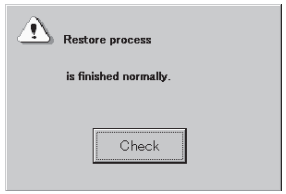
Procedure

⑩ Insert a PC card and touch the [Restore] button.

⑪ When a window like the one shown below appears, touch the [OK] button.



⑫ When a window like the one shown below appears, touch the [Check] button.



* When trying to restore data backed up using an old-version Intelligent Controller, a message “Unsupported file version. Perform Restore?” will be displayed; confirm the message and touch “Yes”.
After completing restoring, “Rebooting.” will be displayed and then touch “OK”. The data restored will be effective after rebooting. (After “Converting data” is displayed for a while, the system will automatically reboot again.)

* Everyday, at 23:30 to 00:00, cut-off processing take place, when you cannot press the [Restore] button.

Use the special optional PC Cards to back up and restore Intelligent Controller data. For details about using PC Cards, refer to the instructions of the PC Cards.
Depending on the amount of data, backup and restore operations may require up to 15 minutes.

6.6 Air Conditioning Distribution Ratios and Energy Usage

6.6.1 Displaying distribution ratios and energy usage by indoor unit

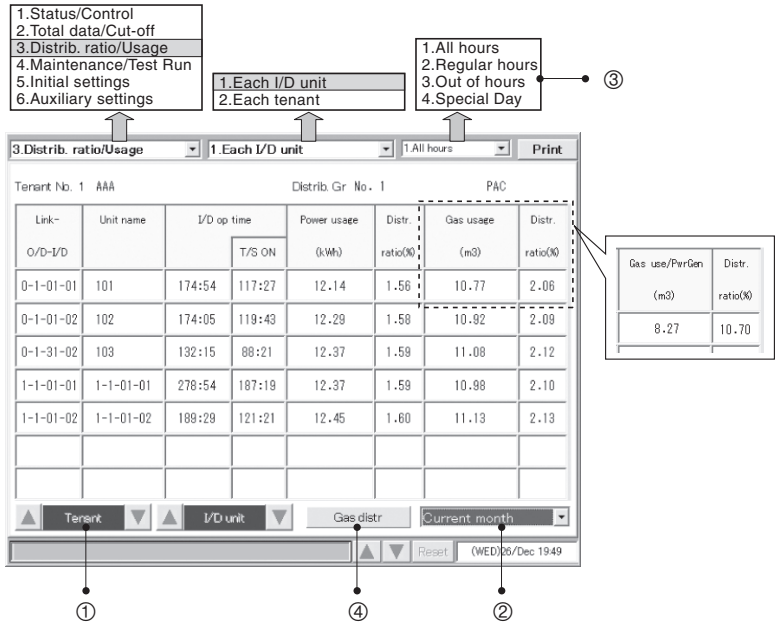
Use this screen to check the distribution ratios and energy usage of indoor units.

Procedure

Select 3.Distrib. ratio/Usage in the main menu and 1.Each I/D unit in the sub menu.

*When “No Distrib.” is selected, this screen is not accessible. (see Main 5 Sub 1)

① Selects the tenant to display.
② Selects either the current or the past (maximum 24 months) cut-off data.
③ Selects the time zone to display.
④ Switches the gas distribution ratio and gas usage display between values for air conditioning and values for power generation.
When “Gas usage” is displayed: Gas distribution ratios and usage for air conditioning are shown.
When “Gas use/PwrGen” is displayed: Gas distribution ratios and usage for power generation are shown.
For air conditioning units without a power generation feature, “ – ” appears under gas usage for power generation and gas distribution ratio.



- If the product type is HOT Multi, unit amount will be displayed in m^3 or liters.
- If no pulse meter is connected, power usage and gas usage are not displayed.
- Gas usage and distribution ratios are not displayed for PAC units.

6.6.2 Displaying distribution ratios and energy usage by tenant

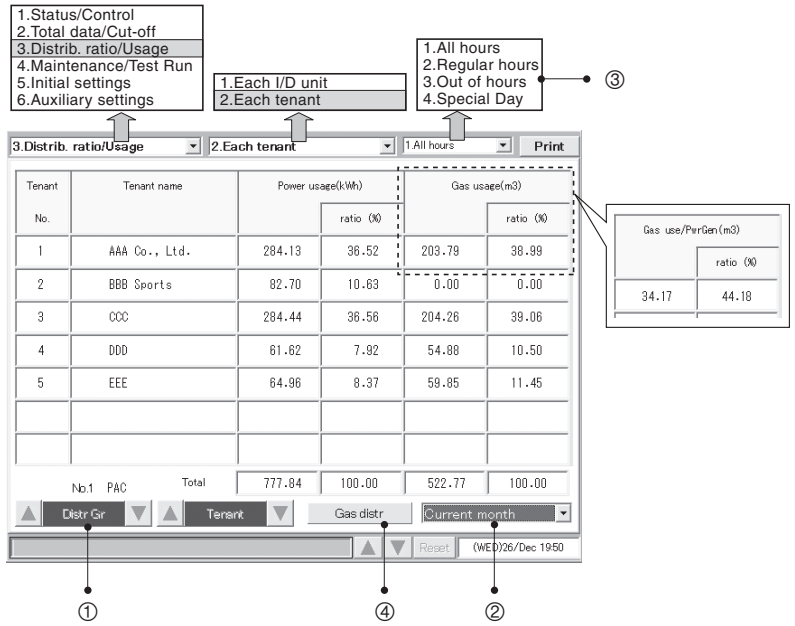
Use this screen to check the distribution ratios and energy usage by tenant.

Procedure

Select 3.Distrib. ratio/Usage in the main menu and 2.Each tenant in the sub menu.

*When “No Distrib.” is selected, this screen is not accessible. (see Main 5 Sub 1)

① Selects the distribution group to display.
② Selects either the current or the past (maximum 24 months) cut-off data.
③ Selects the time zone to display.
④ Switches the gas distribution ratio and gas usage display between values for air conditioning and values for power generation.
When “Gas usage” is displayed: Gas distribution ratios and usage for air conditioning are shown.
When “Gas use/PwrGen” is displayed: Gas distribution ratios and usage for power generation are shown.
For air conditioning units without a power generation feature, “ – ” appears under gas usage for power generation and gas distribution ratio.



- If the product type is HOT Multi, unit amount will be displayed in m^3 or liters.
- If no pulse meter is connected, power usage and gas usage are not displayed.
- Gas usage and distribution ratios are not displayed for PAC units.

6.6.3 Time zone totals and distribution

The Intelligent Controller provides functions for recording total operating time and calculating distribution ratios for four time zones: All hours, Regular hours, Out of hours, and Special days. When using these functions, be aware of the following points.

■ Margin of error in time zone operating totals

The intelligent controller acquires operating time data accumulated by individual indoor units via communication adaptors. The Intelligent Controller itself has an internal communication adaptor function.

When the Intelligent Controller requests data from a communication adaptor, the adaptor queries indoor units for their operating time data, and forward it to the Intelligent Controller after all totals have been calculated.

For this reason, there is a margin of error of up to several minutes that may arise in count totals around the transitions from one time zone to another. For example, cases such as the following are possible.

Case 1) Indoor units are stopped at the exact end of the Regular hours time zone (or immediately before the end of the zone). For this reason, several minutes are counted in the Out of hours total.

Case 2) Indoor units are operated for the same length of time before and after the transition from Regular hours to Out of hours, but the totals for the two zones are not the same.

■ Note about daily timer settings

For communications reasons, there is a slight delay before units can be stopped by a timer. Therefore you should avoid setting timers that stop units exactly at the transition between two time zones.

For example, if you simultaneously stop a large number of indoor units at the transition from Regular hours to Out of hours, a certain period of time is required for the indoor units to actually stop. This time is counted as Out of hours time.

If you need to set a timer to stop units before a time zone transition, you should avoid setting it within 10 minutes of the transition. (This is only an approximately guideline, since results vary depending on communications conditions.)

■ Communications errors and data totals

Data totals may not be accurate if communications errors occur in the Intelligent Controller, indoor units, or communication adaptors.

For example, if a communications error occurs in the Regular hours time zone, and normal communications are restored in the Out of hours time zone, all data received by the Intelligent Controller will be counted in the Out of hours time zone.

Totals data received by the Intelligent Controller is counted in the time zone in which it is received.

■ Usage for “All hours”

The usage of “all hours” is calculated from the ratio of distributed portion of the entire group based on the total of operation data in all time zones. Therefore, it is not consistent with the total usage of “regular hours”, “Out of hours”, and “special day”.

6.7 Maintenance and Test Runs

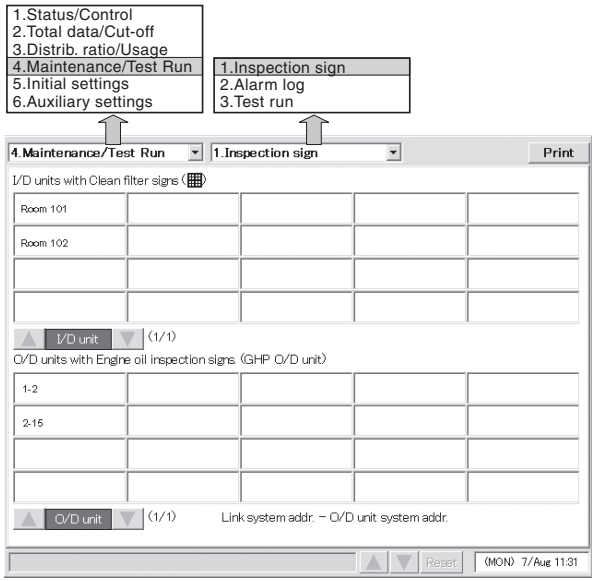
6.7.1 Checking inspection signs

Use this screen to check for indoor units for which filter cleaning signs have been issued, and outdoor units (GHP) for which engine oil inspection signs have been issued.

Procedure

Select 4.Maintenance/Test Run in the main menu and 1.Inspection sign in the sub menu.

If filter cleaning signs or engine oil inspection signs have been issued, contact your dealer or service provider to request cleaning or oil exchange.



Filter cleaning signs are only an approximate guide. We recommend that you clean indoor unit filters regularly, even if no signs have been issued.

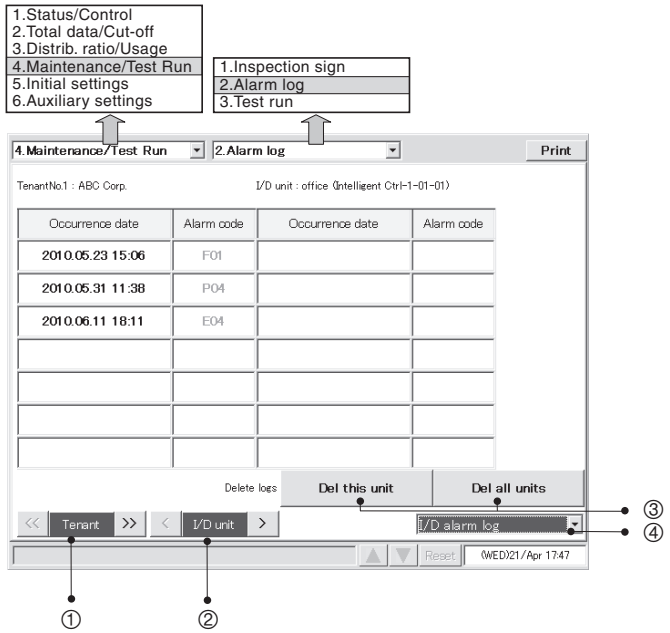
6.7.2 Checking the alarm logs

Use this screen to check logs of up to the past 14 alarms and errors for individual indoor units.

Procedure

Select 4.Maintenance/Test Run in the main menu and 2.Alarm log in the sub menu.

① Select the tenant to display.
② Select the indoor unit to display.

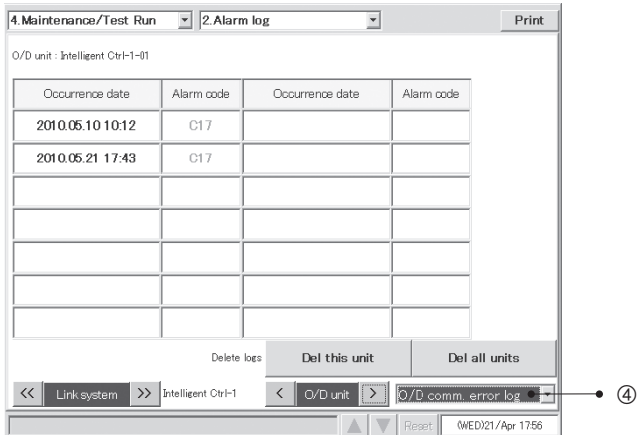


③ Touch the Del this unit button to delete the alarm logs of the selected unit only, or touch the Del all units button to delete the alarm logs of all units.
When a window like the following appears, touch the Yes button.

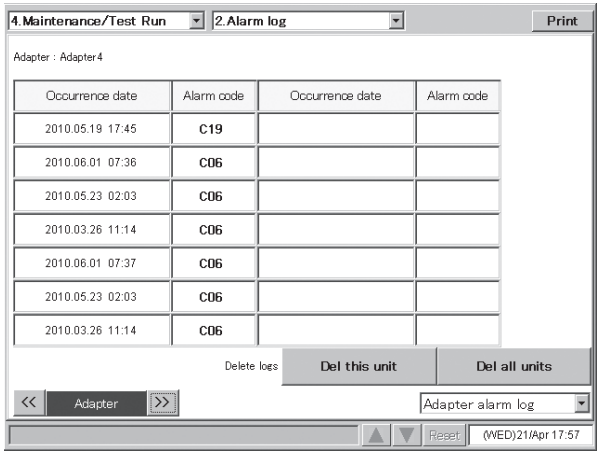


④ Select “I/D alarm log”, “O/D comm. error log”, or “Adapter alarm log”.

[O/D comm. error log] logs the history of errors in communication between the outdoor unit and the Intelligent Controller or the communication adaptor.



[Adapter alarm log] logs the history of warnings as determined by the Intelligent Controller or the communication adaptor.
(Duplicate adaptor addresses, communication error between the Intelligent Controller and adaptor, etc.)



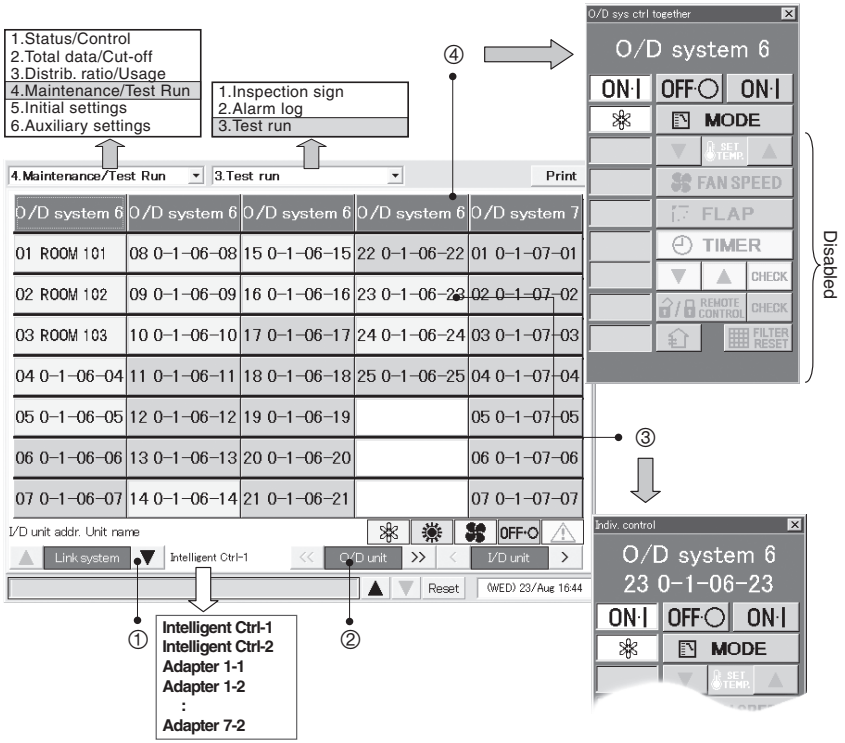
6.7.3 Executing test runs

Use this screen to display list of each indoor unit for outdoor unit system addresses.
You can execute test runs , either for each outdoor unit system address or individually.

Procedure

Select 4.Maintenance/Test Run in the main menu and 3.Test run in the sub menu.

① Select a connection destination link system.
② Select the outdoor unit to operate.



③ To operate an individual unit, touch a unit name and operate with the individual control remote control window.
④ To operate all units in an outdoor unit system, touch the outdoor unit system address column. A remote control window for operating an outdoor unit system appears. Use this window to execute a test run. Select Cool, Heat, or Fan as the operating mode.

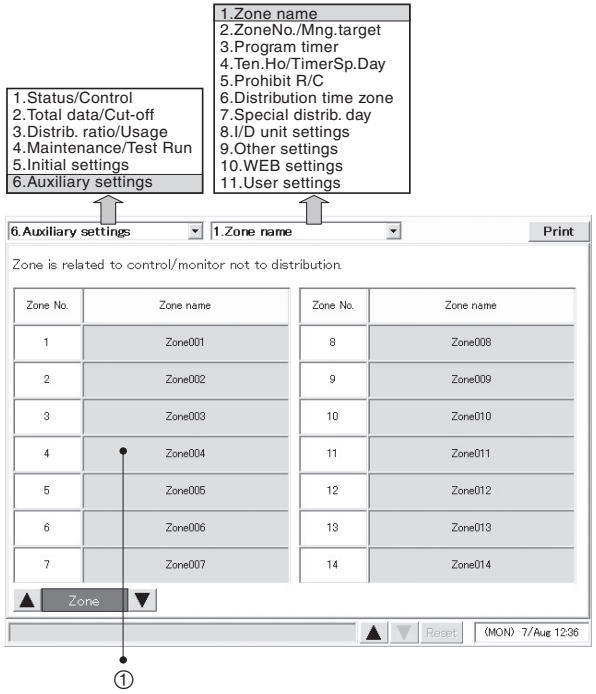
6.8 Auxiliary Settings

6.8.1 Registering zone names

You can assign names to zones.
Zones are unrelated to distribution, so you can mix GHP, PAC, and HOT units, and make settings that extend across link systems.
Start/stop, monitoring, timer operation and so on can be done all at once for all units in a zone.

Procedure

Select 6.Auxiliary settings in the main menu and 1.Zone name in the sub menu.



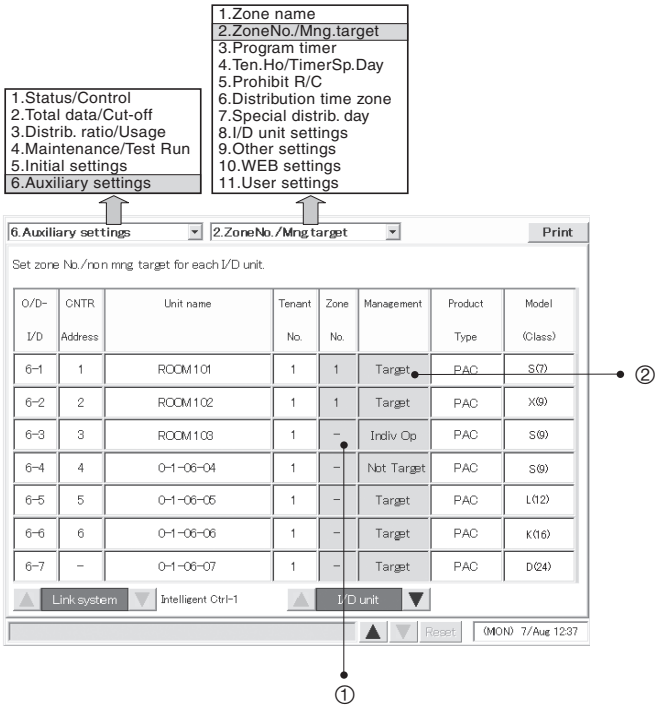
① Select a name to register or modify. A software keyboard appears.
② Enter the name with the keyboard.
Names can be up to 20 characters long.
* See “7 Entering Text and Numbers” for details about entering text in keyboard windows.
* Zones name can be registered in the range 1 to 128.

6.8.2 Setting zone numbers and management targets

Use this screen to set the zone number and management category for individual indoor units. Be sure to assign a central address to each unit.

Procedure

Select 6.Auxiliary settings in the main menu and 2.ZoneNo./Mng.target in the sub menu.



① A window like the one shown at right appears when you touch the zone number column.
Enter digits specify to the zone number.
* Zone No. can be registered in the range 1 to 128.



② A window like the one shown at right appears when you touch the management column.
Select one from among Target, Individual operation, or Not Target.

- Individual operation:
  Display, total, distribution, and individual operation are possible with Individual units, but all-unit operations (all tenant units, all zone units, all connected units, external all stop input, external all start input, etc.) are not possible.
  However, external all-unit alarm output and external all-unit operation output are possible.

- Not Target:
  No operations are possible for Not Target units, including information display (except for Main 5 Sub 2 and Main 6 Sub 2), totals calculation, and distribution.



6.8.3 Programming timers

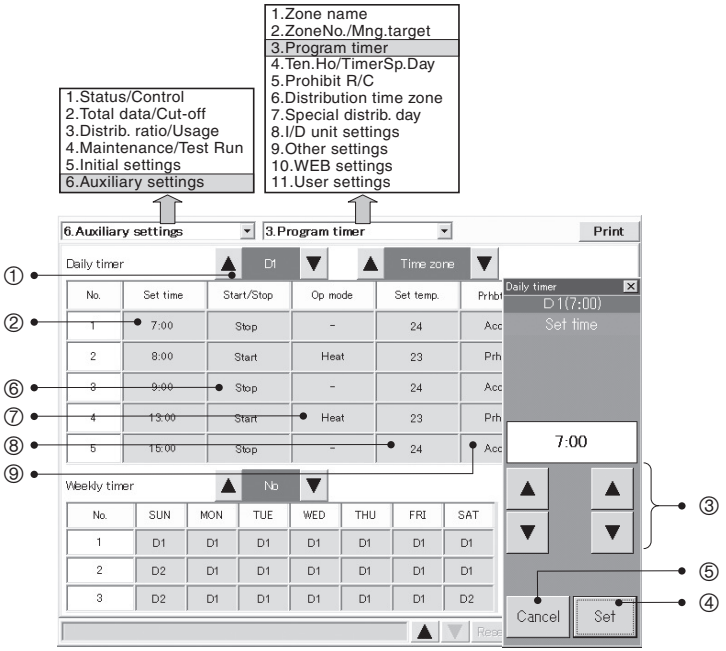
Up to 50 types of daily timers and 50 types of weekly timers can be programmed. It is also possible to set holidays or timer special days for tenants.

6.8.3.1 Programming daily timers

Up to 50 types of daily timers can be programmed, with up to 50 times per day. Start/stop, operation mode, temperature settings, and remote control prohibition can be programmed.

Procedure

Select [6.Auxiliary settings] in the main menu and [3.Program timer] in the sub menu.



① With Daily timer, select a timer number ([D1] to [D50], [Holiday], [Sp1] to [Sp5]).
The [Holiday] number is reserved for tenant holiday settings.
The timer numbers [Sp1] to [Sp5] are reserved for setting timer special days.

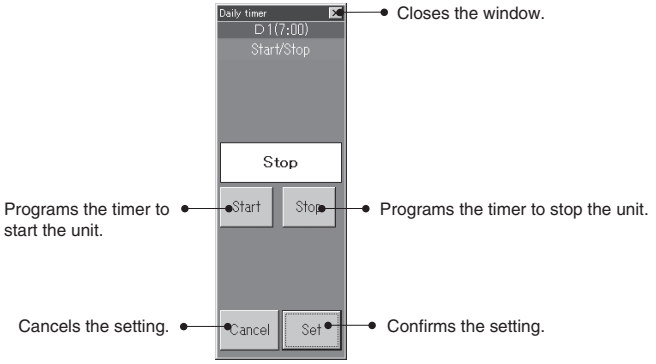
② Touch the [Set time] column.

③ Select the time to set.

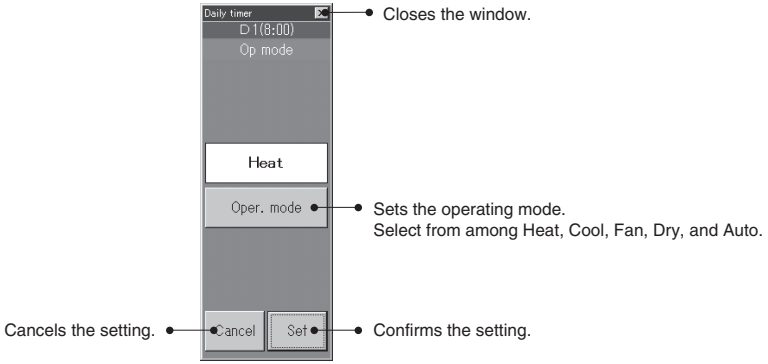
④ Touch [Set] to confirm the time.

⑤ Touch [Cancel] to cancel the setting.
The display changes to "—".

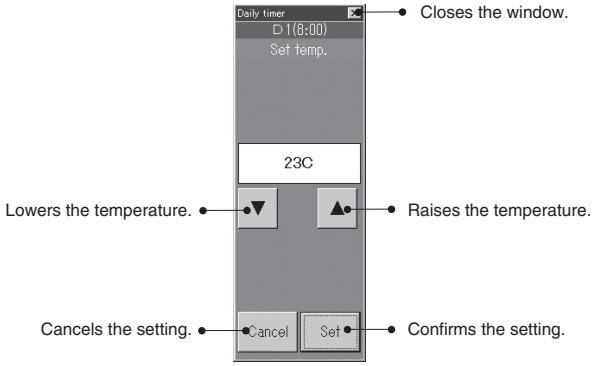
⑥ Touch the Start/Stop column and set in the following window.



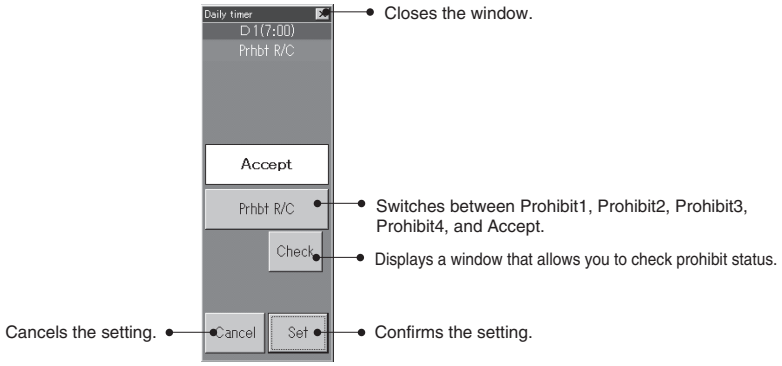
⑦ Touch the Op mode column and set in the following window.



⑧ Touch the Set temp. column and set in the following window.



⑨ Touch the Prhbt R/C column and set in the following window.



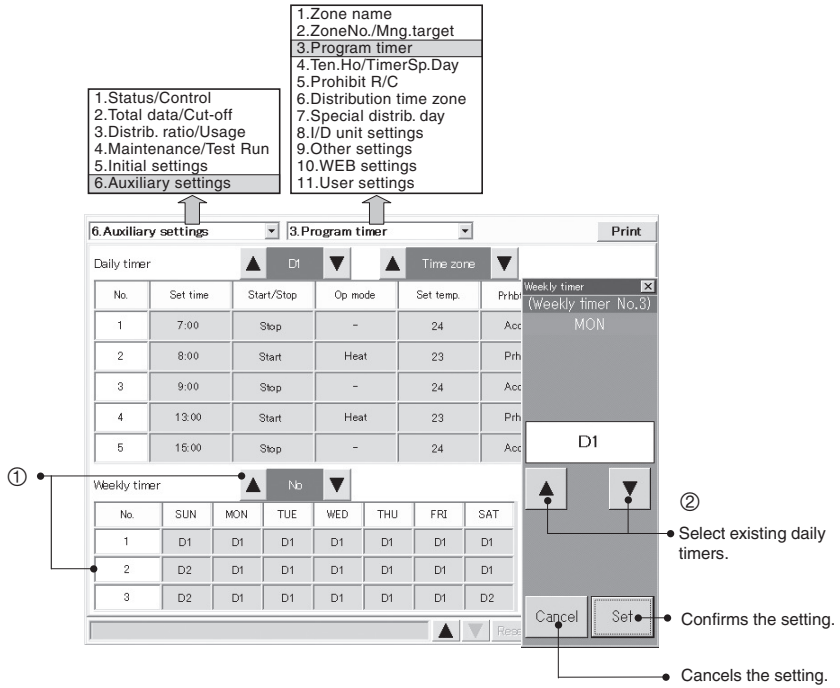
Since different air conditioner models have different upper and lower temperature limits, the temperature is set automatically within the supported range when an air conditioner is actually controlled.
Items for which no time is set are ignored.

6.8.3.2 Programming weekly timers

You can program weekly timers by assigning any daily timer to each day of the week. Up to 50 types of weekly timers can be programmed.

Procedure

Select 6.Auxiliary settings in the main menu and 3.Program timer in the sub menu.



① With Weekly timer, select a weekly timer number (1 to 50).
Up to 50 types of weekly timers can be set. Three items each are displayed.
Each press of ▼ changes the display in order like 1,2,3, 2,3,4, 3,4,5.
Each press of ▲ changes the display in order like 50,1,2, 49,50,1, 48,49,50.

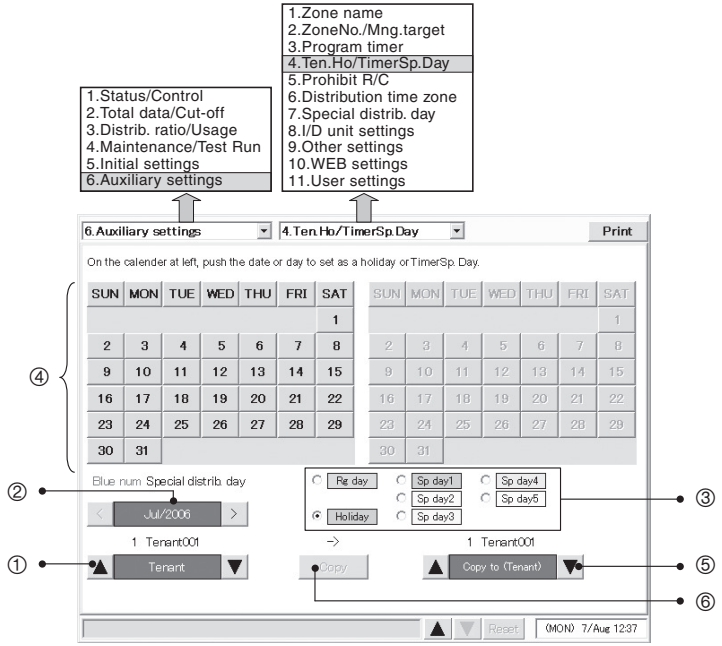
② Select the daily timer number (D1 to D50, Holiday, Sp1 to Sp5) to set and confirm or cancel each button.

6.8.4 Setting Tenant holiday/Timer special day

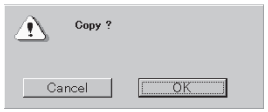
You can make settings by tenant of days of setting timer for holidays and timer special days. Holidays and timer special days can be registered for up to the next two years.

Procedure

Select 6.Auxiliary settings in the main menu and 4.Ten.Ho/Timer Sp. Day in the sub menu.



① Select the tenant.
② Select the calendar for the month of the year to set.
③ Select items (regular days, holidays, and special days 1 to 5) you would like to set.
④ Point the item (regular days, holidays, and special days 1 to 5) you would like to set on the left calendar and touch the date or day of the week.
⑤ If holidays and timer special days have already been registered for a tenant, you can copy them from the calendar to the calendar on the right. Select the tenant for the copy destination calendar.
⑥ A window like the one on the right appears when you touch Copy.
⑦ Touch the OK button to copy two years of holidays from the tenant on the left to the tenant on the right.
* Set the system mode at “Regular day” to cancel settings of holidays and timer special days.

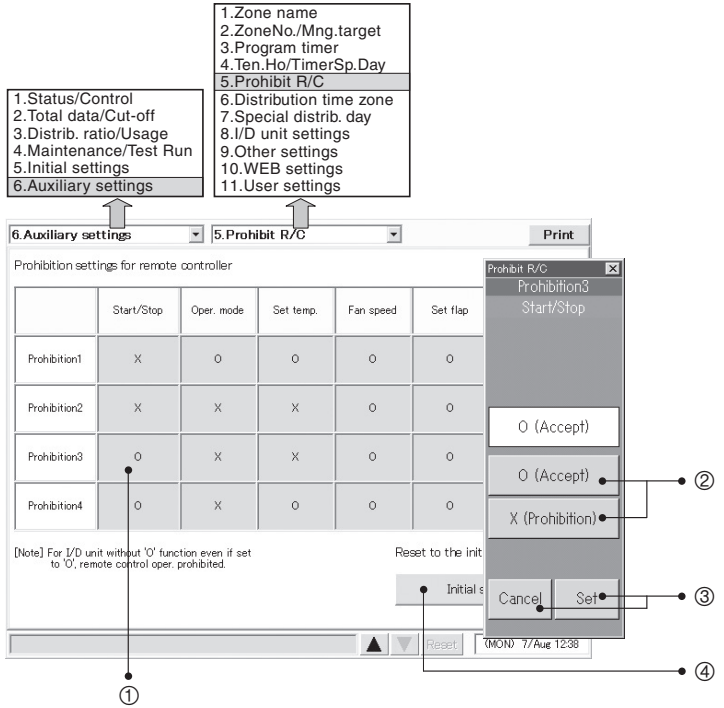


6.8.5 Prohibiting remote control use

You can prohibit the use of the remote controls connected to indoor units.

Procedure

Select 6.Auxiliary settings in the main menu and 5.Prohibit R/C in the sub menu.



① Touch the item you want to change to display a settings window for that item.
② To allow remote control use, touch the O (Accept) button. To prohibit remote control use, touch the X (Prohibition) button.
③ Touch the Set button to confirm the setting, or the Cancel button to cancel it.
④ Touch the Initial setting button to restore the initial setting (described above).

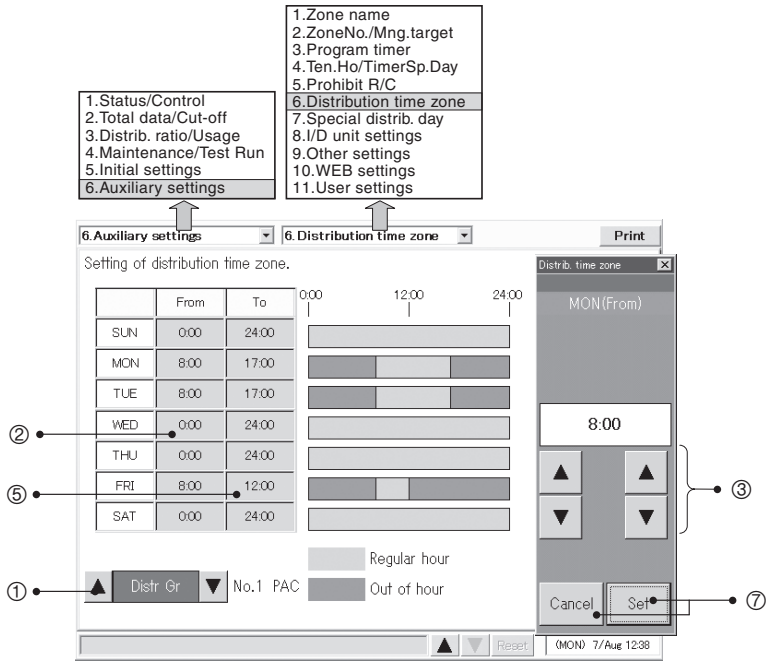
6.8.6 Setting distribution time zones

You can set distribution time zones for the same day of each week.

Procedure

Select 6.Auxiliary settings in the main menu and 6.Distribution time zone in the sub menu.

*When "No Distrib." is selected, this screen is not accessible. (see Main 5 Sub 1)



① Select the distribution group.
② Touch the "From" column.
③ Set the start time of regular hours to a time between 00:00 and 24:00 (30-minute intervals).
④ Touch the Set button to confirm the setting, or the Cancel button to cancel it.
- If you set the start time to 00:00 and the end time to 24:00, the entire day is regular hours.
- If the start time is the same as the end time, the entire day is out of hours.
- If the start time and the end time are reversed, the outer side is regular hours.

⑤ Touch the "To" column.
⑥ Set the end time of regular hours to a time between 00:00 and 24:00 (30-minute intervals).
⑦ Touch the Set or Cancel button.

* Refer also to "6.6.3 Time zone totals and distribution".

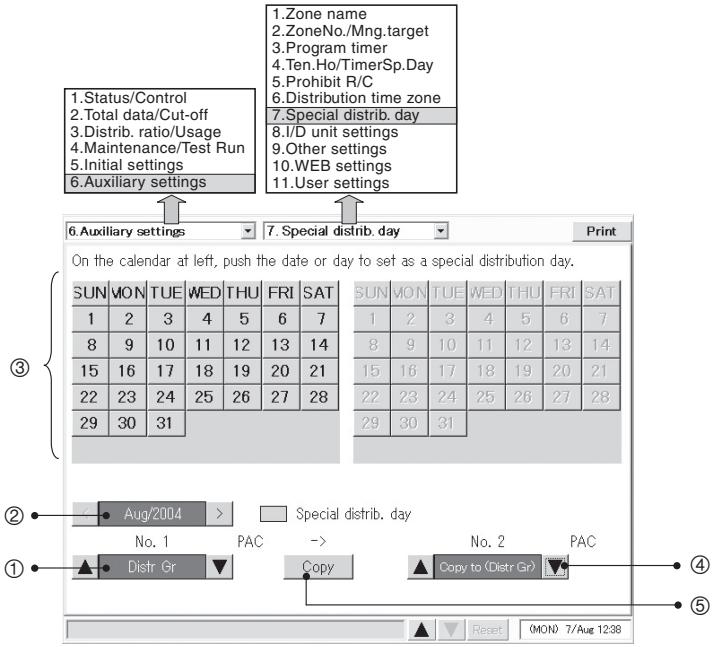
6.8.7 Setting special distribution days

You can set special distribution days to which normal time zone settings do not apply.
Use this function for holidays and so on. Special distribution days can be registered for up to the next two years.

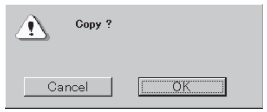
Procedure

Select 6.Auxiliary settings in the main menu and 7.Special distrib. day in the sub menu.

*When "No Distrib." is selected, this screen is not accessible. (see Main 5 Sub 1)



① Select the distribution group to set.
② Select the calendar for the month of the year to set.
③ On the left-side calendar, touch the date or day to set as a special distribution day.
④ If special distribution days have already been registered for a distribution group, you can copy them from the calendar to the calendar on the right. Select the distribution group for the copy destination calendar.
⑤ A window like the one on the right appears when you touch Copy.
⑥ Touch the OK button to copy two years of special distribution days from the distribution group on the left to the distribution group on the right.



6.8.8 Indoor unit settings

You can use this screen to check the air conditioning capacity of indoor units, and to set the capacity. Normally you do not need to change settings with this screen.

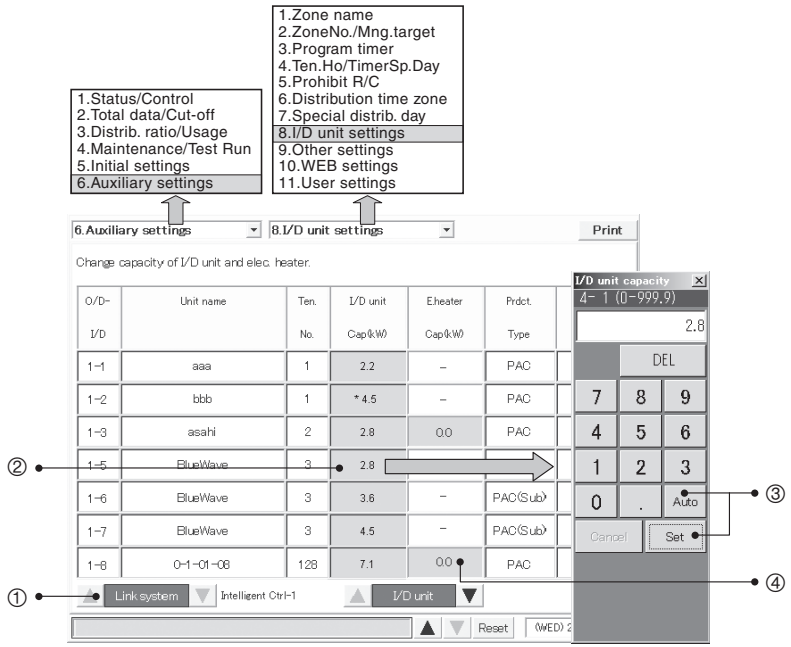
Exercise care when changing settings, because improper settings can prevent accurate distribution.

Procedure

Select 6.Auxiliary settings in the main menu and 8.I/D unit settings in the sub menu.

*When “No Distrib.” is selected, this screen is not accessible. (see Main 5 Sub 1)

① Select the link system to display.



② To change a capacity setting, touch an item in the capacity column, and enter a kW capacity from 0 to 999.9 in the numeric keypad window which appears.

③ Touch Set to confirm the setting.
Or Auto to cancel it. (The capacity value will restore the received level)
If you have changed the capacity, an asterisk (∗) appears to the left of the value.

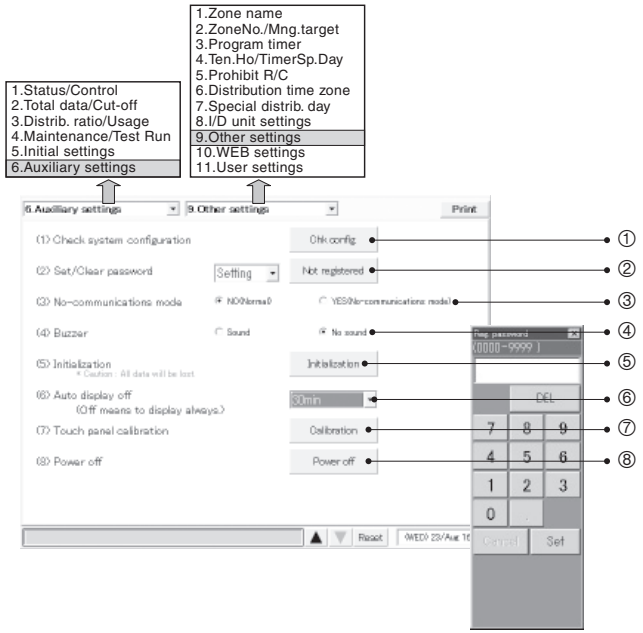
④ Touching the heater capacity column for the indoor unit having an electric heater will have a soft ten-key for the heater capacity setting displayed. Input numbers 0.0 to 100.00 by kW. However, these are effective only for loaded distribution settings.

6.8.9 Other settings

You can use this screen to register passwords, initialize data, and make power saving settings for the LCD display.

Procedure

Select 6.Auxiliary settings in the main menu and 9.Other settings in the sub menu.



6.8.9.1 Checking the connection configuration

① Touch the Chk config. button to check the connection configuration of the system.
You should do this after adding or deleting units, changing addresses, and so on.
If the system configuration has changed, cut-off processing and confirmation of the system processing messages appear. For details, see “6.9 System Configuration Changes”.

Up to 10 minutes may be required to check the system configuration.

6.8.9.2 Registering passwords

② Click the [Not registered] button to display a keyboard window for registering passwords.
You can register 3 kinds of passwords: “Setting”, “Distrib.”, and “Operation”.
Refer to “Menu list” under “5. Quick reference” for details.
Enter a 4-digit number from 0000 to 9999, and touch the [Set] button. The caption on the [Not registered] button changes to [Registered].
To delete a password, first enter the four-digit password, then touch the [Set] button.
Clear the password by pressing the [Registered] button and entering the password. The button changes back to [Not registered]. When changing a password, delete the old password before setting the new one.

6.8.9.3 Selecting no-communications mode

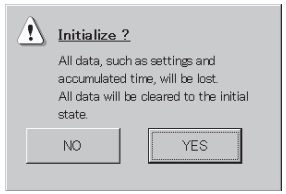
③ Use the options buttons to select whether or not to use no-communications mode.
If you select [YES (no-communications mode)] then communications errors will be suppressed, but it will not be possible to communicate with air conditioning units. Data displayed by the system will be meaningless.
This setting is provided for occasions when you want to register names or check the display layout even though air conditioners are not installed, not turned on, or otherwise not capable of communications.
Normally you should leave the [NO (Normal)] button selected, selecting [YES (no-communications mode)] only when it is necessary.

6.8.9.4 Buzzer sounds

④ When pressing an effective button during setting at [Sound], the buzzer will sound (buzz).
When setting at [No sound], even the alarm buzzer does not sound.

6.8.9.5 Initialization

⑤ Initialization erases all system data, including setting data and totals data.
A window like the following appears when you touch the [Initialization] button.



[!! Do not make imprudent initialization.]

Touch the [Yes] button to erase all data and return the system to the factory default state.

* Everyday, at 23:30 to 00:00, cut-off processing takes place and you cannot press the [Initialization] button then.

6.8.9.6 LCD auto off settings

⑥ The auto display off settings allow you to select a time after which the LCD display should be automatically turned off if there is no activity. The LCD display is turned on again when you touch it.

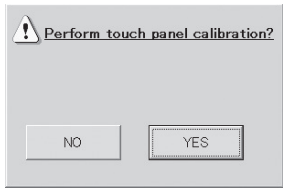
Settings: 5 minutes, 10 minutes, 15 minutes, 30 minutes, OFF (default: 30 minutes)

Turning the LCD display off when it is not in use saves power and can prolong the life of the display and backlight.

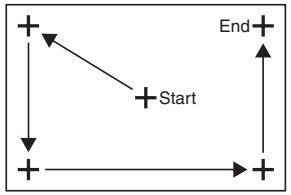
6.8.9.7 Calibrating touch panels

Humidity and temperature around the Intelligent Controller and its secular change may affect the point on the touch panel screen to deviate after use over a long period of time. In such a case, Calibrate the position.

⑦ Press [Calibration] and the next screen will be displayed.



Now press [Yes] and a cross mark will appear in the center of the screen.
Keep pressing the center with a touch pen for a second or longer and stop pressing. Follow the same procedure of Upper left → Lower left → Lower right → Upper right.



Finally the cross mark disappear and “New calibration settings have been measured.” will be displayed. Then press somewhere on the screen and the result of calibration will become effective to restore the original screen.
When 30 seconds passes without operating the screen, the calibration result is cancelled to restore the previous screen.

6.8.9.8 Power off button

⑧ **Always touch this button before powering the Intelligent Controller off.**

A message appears asking if you want to exit the program. Touch OK in the message. The system saves current data, and then displays a message “It is now safe to turn off the Intelligent Controller.” Wait until this message appears before powering the system off. (If there is a large amount of data, several minutes may be required for this message to appear.)

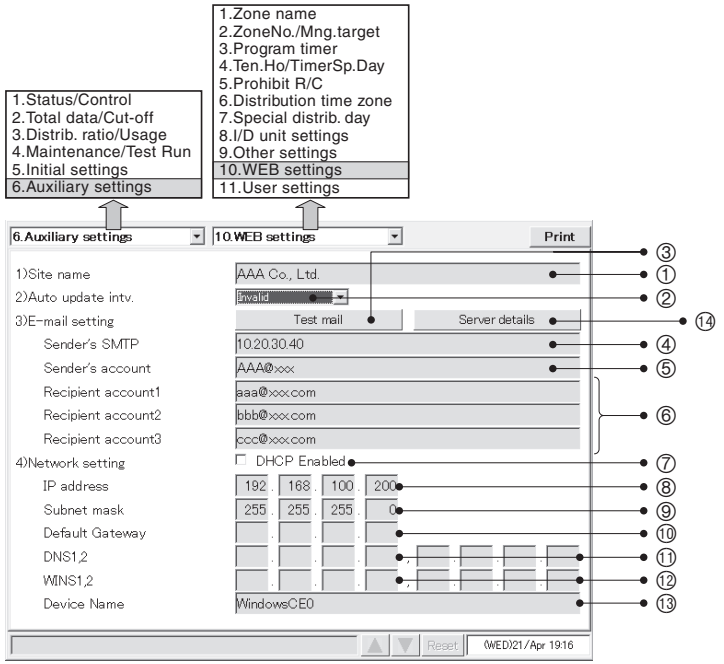
!! Powering off before this message appears may cause malfunction or prevent booting.

6.8.10 WEB settings

Settings related to WEB such as the site name, mail settings, and network settings are possible.

Procedure

Select 6. Auxiliary settings in the main menu and 10. WEB settings in the sub menu.



For items ①, ④ to ⑥, and ⑧ to ⑬, touch each input box and a soft keyboard will appear.

① Input the name of an optional site (within 40 characters).

② Set the automatic updating interval on the screen displayed on Web browser. When selecting “Invalid”, data will not be updated until pressing the New button on the WEB browser screen.

③ Send the test mail.

④ Input the IP address (or domain name) of the mail (SMTP) server separately contracted.

⑤ Input an optional transmitter account name (mail address) (within 40 characters).

⑥ Input the receiver account name (mail address) (within 40 characters).

⑦ Select this check box to enable DHCP instead of using a fixed IP address. When DHCP is enabled, input for items ⑧ to ⑩ is disabled.

⑧ Input the Intelligent Controller IP address (or domain name). Refer to settings for other equipment (PC, router, etc.).

⑨ Input the Intelligent Controller subnet mask. Refer to settings for other equipment (PC, router, etc.).

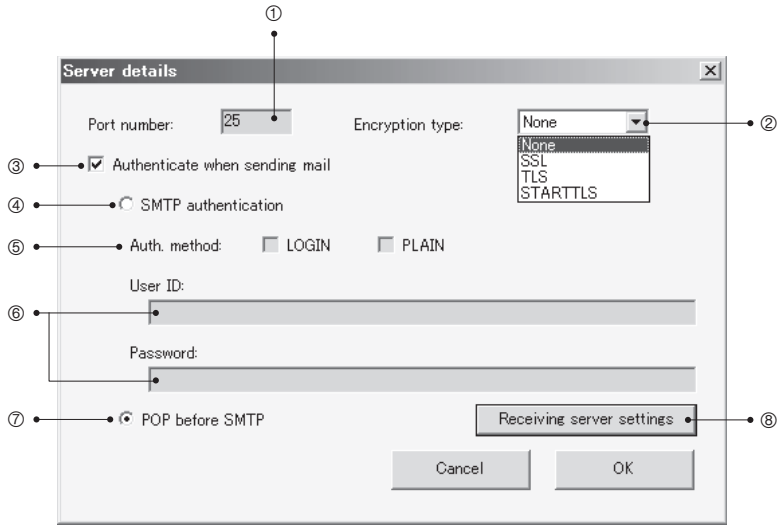
⑩ Input the IP address of the default gateway connected to the Intelligent Controller as necessary.

⑪ Input the IP address of the primary and secondary DNS servers as necessary.
⑫ Input the IP address of the primary and secondary WINS servers as necessary.
⑬ Input the Intelligent Controller's device name (device ID) (within 15 characters).
(This is used to identify the Intelligent Controller when using DNS, for example.)
⑭ For details on the mail server settings, see "6.8.10.1 Detailed server settings".

* Refer to the network administrator for confirmation of detailed mail and network settings.
* If a Web browser (on PC) was used to change any of the settings from ⑦ to ⑬, the "Network settings have changed. Restart the unit." message appears and the Intelligent Controller restarts automatically.
* If you change the settings for items ⑦ and ⑬, the system restarts so that the new settings are reflected when you switch to other screens.
* You cannot set the IP address to "0.0.0.0" or "255.255.255.255". You cannot set the subnet mask, default gateway, DNS, or WINS to "0.0.0.0".

6.8.10.1 Detailed server settings

From the "WEB settings" screen (Main 6 Sub 10), clicking the "Server details" button displays the following screen.
This screen enables you to use the same and actual mail server settings to set up the Intelligent Controller as well. Therefore, check your mail server settings in advance and then apply the same settings to the Intelligent Controller.

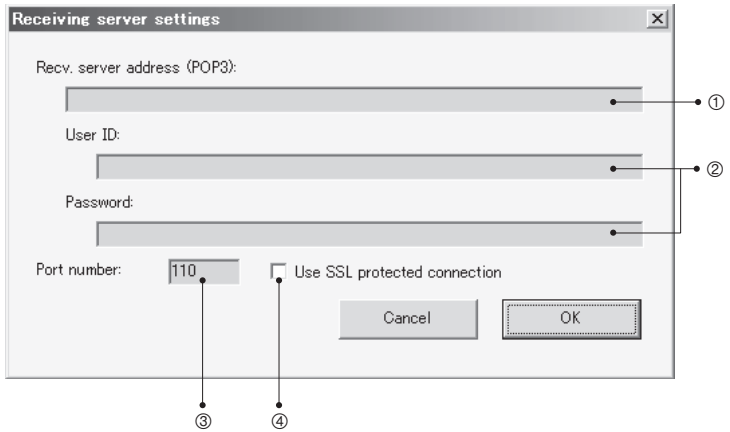


① Specify a port to use for sending mails, using a number within 6 digits.
② Select an encryption type to use for sending mails: "None", "SSL", "TLS", or "STARTTLS".
③ Select this check box if you want to perform authentication during mail transmission.
Settings ④ to ⑧ below are valid only when you have selected this check box.

④ Select this option if you want to perform SMTP authentication during mail transmission.
Settings ⑤ and ⑥ below are valid only when you have selected SMTP authentication.
⑤ Select either or all of the authentication methods: "LOGIN", and "PLAIN".
If both check boxes are selected, "LOGIN" takes priority.
If both check boxes are not selected, then SMTP authentication is not performed.
⑥ Specify a user ID and a password for authentication. For each of them, you can use within 50 characters.
⑦ Select this option if you want to perform POP before SMTP authentication when the mail server is receiving mails from the Intelligent Controller.
⑧ Click this button to set up the server if you want to perform POP before SMTP authentication.
See "6.8.10.1.1 Receiving server settings".

6.8.10.1.1 Receiving server settings

Clicking the "Receiving server settings" button on the "Server details" screen displays the following screen.
Use this screen to set up the server so that you can perform POP before SMTP authentication when the mail server is receiving mails from the Intelligent Controller.
Check your mail server settings in advance, and then apply the same settings here.



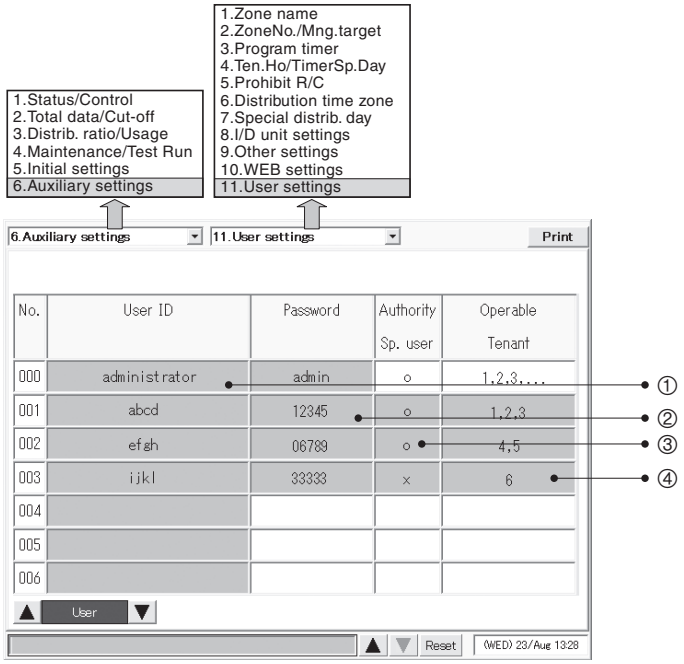
① Specify the address of the receiving server (POP3), within 40 characters.
If it is same as the sender's server, then set it to the same address of the "Sender's SMTP" setting on the "WEB settings" screen.
② Specify a user ID and a password for receiving mails. For each of them, you can use within 50 characters.
③ Specify a port to use for receiving mails, using a number within 6 digits.
④ Select this check box if you want to use SSL protected connection to receive mails.

6.8.11 User settings

The user ID, password, authority, and operatable tenant can be set.

Procedure

Select 6.Auxialiary settings in the main menu and 11.User settings in the sub menu.



For items ① and ②, touch each input box and a soft keyboard will appear.

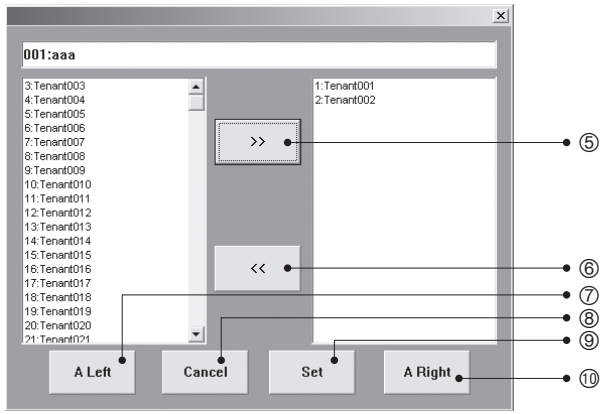
① Input an optional user ID (within 20 characters).

② Input an optional password (within 10 characters).

③ Users include three categories: “Administrator”, “Special user”, and “General user”. No. 000 denotes “Administrator” (A special user solely admitted; its initial user ID: administrator). No.001 or higher denotes “Special user” if authority is set to ❍, and “General user” if authority is set to ×. Depending on the user, the functions available from the Web differ as follows.

	Administrator	Special user	General user
Tenants affected	All tenants	Specified tenants	Specified tenants
Prohibit remote control settings	❍	❍	×
Screen 3-3 Download	❍	×	×
Screen 4-2 Alarm log	❍	❍	×
Screen 4-4 Sent mail log	❍	×	×
Screen 6-3 Program timer	❍	Confirmation only	Confirmation only
Screen 6-4 Ten.Ho/TimerSp.Day	❍	Confirmation only	×
Screen 6-5 Prohibit R/C	❍	Confirmation only	×
Screen 6-10 WEB setting	❍	×	×

④ When touching the input box, the following small screen is displayed, where you set operatable tenants by User ID.



⑤ Register the tenant selected on the left side into the right side as the operatable tenant.

⑥ Delete the tenant selected on the right side from among the operatable tenants.

⑦ Select all the tenants on the left side.

⑧ Cancel this tenant setting change.

⑨ Make register setting for this user as the operatable tenant.

⑩ Select all the tenants on the right side.

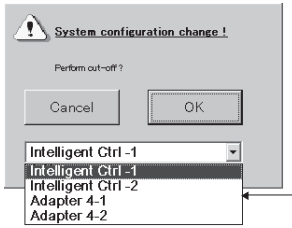
6.9 System Configuration Changes

An alarm message like the following appears when a system configuration change (or the possibility of a configuration change) is detected.
If the system continues to operate after its configuration has changed, distribution ratios and other data will be totally inaccurate. For this reason, cut-off processing must be done with the system in the state before the change. The following message is displayed to ask you to confirm the processing.

Operation procedure for each case is as follows.

6.9.1 When a system configuration change detected

This alarm message is displayed in cases such as the following.

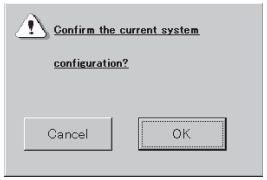


Here you can see the link system where the configuration has been changed.

① “Check system Configuration” was made after removing the outdoor and indoor units.
② “Check system Configuration” was made after starting the unit and found that it was different from the previous one in configuration.
* “Configuration” includes not only the number of units and address but also indoor unit capacity, main/sub unit setting, and presence/absence of an electric heater.

While this message is visible, no other operations can be performed except [OK] and [Cancel].

Touch [OK] to perform cut-off processing with the system in the state before the change.
Touch [Cancel] if you do not need to perform cut-off processing.

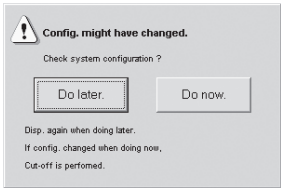


Touch [OK] to check the new configuration.

If you select [OK] here, the current system configuration is re-checked and the results are confirmed.
If you do not need to do this, select [Cancel].

If the system has changed because of a mistake, return the system to its former state and then touch [Cancel]. You should also touch [Cancel] here if you mistakenly selected [Cancel] in the previous message, even though the system cut-off processing should have been done. This returns you to the first alarm message, where you can perform cut-off processing.
While this message is visible, no other operations can be performed except [OK] and [Cancel].

6.9.2 When system configuration may change



This alarm message is displayed in cases such as the following.

① The following “Detailed settings” were made from a local remote controller.
(for address, extension settings, indoor unit capacity, or presence/abesnce of an electric heater)
② Only confirmation of “Detailed setting” was made from a local remote controller.
③ Automatic address setting was carried out for an indoor or outdoor unit.
④ An additional indoor or outdoor unit was installed.
* “Configuration” includes not only the number of units and address but also indoor unit capacity, main/sub unit setting, and presence/absence of an electric heater.

While this message is visible, no other operations can be performed except [Do later.] or [Do now.].
When touching [Do later.], this window closes and other screen operations are made possible. However, after a while the message will be displayed again.

Touch [Do now.] to confirm whether the configuration has been actually changed.
When a configuration change was detected as a result of configuration confirmation, cut-off processing is automatically performed and the post-variation configuration is established. When there is no change in configuration, the screen exits configuration confirmation processing.

For example, imprudently pressing [Do now.] while a communication error message is displayed will result in an automatic cut-off processing to establish the current configuration. Therefore, take full care to avoid such a mistake.

When establishing a configuration without making cut-off processing, press [Do later.] to once close the screen and perform “Check system Configuration” using the 6-9 screen.
After this, proceed “Perform cut-off?” → “Cancel” → “Confirm the current system configuration?”→ “OK” in accordance with “6.9.1. When a system configuration change detected”.

When no operation has been made on this screen for twelve hours or more, cut-off and post-variation configuration fixing processing are automatically carried out.

Caution

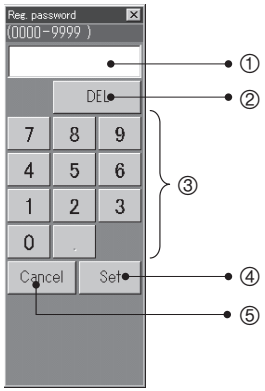
Imprudent cut-off processing and configuration fixing or neglecting them when necessary may cause a significant inconvenience in control.
When this alarm message is displayed, do not operate the system and contact the store where you purchased it or its service agency.
This message may be displayed also in inspecting the air conditioner. In such a case inform the person in charge of service of the fact.

7 Entering Text and Numbers

This system displays keyboard and numeric keypad windows when you need to enter names and numbers. The numeric keypad window appears when you need to enter numbers, and the keyboard window appears when you need to enter text.

7.1 Entering Numbers

A numeric keypad window like the one shown below appears when you need to enter a number, for example to register a password.



① Input field
Displays the number being entered.

② DEL button
Deletes digits in the number, from the right.

③ Numeric keys
Add the digit shown on the key face to the number in the input field.

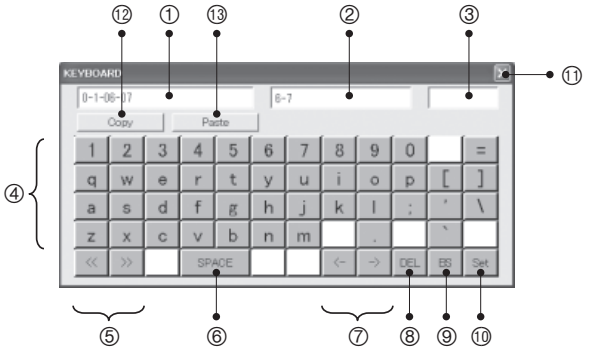
④ Set button
Confirms the number in the input field.

⑤ Cancel button
Clears the numbers entered.

7.2 Entering Text

A keyboard window like the one shown below appears when you need to enter text, for example a tenant name.
To edit an existing text string, touch the character that you want to edit in the input field.

Alphanumeric, lowercase



① Input field
Displays the text being entered.

② Information field
Displays information about the target of the operation (for example, the tenant number when a tenant name is being entered).

③ Input mode
Displays the current input mode (type of characters).

④ Character input buttons
Input characters.

⑤ Input mode selection buttons
Select the type of characters to input.

⑥ Space button
Inputs a space.

⑦ <- and -> buttons
Move the input cursor to the left and right in the input field.

7 Entering Text and Numbers

⑧ DEL button
Deletes the character to the right of the input cursor.

⑨ BS button
Deletes the character to the left of the input cursor.

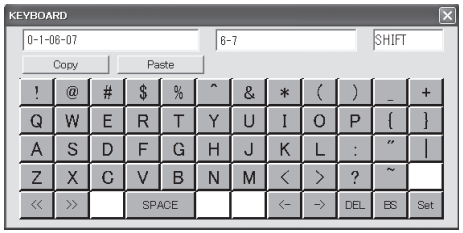
⑩ Set button
Enables the entered character string.

⑪ Close button
Closes the keyboard window.

⑫ Copy button
Copies text displayed in the input field. You can also copy portions of the text by dragging the touch pen over the desired portion.

⑬ Paste button
Pastes the text copied with the Copy button to the input field in which the cursor is currently located.

Alphanumeric, upper case



8 Connection of External Signals

When connecting external signals, refer to the Installation Instructions (end of this manual) for detailed information about the electrical specifications.

8.1 Pulse Meter Input

You can measure energy usage by connecting pulse meters (gas, fuel, and electricity meters).
If you do not need to view information about energy usage, there is no need to install pulse meters.

1) Input locations
The communications connector panel on the side of the intelligent controller or on an optical communication adaptor connected to the intelligent controller:
P1 (No.7), P-COMM (No.6) …… Gas meter, fuel meter
P2 (No.8), P-COMM (No.6) …… Electricity meter 1
P3 (No.9), P-COMM (No.6) …… Electricity meter 2

* The above are factory default settings. If necessary, you can change the type of pulse meter (power meter or gas meter).
See “6.3.5 Making pulse meter settings” for more information.

2) Operation
Each pulse is counted.
The amount of energy consumed per pulse (m^3, kWh, liters) must be defined by “Main 5 Sub 4 Pulse meter setting”.
See “6.3.5 Making pulse meter settings”.

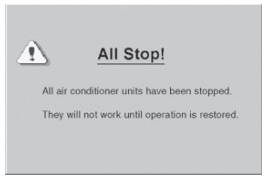
8.2 All Stop Input

You can stop all connected units automatically by connecting external signals (for example, from fire-alarm detectors.)
All stop input is available only for managed (“target”) units. It does not affect units which have been designated as not managed (“Not target”) or individually operated (“Indiv Op”).

1) Input location
   The communications connector panel on the side of the Intelligent Controller or on an optional communication adaptor connected to the Intelligent Controller:
   DI1 (No. 17), DI-COMM (No.16)

2) Operation
   While the input is asserted ON, a stop signal is sent periodically (once per minute) to all indoor units.

3) Display



   This message disappears when normal status is restored.

8.3 All Start Input

You can start all connected units automatically by connecting external signals.
All start input is available only for managed (“target”) units. It does not affect units which have been designated as not managed (“Not target”) or individually operated (“Indiv Op”).

1) Input location
   The communications connector panel on the side of the Intelligent Controller or on an optional communication adaptor connected to the Intelligent Controller:
   DI2 (No.18), DI-COMM (No.16)

2) Operation
   When inputting ON from OFF, the operation signal will be transmitted to all the indoor units.

When both “All stop input” and “All start input” are set ON simultaneously, only “All stop input” is enabled.

8.4 All-Unit Alarm Output

An external signal is output when an alarm or error occurs in any connected unit.
This signal can be used by alarm monitors and other equipment.

1) Output location
   The communications connector panel on the side of the Intelligent Controller or on an optional communication adaptor connected to the Intelligent Controller:
   DO1 (No.14), DO-COMM (No.13)
2) Operation
   The signal goes ON when an alarm or error occurs, and goes OFF when normal status is restored.

8.5 All-Unit Operation Output

An external signal is output when any connected unit is operating.

1) Output location
   The communications connector panel on the side of the Intelligent Controller or on an optional communication adaptor connected to the Intelligent Controller:
   DO2 (No.15), DO-COMM (No.13)

2) Operation
   The signal goes ON when any connected unit (including Interface adaptor) is operating, and goes OFF when all units are stopped.
   Operation during alarms and errors is included.

9 Printing

Printing using the Intelligent Controller is as stated below.

9.1 Preparation

Printing is ready only by connecting a USB cable to the unit' s USB port. Purchase the cable shown below (an example) separately.

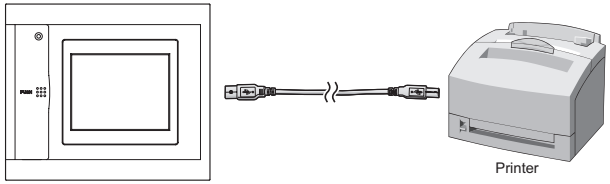
Example) ELECOM USB2-20 (2 m) or equivalent.

Internal wiring connection (reference)

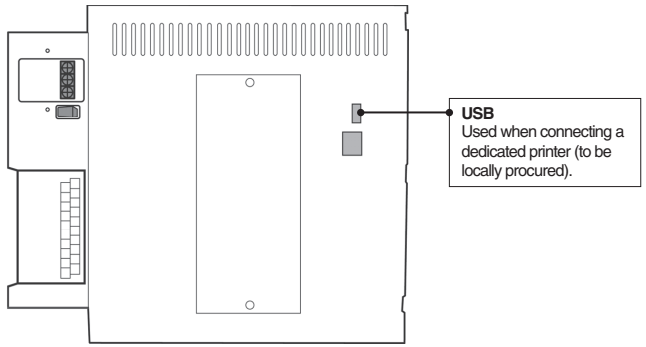
USB (A) Male		USB (B) Male
1	———	1
2	———	2
3	———	3
4	———	4
SHELL	———	SHELL (Metallic wiring connection)

9.2 Connection

Connect the printer with the Intelligent Controller using a USB cable.



Connect the cable to the "USB" connector located on the controller's back.



9.3 Restrictions

(1) The Intelligent Controller is adaptable to printers of the "PCL" standards, among which we have made sure that the following two are fully adaptable:

Laser printer 1720 from Dell Inc.
Ink jet printer Officejet Pro K5400 from Hewlett-Packard Co.

(2) Some printers need to have the Intelligent Controller powered on prior to connecting the printer cable or re-power the printer.

(3) Printers can be connected only to the USB port.

(4) Only A4-size paper in vertical position can be printed.

(5) Printing is available only in monochrome. Color printing is unavailable.

(6) Printing provides hardcopies (just as displayed in the screen).

(7) Refer to the operation manual for the printer for the printer-side settings, displays, and measures to counter failures.

(8) The following alarm dialogue will be shown when pressing Print in the events of:

- The printer is not connected to the system.
- The printer is not powered on.
- The printer is off-line.



10 Calculating air conditioner distribution

The Intelligent Controller calculates energy (electricity and gas) distribution ratios utilizing the accumulated working time (T/S ON/OFF) or the capacity value of the indoor unit.
* T/S: Thermostat

10.1 Calculating simple distribution

Parameters as listed below are used to calculate simple distribution:

① **RHHi**: accumulated operation time for indoor unit i (High fan speed)
② **RHi**: accumulated operation time for indoor unit i (Medium fan speed)
③ **RLi**: accumulated operation time for indoor unit i (Low fan speed)
④ **SHHi**: T/S ON accumulated time for indoor unit i (High fan speed)
⑤ **SHi**: T/S ON accumulated time for indoor unit i (Medium fan speed)
⑥ **SLi**: T/S ON accumulated time for indoor unit i (Low fan speed)
⑦ **Pi**: Capacity of indoor unit i (in kW)
⑧ **k**: Weighing factor for power consumptions as T/S ON and OFF
⑨ **aHH**: Weighing factor for High fan speed
⑩ **aH**: Weighing factor for Medium fan speed
⑪ **aL**: Weighing factor for Low fan speed
* Accumulated operation time = T/S ON accumulated time + T/S OFF accumulated time

Index of indoor unit i power/gas consumptions is calculated.
Here, “TEi” and TGi” denotes the power and gas consumption indexes of the indoor unit i, respectively.

When “Object of power distribution calculation” is “T/S ON + OFF time”:
The power consumption index is calculated using “Accumulated operation time” and “T/S ON accumulated time”; the gas consumption index using “T/S ON accumulated time”
• For GHP:
TEi = (RHHi x aHH + RHi x aH + RLi x aL) x Pi Formula 1
TGi = (SHHi x aHH + SHi x aH + SLi x aL) x Pi Formula 2
• For PAC:
TEi = { (RHHi x aHH + RHi x aH + RLi x aL) /k +
(SHHi x aHH + SHi x aH + SLi x aL)} x Pi Formula 3
TGi = 0

When “Object of power distribution calculation” is “T/S ON time”:
Both the power and gas consumption indexes are calculated using “T/S ON accumulated time”.
• For GHP:
TEi = (SHHi x aHH + SHi x aH + SLi x aL) x Pi
TGi = (SHHi x aHH + SHi x aH + SLi x aL) x Pi
• For PAC:
TEi = (SHHi x aHH + SHi x aH + SLi x aL) x Pi
TGi = 0

• Weighing by wind speed is not carried out for models with their speed set only as High or only as High and low.
• Distribution ratios are not calculated when you have chosen not to perform distribution ratio calculations. (See “6.3.2 Setting the date, cut-off date, and distribution ratio calculation method”)

10 Calculating air conditioner distribution

Calculate **electricity/gas usage index of entire distribution group**

Let “TOTALe” be the electricity usage index of entire distribution group,
and let “TOTALg” be the gas usage index of entire distribution group.
Let “m” be the number of indoor units in the distribution group.

TOTALe = TE1 + TE2 + ··· + TEm
TOTALg = TG1 + TG2 + ··· + TGm

Calculate **electricity/gas usage distribution ratio of indoor units**
Let “REi” be the electricity usage distribution ratio,
and let “RGi” be the gas usage distribution ratio.

REi (%) = TEi / TOTALe × 100
RGi (%) = TGi / TOTALg × 100

Calculate **electricity/gas usage distribution ratio of tenant j**
Let “NEj” be the electricity usage distribution ratio of tenant j,
and let “NGj” be the gas usage distribution ratio of tenant j.
Let “n” be the number of indoor units of tenant j.

NEj (%) = RE1 + RE2 + ··· + REn
NGj (%) = RG1 + RG2 + ··· + RGn

Distribution ratios are rounded at the third decimal place and shown to the second decimal place.

* The following table shows which of the formulas ① to ③ on the previous page are used by the two distribution modes.

		T/S ON+OFF time distribution mode	T/S ON time distribution mode
GHP	Electricity	①	②
	Gas	②	②
PAC	Electricity	③	②
	Gas	—	—
HOT	Electricity	③	②
	Gas	②	②

See “About distribution ratios in 12 Supplementary Information”.

10.2 Calculating air conditioner energy usage

Calculate **electricity/gas usage of entire distribution group**

Electricity usage for distribution group = Pulse meter (electricity) count value × Pulse unit amount (kWh)
Gas usage for distribution group = Pulse meter (gas) count value × Pulse unit amount (m^3)

Calculate **electricity/gas usage of indoor units**

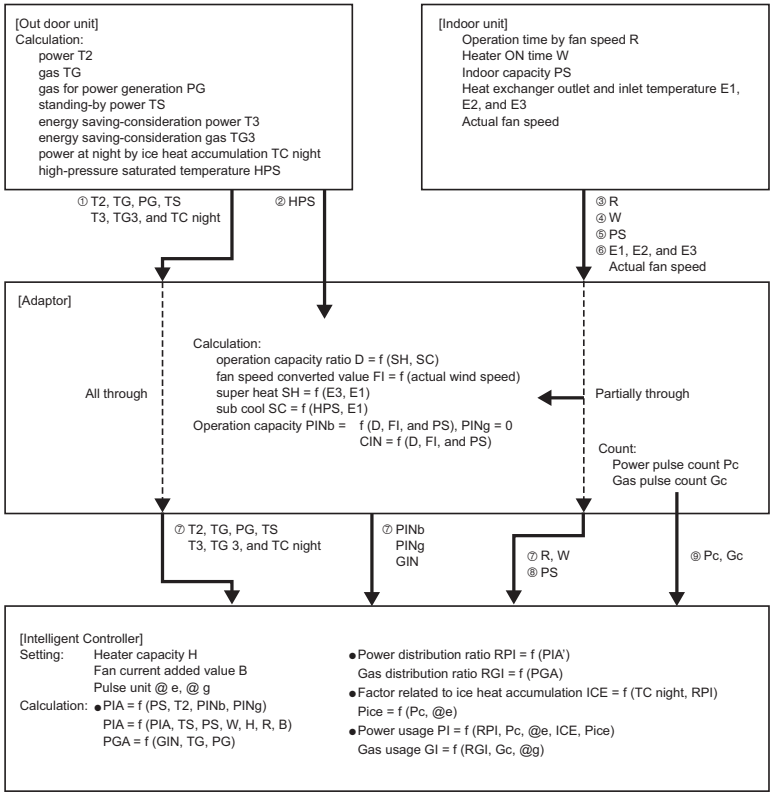
Electricity usage for indoor unit = Electricity usage for distribution group × Electricity consumption distribution ratio for indoor unit
Gas usage for indoor unit = Gas usage for distribution group × Gas consumption distribution ratio for indoor unit

The usage is **rounded** to two decimal places and displayed.

See "About distribution ratios and energy usage" in "12 Supplementary Information".

10.3 Calculating loaded distribution

Data flow



* "f" means function. For example:
Operation capacity ratio D = f (SH, SC)
means that the operation capacity ratio is calculated using super heat SH and sub cool SC.

Calculation parameter	Simple distribution	Loaded distribution
Indoor unit capacity (kW)	❍	❍
Indoor unit operation time	❍	❍
Indoor fan speed ratio (high, medium, low)	×	❍
Outdoor unit operation ratio (Power: detected using CT, Gas: neuro-calculation)	×	❍
Standing-by power and various heater powers	×	❍
Indoor unit loaded ratio (Calculated using the values detected by multiple internal thermo sensor of indoor unit)	×	❍□ (Overheat degree)

❍:parameters considered in distribution calculation
×:parameters not considered in distribution calculation

11 TERMS

This section explains some of the terms used in this manual.

■ **Adaptor address (No. 0 set on Intelligent Controller, No. 1 to 7 set on communication adaptors)**
An adaptor address is the address assigned to an optional communication adaptor.

■ **Link system address (No. 1 to 2, fixed)**
A link system is a collection of indoor units and outdoor units connected to a single inter-unit control wire. Up to two link systems each can be connected to the Intelligent Controller and to an optional communication adaptor.

■ **Outdoor unit system address (No. 1 to 30 for each link system, set on outdoor unit side)**
An outdoor unit system is collection consisting of one outdoor unit and the indoor units connected to that outdoor unit. A single link system can contain up to 30 outdoor systems.

■ **Indoor unit address**
Up to 64 indoor units can be connected in one link system.
The Intelligent Controller system supports up to two link systems connected to the Intelligent Controller only (128 indoor units), or four link systems (256 indoor units) when an optional communication adaptor is connected.
Indoor unit addresses, central control addresses, and unit names are applied to indoor units.

- **Indoor unit address** (No.1~/for each outdoor unit system, set on indoor unit side)
  An indoor unit address is a unique number within an outdoor unit system.
  These numbers are assigned to each indoor unit, including units subject to group control.
  These numbers are the smallest unit of totals calculation and distribution calculation.
- **Central control address** (No.1 to 64 for each link system, set on Intelligent Controller and other central control equipment)
  A central control address is a unique number within a link system. It is shared with other central control equipment (system controllers, multi controllers, etc.)
  This is the same address used in group control.
- **Unit name** (set on Intelligent Controller)
  This is the same name used in group control.
  It is the smallest unit of operation, monitoring, and timer operations.

■ **Distribution group number (No. 1 to 8, set on Intelligent Controller)**
A distribution group is made up of one or more tenants. The total of the distribution ratios in the group is 100%. The Intelligent Controller system supports up to 8 distribution groups. GHP, PAC, and HOT units cannot be mixed in a single distribution group.

■ **Tenant number (No. 1 to 256 set on Intelligent Controller)**
A tenant is a collection that is the object of distribution calculations (or operation and monitoring). It is made up of one or more indoor units. The system as a whole supports up to 256 tenants.

■ **Zone number (No. 1 to 128, set on Intelligent Controller)**
A zone is unrelated to distribution. It is a range for performing all-unit operation, monitoring, and timer operation. GHP, PAC, and HOT units can be mixed in a zone. The system as a whole supports up to 128 zones.

12 Supplementary Information

■ Powering the system off
Always use the following procedure to power the Intelligent Controller off.

Touch the Power off button in the “Other settings” screen (Main 6 Sub 9).

⇩

Touch the OK button in the message box which appears to ask if you want to exit the program.

⇩

Wait until a message appears to inform you that “It is now safe to turn off the Intelligent Controller.” (*) and then power the system off.
(*Several minutes may pass before this message appears.)

■ Air conditioner limitations
Some types of air conditioners are limited in the settings which they support.
For example, cooling-only air conditions cannot be set to heating.
Floor-type models typically support only high fan speeds.
Ceiling mounted models do not have flaps, and therefore cannot change the fan direction.
You should be aware of the limitations of the air conditioner models in your system.
For more information, contact your dealer or service provider.

■ Standby power (for simple distribution)
The Intelligent Controller performs distribution calculations on the basis of indoor unit operating time. Therefore it does not count power consumed while under are stopped (on standby).
For example, if no units are operated over the course of a month, no standby power consumption is distributed to any tenant. However if a unit is operated for even one minute, then all of the standby power consumption is distributed to the corresponding tenant.
For loaded distribution, distribution is made with standing-by power added.

■ W Multi GHP outdoor unit data is displayed as “Reference unit”.
Because the reference unit changes depending on operating conditions, the data displayed by the Intelligent Controller also changes.
Outdoor unit data is data such as “number of operations” and “operating time”.

■ Only an alarm code is displayed in the notification bar and alarm log display.
The content of an alarm can very for different models, even if the alarm code is the same. Consult the documentation of the various models to determine the content of the alarm.

■ Because of data transmission delay, the totals and distribution data displayed by the Intelligent Controller for different time zone (regular hours, out of hours, special days) may not be counted in a completely accurate fashion.
For details, see “6.6.3 Time zone totals and distribution”.

■ Filter cleaning signs and oil exchange signs are updated every 7 minutes (maximum).
Operating time totals and distribution data are updated every 18 minutes. Electric heater ON time is updated once an hour.

■ Cut off processing for the previous day is performed every day for a few minutes after 00:00 a.m. The system will not respond to user input during this processing.

■ After the settings of an indoor unit are changed from the Intelligent Controller, the display may revert temporarily to the former settings. This is more likely to occur with all-unit operations. The cause is communications delay, not any malfunction in the system. If you wait a few minutes, the display will show the correct information.

12 Supplementary Information

■ Errors occurred while operating during a thunder storm or because of electromagnetic interference.
Power the Intelligent Controller off and then on again. (Refer to “Powering the system off” stated on the previous page)
As a rule, the Intelligent Controller should be powered off only in cases such as the above.
Correct management of air conditioning is not possible when the Intelligent Controller is powered off.

■ About distribution ratios and energy usage
The formulas used by the Intelligent Controller to calculate air conditioning distribution ratios and energy usage are only approximations. They normally do not yield the same amounts that appear on bills from electric and gas utilities.
Depending on operating conditions, there may be a margin of error between distribution ratios and actual air conditioning amounts.
There may also be a small margin of error between the following, due to the rounding algorithms used in distribution ratio calculations.

- “Distribution ratios of tenants in a group” and “100.00%”
- “Total of distribution ratios” and “Overall tenant distribution ratio”
- “Total of usage by each tenant” and “Total usage indicated by pulse meters”
- “Total of usage during regular hour, out of hours, and special days time zones” and “Total of all hours time zones”

The Intelligent Controller does not measure energy use directly. It calculates energy distribution ratio based on the inferred load ratio of each indoor unit. The results of the calculations should be regarded as approximations.

■ About operating time totals
Air conditioning distributions and air conditioner operating times are calculated only for periods in which the Intelligent Controller is powered on and in which there are no communications errors between the Intelligent Controller and the air conditioners.
Therefore, no totals are accumulated for times when the Intelligent Controller is powered off or in which communications errors occur.
You should be aware that errors in distribution ratios will become larger if conditions like the above continue for a longer period of time.

■ Setting the current date and time
The current date and time should be set on a regular basis, since the system clock can gain or lose up to about two minutes per month.

■ Touch panel operations are not possible at the following times.

- While the system is booting
- During connection checks
- Under cut-off processing
- During PC Card access (backup, restore)

■ About passwords
Passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.
If you forget your password, contact your dealer or service provider.

■ Flickering on the screen
This may occur occasionally. It is due to data refreshing and is not a malfunction.

12 Supplementary Information

■ About Interface adaptors
You can use Interface adaptors to connect equipment that can be turned on and off (fans, room air conditioners and so on) to the Intelligent Controller.
However, note that the following limitations apply.
For details, refer to the documentation of the equipment or contact your dealer or service provider.

▶ Central control is supported for the following operations only.

- Start/stop
- Remote control prohibition (start/stop only)

Timer settings are supported, but settings other than "start/stop" and "remote control prohibition" are ignored. Remote control prohibition is possible only when prohibition signal output from the Interface adaptor has been connected to the equipment. Even in this case, the only operations that can be prohibited are start and stop.

▶ For each screen from Main 1 Sub 1 to Main 1 Sub 5, it appears in light purple during the ON operation.

▶ Alarm display
Alarm details are not shown.
The “C12” code is displayed (meaning Interface adaptor all-unit alarm).
However, this is possible only when a Interface adaptor alarm input signal has been connected.

▶ About air conditioning distribution
① Indoor unit fan speed data
Total operating times by fan speed are fixed at high speed. (Units are treated as if they always operated at high speed, even if the thermostat ON signal is connected to the unit.)
② Electric heater ON time
Total electric heater ON time is not displayed.
③ Indoor unit capacity values
These cannot be read automatically. Set them as kW values in the "I/D unit settings" screen (Distribution is not performed if they are not set.)
④ Product types
When connected via Interface adaptors, the system cannot distinguish PAC and GHP units. You need to set the type as well when you set the indoor unit capacity.
(Refer to “Tenant name/Distribution group” screen Main 5 Sub 3)
⑤ This applicable only to simple distribution. No loaded distribution can be made.

▶ As long as it conforms to the contact specifications of the Interface adaptors, any type of equipment can be connected to the Intelligent Controller. However, you should avoid connecting equipment whose operation can have grave consequences for life or property.

■ When only one centralized control unit is installed in a system without remote controller, if the centralized control unit is damaged, the air conditioner(s) may become inoperable, or other troubles may occur. To avoid this problem, we recommend that you install multiple centralized control units.

12 Supplementary Information

★ IMPORTANT ★

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  Other products names are trademarks or registered trademarks of their respective holders, or copyrights of their respective holders.
- Duplication of all or part of the software and documentation of this product without the express consent of the holder of the rights to the above, and transfer of the software to another party, are prohibited by law.
- We will not be liable for any loss, lost profits, or any incidental damages due to use of this product or the supplied software. We will not be liable to any claim based on a third-party claim.
  Even in the case of errors in calculations of distribution ratios, and so on, we will not be responsible for any remedies.
- The software supplied with this product may not be used on any other equipment.
- This product and the supplied software are subject to change without notice.
  The contents of this manual are subject to change without notice.
- We will not be liable for any violation of the rights of any third party stemming from use of information in this manual, or for violation of other rights.

13 Troubleshooting

Before requesting service, check the following items.
Do not attempt to service the Intelligent Controller yourself. Doing so can be dangerous.

Symptom	Cause
Nothing appears on the screen when the computer is turned on.	• Is the power cord connected? • Is the power switch set to on?
Timer operation does not work.	• Is timer operation set to the target unit? Operation of a selected timer does not start if the setting is not set the target unit. • Does the setting match the current date and time?If the date and time do not match, operation can start at an unexpected time. (See “6.3.2 Setting the date, cut-off date, and distribution ratio calculation method”)
The distribution ratio is always 100%.	• Check the group settings and tenant settings. • Distribution rate calculations always result in 100% if there is only one tenant registered in a distribution group, or if there is only one indoor unit in a tenant.
The power goes off at odd times.	• The screen may be blank because of the power-saving auto off function. The Intelligent Controller is still powered on. Touch the screen to restore the display. • Regardless of the selected auto off time, the screen may be turned off when the Intelligent Controller boots.
There is an alarm message in the notification bar at the bottom of the screen that will not go away.	• The message displays the unit where the alarm occurred, and the alarm number. Inform your dealer or service provider about the content of the message.
Backing up to a PC Card does not work.	• Data can be backed up only to the special PC Cards (option) for the Intelligent Controller. Backup to other PC Card types is not possible.
It takes a long time after an operation for the screen to be updated.	• A certain amount of time may be required depending on the state of communications with the connected air conditioners. Please wait until all of the information is received.
LCD display	• In rare cases there may be a dot on the screen which is always on or always off. This is not a malfunction. Due to the nature of LCD displays, there may be some color bleeding in certain areas because of variations in temperature and so on. This is normal and not a malfunction.
Nothing happens when an operation button is pressed.	• Over extended use, the touch positions and display positions on the touch panel may get out of alignment. (→ “6.8.9.7. Calibrating touch panels”)
When local remote control operation is prohibited on the Intelligent Controller, the Intelligent Controller is not able to start/stop operation of a malfunctioning air conditioner.	• Emergency operations until our service person arrives: Power off the Intelligent Controller and externally installed communication adaptor; re-power on the indoor unit. Operation with the local remote control will be possible. However, this cannot be done in a remote control free system.
A power outage occurred. When it ended, the equipment did not come on automatically according to program timer settings.	• The Intelligent Controller does not power on equipment automatically by program timer after a power outage. The setting for the next programmed time will be executed when the time arrives.
The Intelligent Controller cannot detect a single indoor unit. Or it cannot find all of them.	• Try using the “Check configuration” button in the “Other settings” screen (Main 6 Sub 9).

13 Troubleshooting

Symptom	Cause
One of the following messages is displayed and the unit does not start. • Application error !! • DiskErr • CF error !!	• Contact the store where you purchased the system or our service agency.
A message, “Diskxx access error”, is displayed. (xx is a number from 1 to 4)	Press the [Check] button to close, and press [Reset] to the left of the clock display. If the same message appears again, consult your local dealer or service representative.

14 Maintenance

■ **Unplug the power cord before cleaning the Intelligent Controller.**

The system has high-voltage connectors and other dangerous components. Always power the system off and unplug the power cord before cleaning it.

■ **Use a neutral solvent**

To clean the control panel and touch panel, use a soft cloth slightly moistened with a neutral solvent. Do not use volatile liquids such as benzene or thinner, and do not use polishing power or pesticides. Doing so can damage painted surfaces and the surface of the touch panel.

■ **Avoid direct contact with water**

Do not allow water to contact the product directly.
Insulation will be impaired, which may result in damage or electrical shorts.

■ **Do not disassemble**

Do not disassemble the Intelligent Controller.
Doing so is extremely dangerous. It may damage the unit or cause electrical shock.

■ **Check the mounting of components**

Several times a year, check to make certain that the mounting of components such as the control panel has not been weakened by rust or corrosion.

15 Specifications

Product number		CZ-256ESMC2
External dimensions		(H) 240 × (W) 280 × (D) 138 mm
Method of installation		Front door of control panel
Maximum number of connectable units		Maximum 128 air conditioners (indoor units) Maximum 256 air conditioners (indoor units) with communication adaptor connected
Timer precision		± Approx. 2 minutes/month (normal temperature)
Timers	Setting unit	1 minute
	Operation	50 times/day 50 types of daily timer / 50 types of weekly timer
	Program cycle	1 week
Temperature / humidity ranges for use		5°C to 40°C / 20% to 80%
Display		6.5-inch TFT color LCD display (640 x 480 pixels), with backlight
Power requirements		Single-phase 100-240 V ~ 50/60 Hz
Power consumption		Max. 30 W
Weight		3.4 kg

16 Installation (Electric) and Service Instructions

Safety Precautions

- Before conducting installation or electrical work, be sure to carefully read these "Safety Precautions" and follow them carefully.
- The precautions given in this manual consist of specific "Warnings" and "Cautions". Be sure to follow these precautions, as they provide important safety related information. The labels and their meanings are as described below.

⚠ Warning	This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠ Caution	This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

⚠ Warning

- Be sure to arrange installation at the dealer where the system was purchased or use a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Carefully follow these Installation (Electric) and Service Instructions when installing the unit. Electric shock or fire may result if the unit is not installed correctly.
- Electrical installation should be performed by qualified electrician, in accordance with the provisions of the Technical Standards for Electrical Installations, local regulations for indoor wiring, and these Installation (Electric) and Service Instructions. Be sure to use a dedicated electrical circuit. Insufficient electrical circuit capacity may result in electric shock or fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Fasten the cables securely so that the cables will not exert force on the connection terminals. Insecure connections or fastening may result in overheating or fire.
- The installation location may require the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.

⚠ Caution

- When performing electrical installation, discharge any accumulated static electricity to ground before touching the unit.

Supplied parts

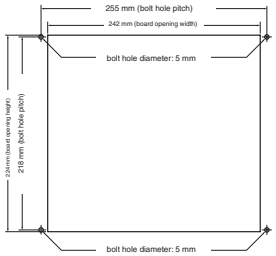
Part number	Part name	Quantity	Part number	Part name	Quantity
①	Small pan head bolt (M4 x 10)	4	②	Nut (M4)	4
③	Flat washer	4	④	Cable tie	6
⑤	Operation Manual	1			

Specifications

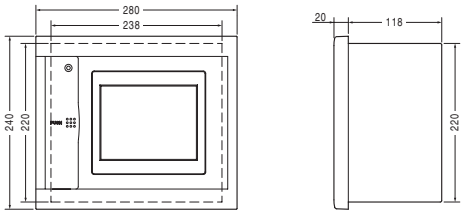
Rated voltage ..... 100 - 240 V~, single phase
Rated frequency ..... 50/60 Hz
Power consumption ..... 30 W max.
Operating temperature ... 5° to 40° C
Operating humidity ..... 20 to 80% (non-condensing)

1 Cautions regarding the design of the control box

Control box machining diagram



External dimensions

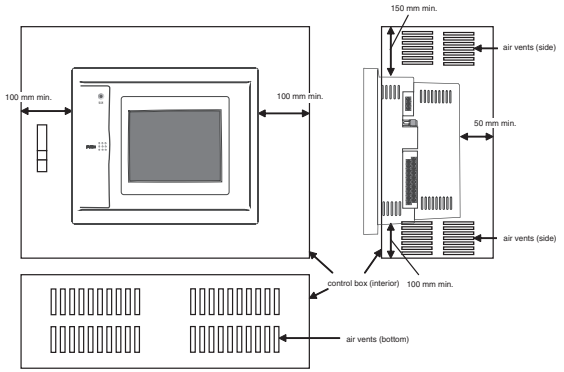


16 Installation (Electric) and Service Instructions

Take the following into consideration when designing the control box:

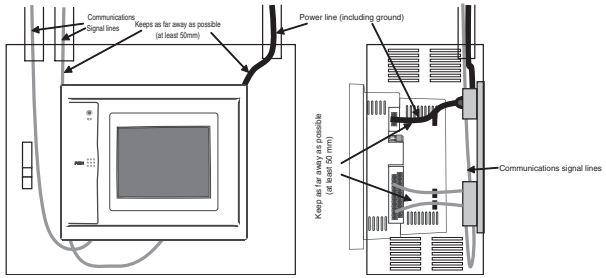
1. To ensure sufficient airflow for cooling, provide air vents (holes, slots, etc.) on the upper, lower, left and right sides of the box, as shown in the figure below. (Be sure not to clog the ventilation hole when setting.)
   Ensure that the temperature inside the control box does not exceed 40 °C.

Control box example



2. Keep the power and communications signal lines as far apart as possible (at least 50 mm, if cabled inside the control box) to reduce the effects of electrical noise.

Wiring example



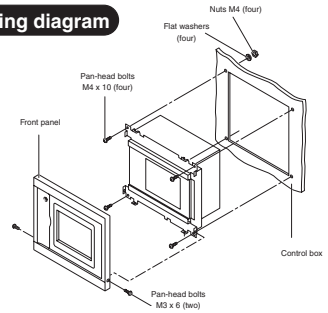
2 Mounting

Caution

- Do not route communications signal lines or input / output signal lines close to power supply lines, or routing them through the same conduit. Doing so may result in malfunction.
- Mount the unit far away from potential noise sources.
- Do not mount the unit where it could get wet, or in areas of high humidity.
- Do not mount the unit where it could be subject to excessive vibration or shocks.
- Mount the unit inside a control box.

(1) Remove the two pan-head bolts from the lower sides and bottom of the front panel.
(2) Mount the controller unit to the control box using the four supplied bolts, washers, and nuts.
(3) Replace the front panel.

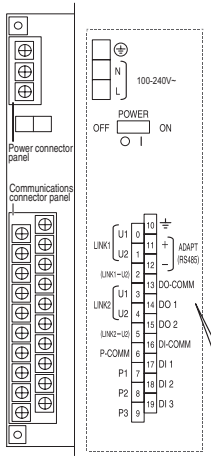
Mounting diagram



3 Wiring

Always shut off the power supply (breaker) before installing or uninstalling.

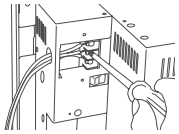
Connection terminals



(1) Power supply connection

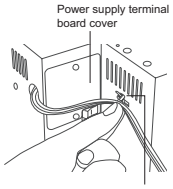
Connect the power supply to the commercial power mains (100 to 240 V AC), using a dedicated circuit.
Connect the power supply lines to the L and N power supply terminals (the power supply neutral to the N terminal).
Connect an earth ground line to the ⏚ power supply terminal.

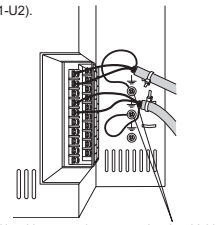
Attach the power supply terminal board cover.
Firmly secure the the power lines using the supplied cable tie.



(2) Signal connection

- Connect indoor and outdoor signals using 0.5 - 2.0 mm² two-conductor cable.
- Overall length of each signal line should be 1 km or less.
- Use the shielded wire for inter-unit control wiring.
- Do not run signal lines through the same conduit as power supply lines, use the same cable as the power supply, or run close to the power supply lines (maintain at least 30 cm separation, if cabled outside the control box).
- Do not run the LINK1 and LINK2 signal lines through the same conduit, use the same cable for wiring, or run the signal lines close together.
- Earth the shield wire of the Inter-unit control wire (U1-U2).



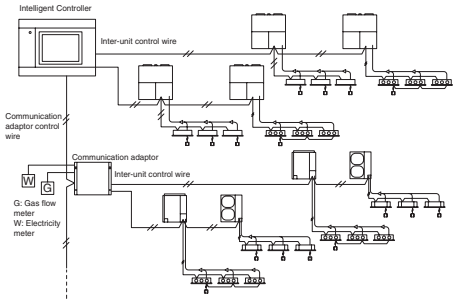


Terminal names and uses

ADAPT +/-	:	Communication adaptor control wire (RS-485)
LINK 1/2	:	Inter-unit control wire (HBS)
P1	:	Pulse meter input (Gas flow meter, fuel meter)
P2 - 3	:	Pulse meter input (Electricity meter)
DI 1	:	All stop input
DI 2	:	All start input
DI 3	:	reserved
DO 1	:	All alarm output
DO 2	:	All operation output

Basic wiring diagram

Wire up the communication adaptor control wire and Inter-unit control wire as shown in the figure below.



* When connecting link systems (inter-unit control wires), always connect beginning with LINK1 and LINK2 on the Intelligent Controller. Up to 4 link systems can be connected.

Wiring procedure

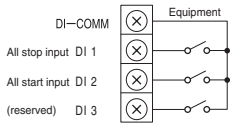
- Inter-unit control wire (no polarity)
  Connect signal terminals 0 and 1 (LINK1) to the Inter-unit control wire terminals of an indoor or outdoor unit. If using two link systems for connection, connect signal terminals 3 and 4 (LINK2) in the same manner.
- Communication adaptor control lines (note + and - polarity)
  Up to seven external communication adaptors can be connected to the control unit (see figure at left). However, a maximum of four links is supported. Be sure to follow the communications adaptor Installation Instructions when connecting the adaptors. Make sure that power lines are not connected to the communication adaptor terminals or Inter-unit control wire terminals.

* If the power voltage is accidentally applied to the Inter-unit control wire terminals, a fuse will blow to protect the controller board. If this happens, disconnect the power line, and connect the Inter-unit control wire to the spare U2 terminal. (The other signal line can stay connected to the U1 terminal.) The spare U2 terminals are right next to the main U2 terminals.

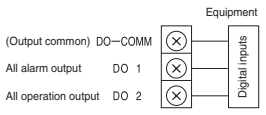
Use terminal 2 (LINK1-U2) instead of terminal 1
Use terminal 5 (LINK2-U2) instead of terminal 4

4 Connecting to external equipment

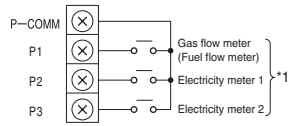
(1) External system inputs
(no-voltage contact point static)



(2) External system outputs
(no-voltage contact point static)



(3) Pulse meter inputs
(no-voltage contact point pulse)



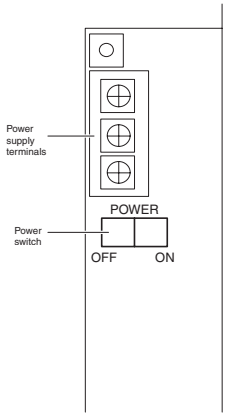
*1 Factory default setting (alterable)

- Keep the input and output signal line lengths to under 20 meters. For distances greater than this, install a standalone communication adaptor, or use a relay.
- For use in areas that may be susceptible to electrical noise, use two-conductor shielded cable (with one line grounded), with a cross-section of 0.5 mm² or greater.
- Do not apply external voltages to the input terminals.
- The input terminals use a sensing current of about 10 mA at 5 V DC.
- The output terminal allowable contact voltage and current are 30 V DC, 0.5 A.

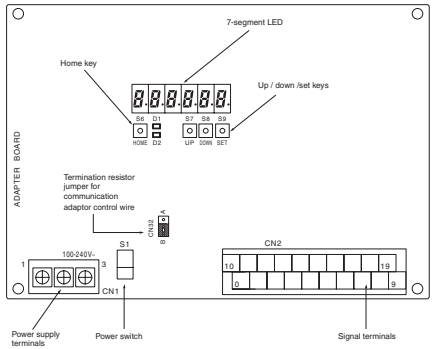
- Minimum pulse width 100 msec
- Minimum pulse interval 1 sec

5 Power switch

The Intelligent Controller has a power switch.If the LCD is blank after connecting power, check the position of the power switch.



6 Circuit board diagram



* Ordinarily, there is no need to change any settings on the Intelligent Controller board.

7 Verify the system configuration, make necessary settings

① Turn on power to all air conditioner units.
② Turn on power to the Intelligent Controller.
③ Set the date and time on the Intelligent Controller and verify the system configuration.
④ Following the display on the Intelligent Controller, verify the number of units connected.
⑤ Perform the necessary settings. **Be sure to set the central control address.**
* See the Operation Manual for details.

8 Educating the customer

- Give the Operation Manual to the customer.
- Explain the operation to the customer, following the explanations given in the Operation Manual.

Panasonic

Centralized Control System

CZ-256ESMC2

Operation Manual

INTELLIGENT CONTROLLER

Access and Operation by Web Browser

Thank you for choosing the CZ-256ESMC2 Intelligent Controller.
Before using the system, be sure to read this manual carefully.

Contents

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   3-2. [Each Tenant Details] Screen....5
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Access and Operation by Web Browser

Accessing the Intelligent Controller from your computer allows you to monitor/operate air-conditioning equipment using a Web browser.

1. Computer Environment Requirements

In order to use the web browser of your computer to connect to the Intelligent Controller and monitor/operate air-conditioning equipment, the following environment requirements must be met.

Supported browser : Internet Explorer 6.0 or later
Java applet : Sun Microsystems Java Plugin Ver 1.4.2 or later
Screen resolution : 1024 × 768 recommended

2. Log-in

To log in to the Intelligent Controller, enter the following into the address bar of the web browser:
http://[Intelligent Controller address]/SACWWW/index_[language code].asp

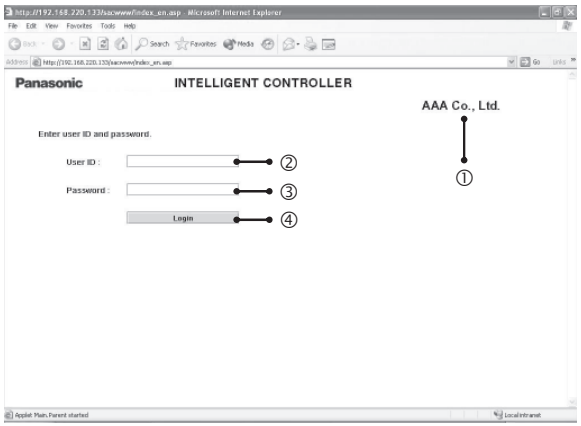
For example, if the Intelligent Controller address is 192.168.0.2 and you want to connect to the English page, enter:
http://192.168.0.2/SACWWW/index_en.asp

If the DNS is used and ID name (device name) of the Intelligent Controller is “WindowsCE0”, enter:
http://WindowsCE0/SACWWW/index_en.asp.

The language codes are as follows.

English	: en	French	: fr	German	: de	Italian	: it
Portuguese	: pt	Spanish	: es				
Chinese	: zh	Japanese	: ja	Korean	: ko		

This will cause the web browser to connect to the Intelligent Controller, and a screen such as shown below appears.
Enter the user ID and password set for the Intelligent Controller to log in.

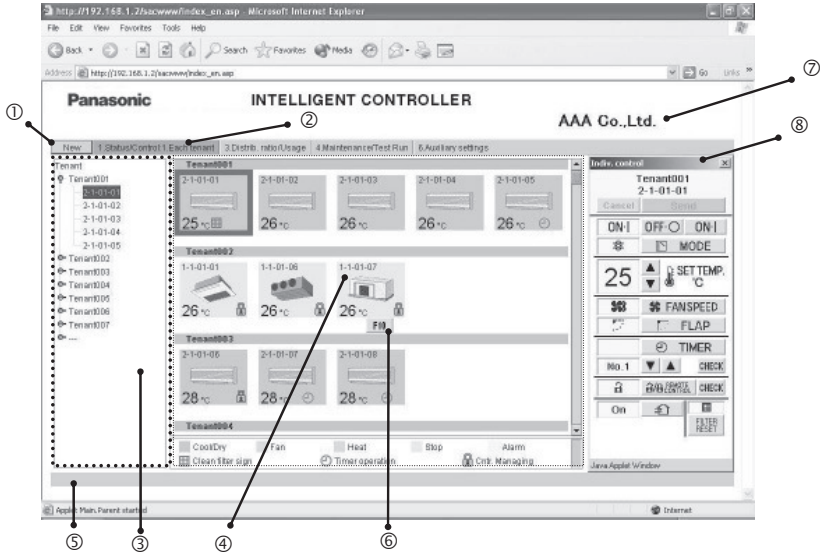


① Shows the site name that was set for Intelligent Controller.
② Enter the user ID that was set for Intelligent Controller.
③ Enter the password that was set for Intelligent Controller.
④ Click the **Login** button.

3. Screen Display and Operation

3-1. [Each Tenant] Screen

After you log in to the Intelligent Controller, or when you use the menu to select [1. Status/Control : 1. Each tenant], a screen such as shown below appears. (Screen details may differ depending on the user logged in.)



① **New button**
Updates the screen to the latest information.

② **Menu**
(The menu may differ depending on the user logged in. The following menu appears when logged in as an administrator.)
Lets you select one of the following screens.

★Administrator Menu



★Special User Menu



★General User Menu



③ **Tenant list**
Shows the indoor unit and tenant structure currently accessed by the Intelligent Controller in a list. Select indoor units by clicking different parts of the list.
Clicking on the part highlighted in the screen example above will select the individual indoor unit, while clicking on the tenant name (Tenant001, Tenant002, etc. in the example) will select all indoor units for that tenant. Clicking on the top of the list (Tenant in the example) will select all indoor units of the site.
Only the tenants that can be operated by the user permission used to log in (administrator, special, general) are displayed.

④ **Icon display area**
Shows icons for indoor units connected to the Intelligent Controller.
Clicking on an icon whose frame is shown in reverse will select that unit. Clicking on a tenant name will select that tenant.

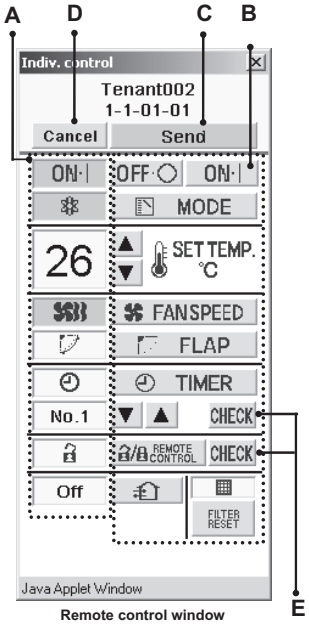
> If an Interface Adaptor is used, the icon display becomes light purple during the ON operation.

⑤ **Notification column**
Shows information about the connection status of web browser and Intelligent Controller, etc.

⑥ **Alarm code display**
Shows the alarm code as a tooltip when the cursor is moved over the icon of the indoor unit for which the alarm is occurring.

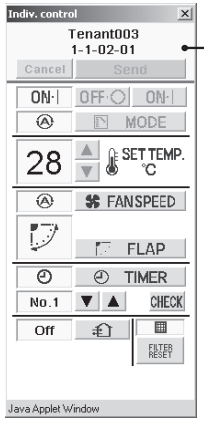
⑦ **Site name**
The “Site name” set in the Intelligent Controller appears.

⑧ **Remote control window**
Shows the Remote control window. When this window has been closed, clicking on the indoor unit or making another selection will bring it up again.



Remote control window

A Status/Control screen section
Shows the status of the indoor unit and the operation condition.
When a control operation is performed, the background color of the respective field changes and the Send button becomes available. Clicking the Send button will send all operation steps performed up to this point to the Intelligent Controller. If you instead click the Cancel button or perform a step such as selecting another indoor unit, operation steps performed up to this point will be canceled.



Remote control window for general user

B Control section

Shows controls for possible operation steps such as start/stop switching, operation mode selection, temperature selection, fan speed setting, fan direction setting etc.

If the logged in user has only general user privileges, buttons for restricted operation steps will be grayed out (inactive).

The REMOTE CONTROL and CHECK buttons will not be displayed.

C Send button

Sends the changes made to the Intelligent Controller.

D Cancel button

Cancels the changes made.

E CHECK buttons

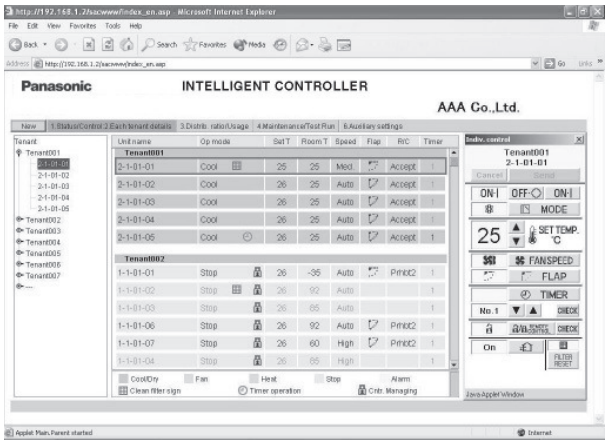
Used to check the timer setting and remote control prohibition setting status.

(See “3-7. Program Timer Screen” and “3-9. Prohibit Remote Control Screen”.)

Clicking the Return button will return the display to the previous screen.

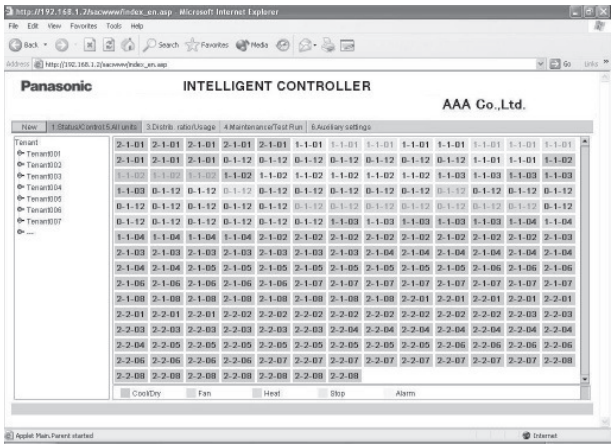
3-2. [Each Tenant Details] Screen

When you use the menu to select [1. Status/Control : 2. Each tenant details], a screen such as shown below appears. (Screen details may differ depending on the user logged in.) Operation principles for this screen are similar to those of the “3-1. [Each tenant] screen”.



3-3. [All Units] Screen

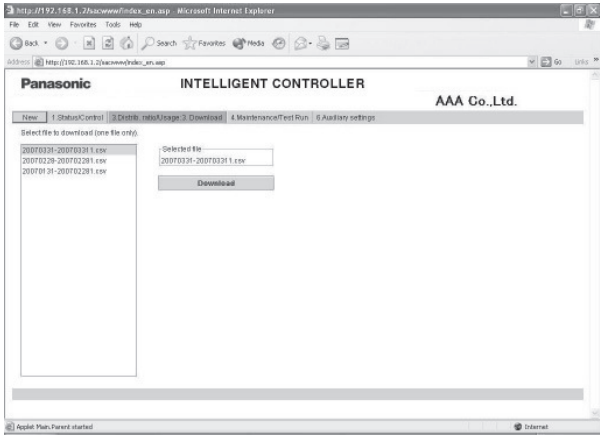
When you use the menu to select [1. Status/Control : 5. All units], a screen such as shown below appears. (Screen details may differ depending on the user logged in.) A maximum of 256 indoor units are displayed in 1 screen. Operation principles for this screen are similar to those of the “3-1. [Each tenant] screen”.



3-4. Distribution Ratio/Usage: Data Download Screen

When you use the menu to select [3. Distrib. ratio/Usage : 3. Download] while logged in as an administrator, a screen such as shown below appears.

You can download files by selecting them and clicking the “Download” button.

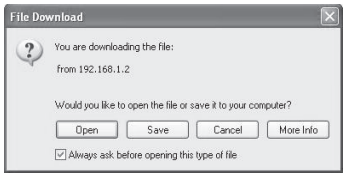


A cut-off data file appears for each piece of cut-off data that appears on the Intelligent Controller unit. Be aware, however, that the dates that appear on the Intelligent Controller unit appear as file names on this screen.

For example, cut-off data that appears as “01/Apr-30/Apr” on the Intelligent Controller will appear as “20070401-200704301.csv” on this screen.

When the following message appears after clicking the “Download” button, select “Open” or “Save”.

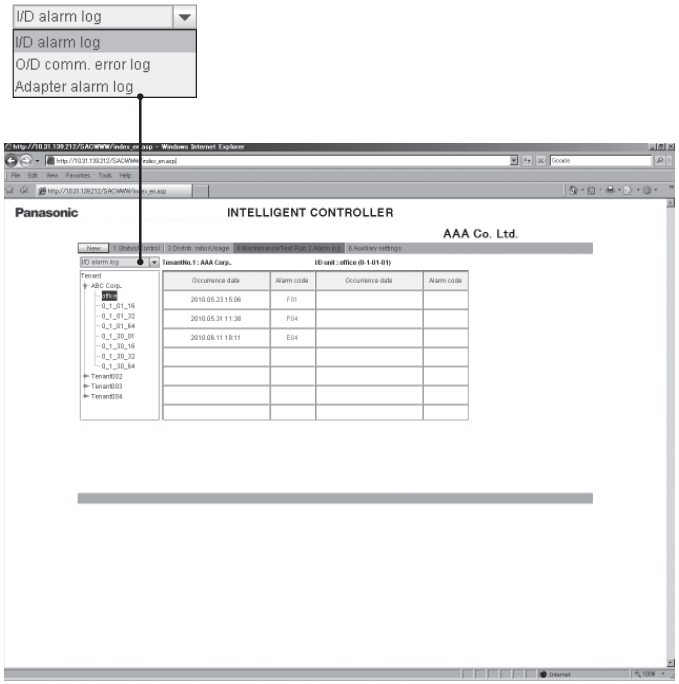
- “Open” ..... Open the selected CSV file using spreadsheet software.
- “Save” ..... Select a folder and save the CSV file.



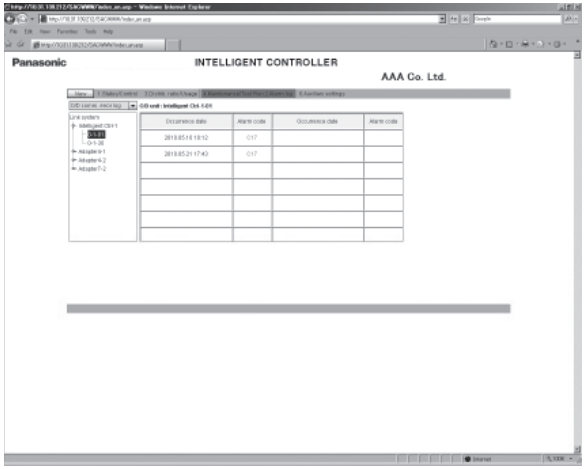
3-5. Alarm Log Screen

When you use the menu to select [4. Maintenance/Test Run : 2. Alarm log] while logged in as an administrator or special user, a screen such as shown below appears.
When an indoor unit is selected in the tree section, the previous 14 occurrences are displayed.
(Same as the display on the Intelligent Controller.)

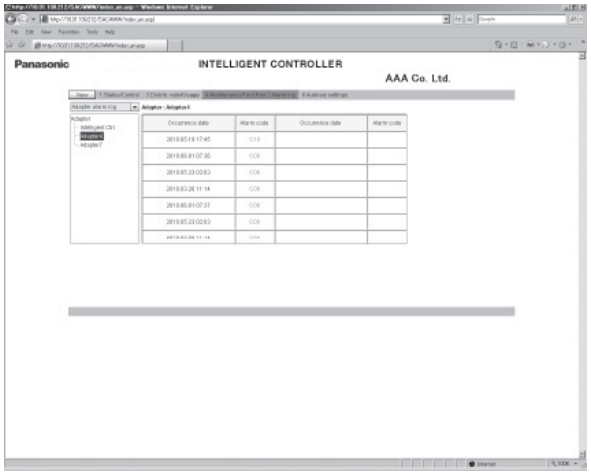
“I/D alarm log”, “O/D comm. error log”, and “Adapter alarm log” can be selected from the drop-down list.



[O/D comm. error log] logs the history of errors in communication between the outdoor unit and the Intelligent Controller or the Communication Adaptor.

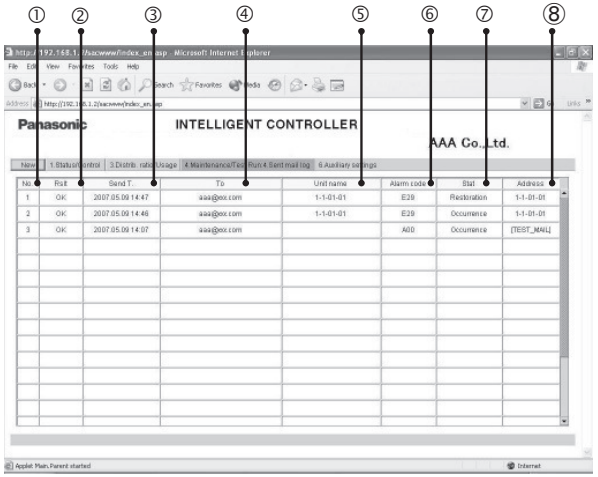


[Adapter alarm log] logs the history of warnings as determined by the Intelligent Controller or the Communication Adaptor.
(Duplicate adaptor addresses, communication error between the Intelligent Controller and adaptor, etc.)



3-6. Mail Send Log Screen

When you use the menu to select [4. Maintenance/Test Run : 4. Sent mail log] while logged in as an administrator, a screen such as shown below appears.



① No.
The entry numbers for the sent mail log. With a maximum of 20 (No. 1 to 20) possible entries, the newest entries appear at the top of the list. When the number of entries exceeds 20, entries are deleted starting with the oldest.
As up to three mail recipients can be specified, up to three log entries can be recorded for one alarm occurrence.

② Rslt
"OK" appears when an alarm mail is sent properly, and "NG" appears when sending fails.

③ Send T.
The date and time the alarm mail was sent (or sending was attempted).

④ To
The recipient address the alarm mail was sent to. If the address is too long, only part of the address may appear.

⑤ Unit name
The name of the indoor unit for which the alarm occurred.

⑥ Alarm code
The code for the alarm that occurred.

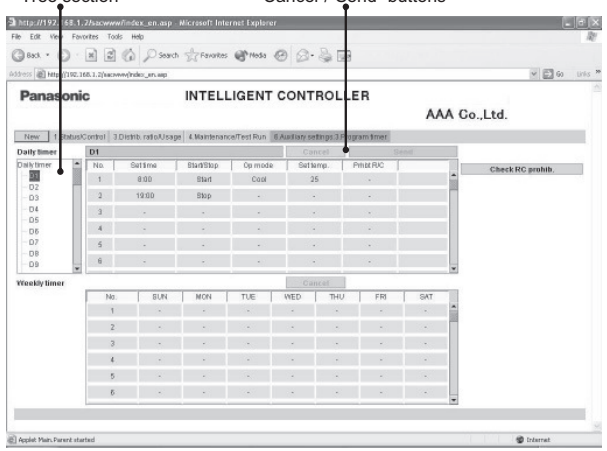
⑦ Stat
"Occurrence" appears when a notification of an alarm occurrence is sent, and "Restoration" appears when a notification of an alarm restoration is sent.

⑧ Address
The address of the indoor unit for which the alarm occurred.
The address follows the format, "adaptor number - link number - system (outdoor) number - indoor number".
When a test mail is sent, "TEST_MAIL" appears.

3-7. Program Timer Screen

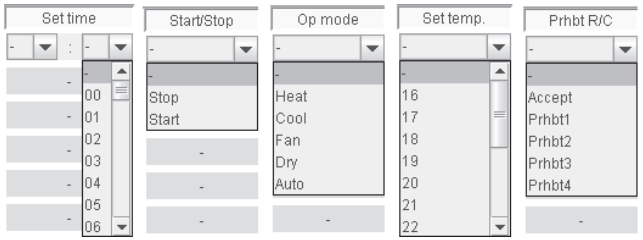
When you use the menu to select [6. Auxiliary settings : 3. Program timer] while logged in as an administrator, or use the “CHECK” button for timer operation in the remote control window, a screen such as shown below appears. (As non-administrator users can only confirm settings and not configure them, the “Cancel” and “Send” buttons only appear when logged in as an administrator.)

Tree section “Cancel”/”Send” buttons



When the daily timer number is selected in the tree section, the current setting status is displayed.

Click the desired setting item, and you can select the setting from the drop-down list as shown below.



Drop-down lists are also displayed for the weekly timer in the same way as the daily timer number.

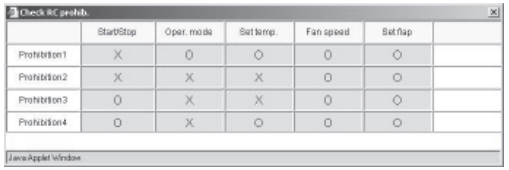
You can only configure daily timer settings one number (D1, D2, etc.) at a time. If you attempt to switch to D2 settings in the middle of configuring D1 settings, for example, the message “Send for each daily timer.” appears.



In such a case, apply or cancel the current settings by clicking the “Send” or “Cancel” button, respectively, before configuring the next daily timer number.

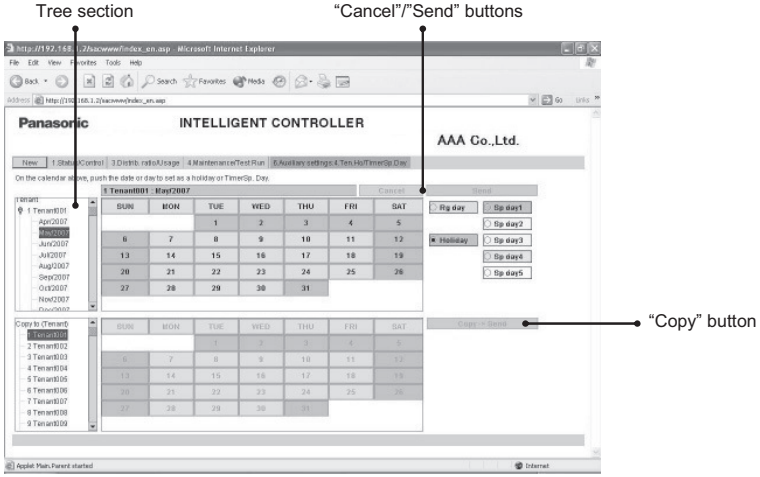
For details on the settings, refer to the operation manual for the Intelligent Controller.

The “Check RC prohib.” button appears in the above screen when logged in as an administrator or special user. When you click on this button, a screen such as shown below appears.



3-8. Tenant Holiday/Timer Special Day Screen

When you use the menu to select [6. Auxiliary settings : 4. Ten.Ho/TimerSp.Day] while logged in as an administrator, a screen such as shown below appears.



You can only configure tenant holiday/timer special day settings one tenant at a time. If you attempt to switch to Tenant002 settings in the middle of configuring Tenant001 settings, for example, the message “Send for each tenant.” appears.

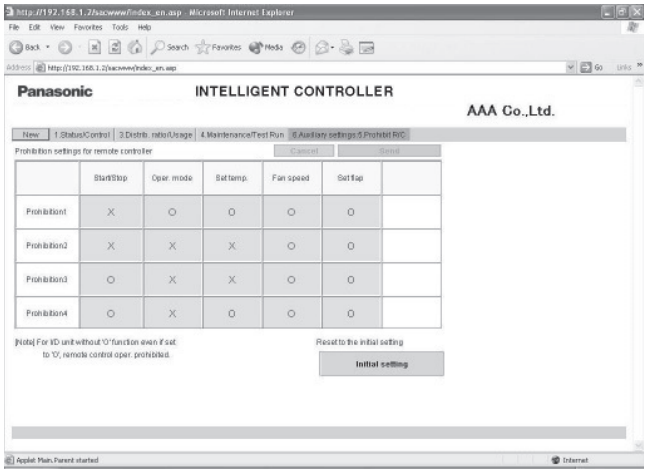


In such a case, apply or cancel the current settings by clicking the “Send” or “Cancel” button, respectively, before configuring the next tenant.
To copy changed settings, click the “Send” button and apply the settings before copying.

For details on the settings, refer to the operation manual for the Intelligent Controller.

3-9. Prohibit Remote Control Screen

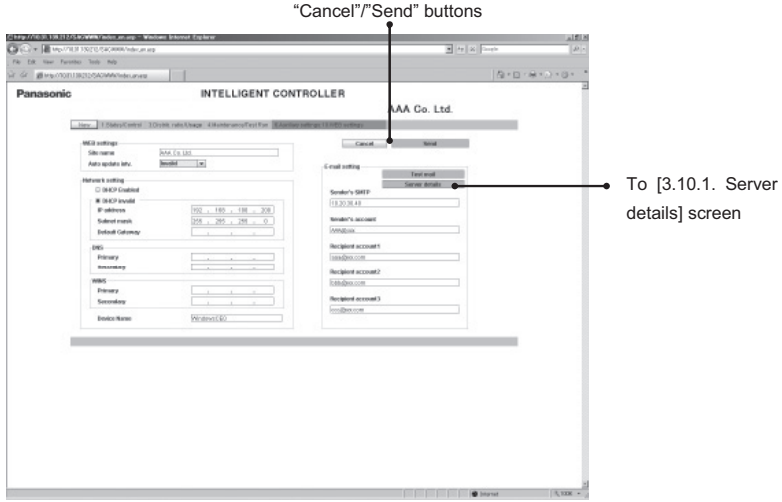
When you use the menu to select [6. Auxiliary settings : 5. Prohibit R/C] while logged in as an administrator, or click the “CHECK” button for prohibit remote control in the remote control window, a screen such as shown below appears. (As non-administrator users can only confirm settings and not configure them, the “Cancel” and “Send” buttons only appear when logged in as an administrator.)



For details on the settings, refer to the operation manual for the Intelligent Controller.

3-10. WEB Settings Screen

When you use the menu to select [6. Auxiliary settings" : 10. WEB settings] while logged in as an administrator, a screen such as shown below appears.



For details on the settings, refer to the operation manual for the Intelligent Controller.

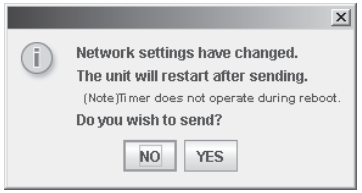
Input values have the following restrictions.

Setting Item	Input Range	Input Character Limitations
Site name	Up to 40 characters	One-byte "=" is prohibited
IP address（each block）	Numbers 0 to 255	"0.0.0.0" and "255.255.255.255" are prohibited
Subnet mask	Numbers 0 to 255	"0.0.0.0" is prohibited
Default Gateway		
DNS (Primary, Secondary)		
WINS (Primary, Secondary)		
Device Name	Alphanumeric characters, "–", and " " Up to 15 characters	First character must be alphabetic character. "-" and " _ " are prohibited as ending characters
Sender's SMTP	Up to 40 alphanumeric characters and symbols	Symbols are "@" "." " _ " ":" only
Sender's account		"=" is prohibited
Recipient account 1 to 3		

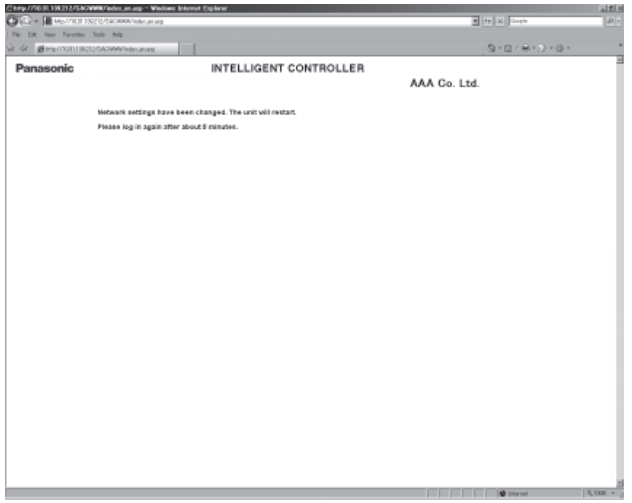
If a value that is outside the input range or input limitations is set, the window below appears.



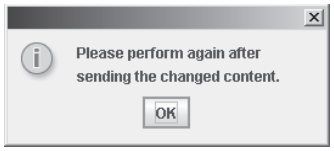
If the network settings have been changed when the "Send" button is clicked, the window below appears. Always check there is no problem restarting the Intelligent Controller unit.



When "YES" is clicked for submission, the screen changes as shown below, and the Intelligent Controller unit restarts.



When a mail test is sent, the window below appears when the mail settings have been changed.



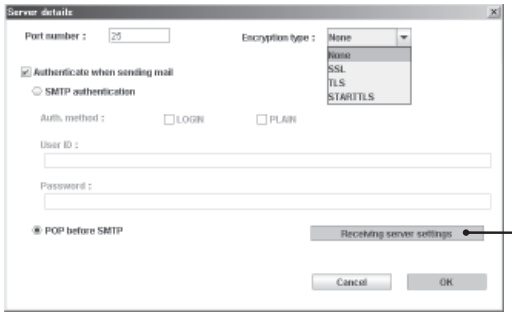
In this case, either click the “Send” button to enable the mail setting changes or click the “Cancel” button to disable the changes, and then send the mail test again.

If the Intelligent Controller unit is processing (check configuration, cut-off, backup, etc.), this screen cannot be displayed or updated, mail test cannot be sent, and setting change “Send” cannot be performed.
If the Intelligent Controller unit is displaying the initial setting screen (main menu 5) or the Settings screen (main menu 6), setting change “Send” cannot be performed. In either case, the following window appears.



3-10-1. Server details

When you click the “Server details” button from the [WEB settings] screen, a screen such as shown below appears.



To [3-10-1-1 Receiving server settings] screen

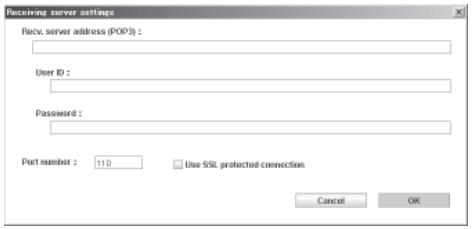
For details on the settings, refer to the operation manual for the Intelligent Controller.

Input values have the following restrictions.

Setting Item	Input Range	Input Character Limitations
Port number	Numbers 0 to 999999	
User ID	Up to 50 alphanumeric characters and symbols	
Password		

3-10-1-1. Receiving server settings

When you click the “Receiving server settings” button from the [Server details] screen, a screen such as shown below appears.



For details on the settings, refer to the operation manual for the Intelligent Controller.

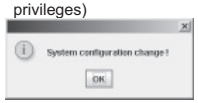
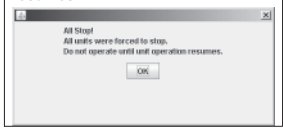
Input values have the following restrictions.

Setting Item	Input Range	Input Character Limitations
Recv. server address (POP3)	Up to 40 alphanumeric characters and symbols	Symbols are “@” “.” “_” “-” only
User ID	Up to 50 alphanumeric characters and symbols	
Password		
Port number	Numbers 0 to 999999	

4. Supplementary Information

■ When connecting the Intelligent Controller via Internet, consider implementing network security measures, such as a firewall.

■ Error Messages

Error	Cause	Remedy
System configuration change! (when logged in with Administrator privileges) 	The system configuration of the Intelligent Controller has changed.	This is a warning message. Wait a moment and resume operation.
Intelligent Controller is now processing, please wait. Please try later. 	The Intelligent Controller is applying settings. Access from the Web is heavy.	If configuring settings with the Intelligent Controller, switch to a non-settings screen (such as screen 1-n). Wait a moment and resume operation.
Communication error 	The Intelligent Controller was turned off while connected, or a cable was unplugged or the network failure.	Try the operation again. Verify that the Intelligent Controller is turned on, and that the network wiring connections are correct.
Invalid user ID 	The entered user ID is different from the user ID registered on the Intelligent Controller.	Verify the user ID that was registered to the Intelligent Controller.
Wrong password 	The entered password is different from the password registered on the Intelligent Controller.	Verify the password that was registered to the Intelligent Controller.
All Stop! All units were forced to stop. Do not operate until unit operation resumes. 	The external all stop input is switched on for the Intelligent Controller unit.	When the external all stop input is changed to OFF, the message disappears. After changing to OFF, wait for the message to disappear.

9. Communication Adaptor (CZ-CFUNC2)

Panasonic®

Instructions for the Electrical Installer (CZ-CFUNC2)

For your safety

- Read the following instructions carefully, and carry out secure installation and electrical work.
- The precautions given in this manual consist of specific “Warnings” and “Cautions”. They provide important safety-related information. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠ Warning	This symbol refers to a hazard or unsafe procedure or practice that can result in severe personal injury or death.
⚠ Caution	This symbol refers to a hazard or unsafe procedure or practice that can result in personal injury or product or property damage.

* After installation is completed, perform a test run to check for operating trouble. Explain operating procedures to the customer following the central control device Operation Manual and then request the customer to store this Instructions for the Electrical Installer together with the central control device Operation Manual.

⚠ Warning

- Be sure to arrange installation by the dealer where the system was purchased or by a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Be sure that this unit is securely installed in accordance with this Instructions for the Electrical Installer. Electric shock or fire may result if any installation or wiring procedures are incorrectly performed.
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual. Use a dedicated electrical circuit. Insufficient electrical circuit capacity or incorrect installation may cause electric shock and fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.
- Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.

⚠ Caution

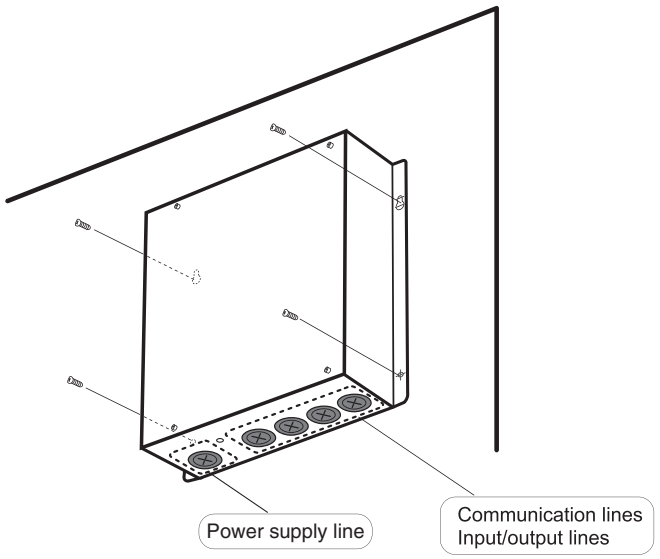
- Ground yourself to discharge static electricity before performing any wiring.

1 Installing

Note

- Do not run the indoor/outdoor communication lines, input/output lines, and power cables through the same conduit, or twist those cables together, or place the cables near one another. It can cause malfunction.
- Install the main unit away from any sources of electrical noise.
- Avoid installing in any locations where the unit may come into contact with water, or in any extremely humid locations.
- Avoid installing in any location that is subject to excessive vibration or physical impacts.

(1) After determining the attachment position, secure the installation hardware as shown in the dimensions diagram. If the included screws will not work for the installation, prepare appropriate screws (such as metric ones) for use at the site.
(2) Attach the main unit and fasten the installation hardware as illustrated.
(3) If the installation hardware is loose or appears like it will fall out, remove the upper case on the unit and secure with screws in the failsafe screw holes.



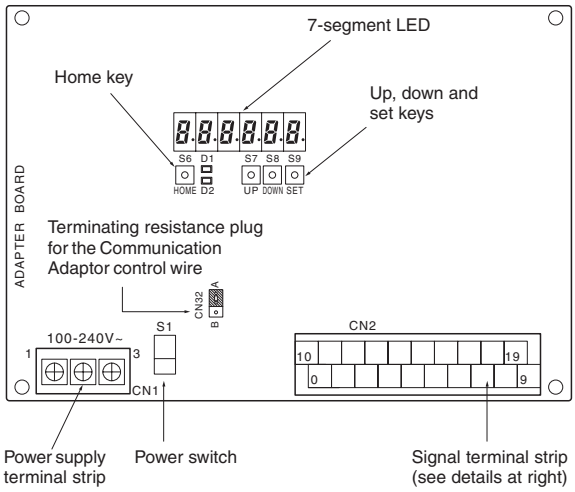
9. Communication Adaptor (CZ-CFUNC2)

2 Wiring

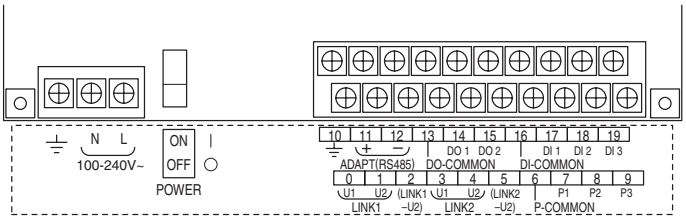
Always shut off the power supply (breaker) before installing or uninstalling the Communication Adaptor.
Remove the two screws at the front of the unit and remove the upper case.

Arrangement of the terminal board and switches

Detailed board illustration



Detailed terminal assembly illustration



ADAPT +/- :	Communication Adaptor control wire (RS-485)
LINK 1/2:	Inter-unit control wiring (HBS)
P1:	Pulse meter inputs (gas flow meter and fuel flow meter) (*)
P2 and P3:	Pulse meter input (power flow meter) (*)
DI1:	All stop input (*)
DI2:	All operation input (*)
DI3:	Reserved
DO1:	All alarm output (*)
DO2:	All operation output (*)

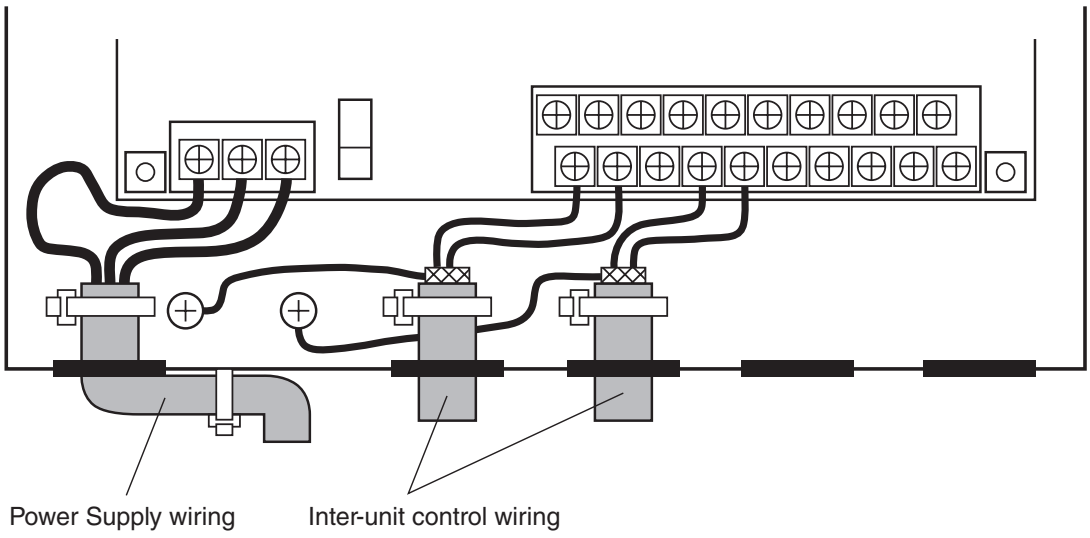
(*) Input/output function when connecting to the Intelligent Controller

(1) Connecting the power supply

The unit can use AC power sources between 100 and 240 V.
Connect the power supply to terminals 2 (N) and 3 (L) on the power terminal strip CN1. (Connect the AC neutral end to N.)
Connect the ground line securely.

(2) Connecting the communication line

- For the Communication Adaptor control wires, use only two-conductor **shielded wire** with a cross-section between 0.5 and 2.0 mm^2 (MVVS or CPEVS).
- Be sure to ground only one end of the shielding.
- The overall length of each line should be 1 km or less.
- Do not run the communication line through the same conduit as the power supply, use the same cable as the power supply, or run close to the power supply line (maintain at least 30 cm separation).
- Do not run the LINK1 and LINK2 signal lines through the same conduit, use the same cable for wiring, or run them close together.
- Use different communication and power cables so they can be differentiated visually.

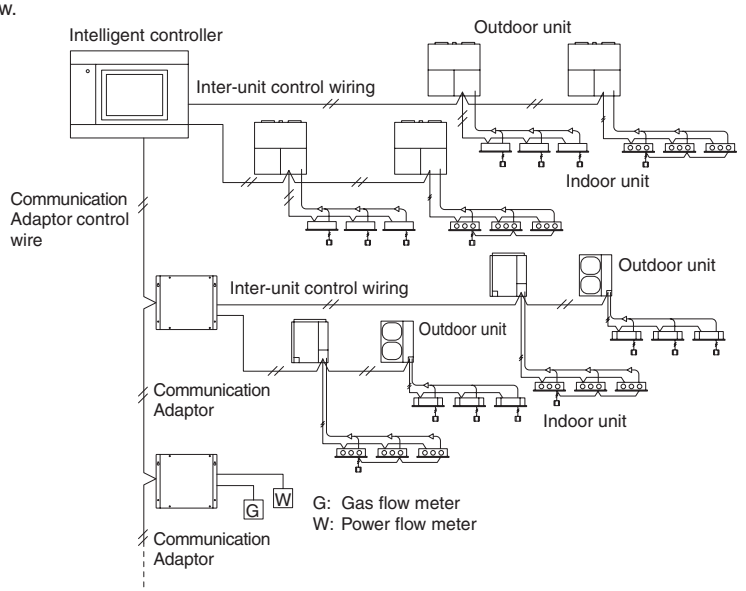


3

9. Communication Adaptor (CZ-CFUNC2)

Basic wiring diagram (Example using an Intelligent Controller)

Wire up the Communication Adaptor control wire and Inter-unit control wiring as shown in the figure below.



Wiring procedure

- **Inter-unit control wiring**
  Use the shielded wire for inter-unit control wiring.
  Connect terminals 0 and 1 (LINK1) on the Communication Adaptor signal terminal strip CN2 to the inter-unit control wiring terminals of the indoor or outdoor unit. There is no polarity.
  If connecting two inter-unit control wiring systems, connect terminals 3 and 4 (LINK2) on CN2 in the same manner.

- **Communication Adaptor control wire**
  Connect terminals 11 and 12 (ADAPT + and -) on the Communication Adaptor signal line terminal strip CN2 with the same terminals on the other Communication Adaptor. **The terminals have polarity.** Connect so the positive and negative elements are correct.
  When connecting, **be sure to use crossover wiring, not a branching configuration.**

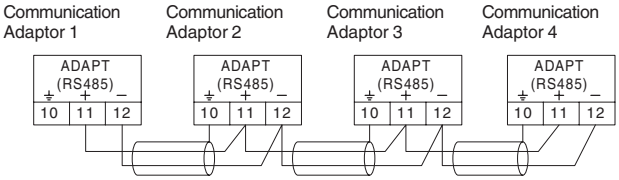
3 Precautions for the Communication Adaptor control wire

(Some items are duplicated in other sections.)

(1) The overall length should be 1 km or less.

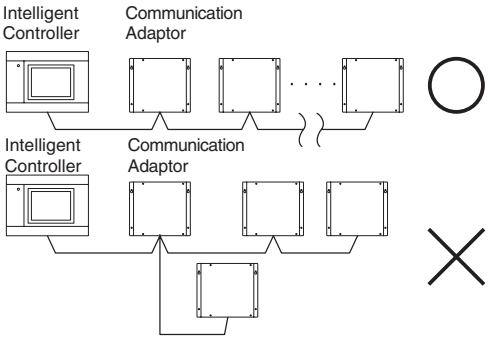
(2) The communication wire has polarity. Connect so the positive and negative elements are correct.

(3) Use only shielded wire. Be sure to ground only one end of the shielding.

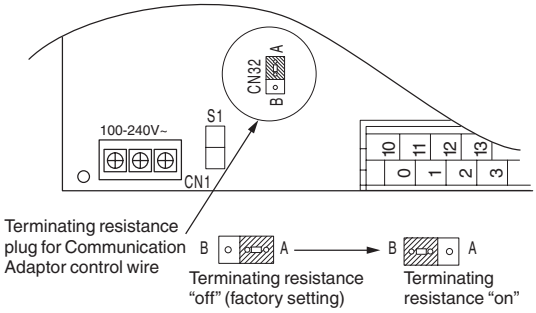


(4) Be sure to use crossover wiring, not a branching configuration.

* Connect the Intelligent Controller to the end of the crossover configuration.



(5) Change the terminating resistance plug CN32 to the "B" side (with terminal resistance) on the board for the Communication Adaptors (**2** of them) at both ends of the configuration.



(6) Do not hook more than 16 units up to the Communication Adaptor. The system you are using (such as an Intelligent Controller) may have further restrictions. Consult the installation manual for your system.

* The Intelligent Controller has a maximum restriction of seven units.

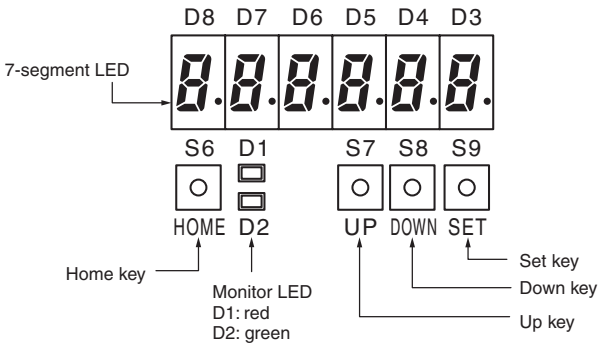
(7) Make sure that high voltage (ex. 230 V) AC lines are not connected to the Communication Adaptor control wire or the inter-unit control wiring terminals.

* If high voltage AC is accidentally applied to the inter-unit control wiring terminals, a fuse will blow to protect the controller board.
If this happens, disconnect the AC line, and connect the U2 terminal wire of the inter-unit control wiring to the spare terminal. (Do not change the U1 terminal wire.)
Spare terminals are located right next to U2.

Change terminal number 1 LINK1-U2
→ to terminal number 2 (LINK1-U2)
Change terminal number 4 LINK2-U2
→ to terminal number 5 (LINK2-U2)

4 Setting the Communication Adaptor board

The switches on the board control the adaptor numbers, turn the inter-unit control wiring connection on and off, and control other settings.



(1) Switch operation overview

Turn on the Power switch(S1) on the board.

① Item selection
Use the UP and DOWN keys to find the desired item, then press the SET key to select.

② Changing the settings
Use the UP and DOWN keys to change the setting, then press the SET key to confirm.

Hold down the HOME key for at least two seconds to reset to the default setting  (Any settings in progress will be lost.)

(2) Adaptor number setting procedure

① Hold down the HOME key for at least two seconds so the initial display shows as follows:

 (no.00)

After 2 seconds

 (AdP.dt)

② Press the UP key five times so the following display appears:

 (no.05)

This automatically switches to the below display after 2 more seconds. (Operation is not necessary.)

 (FirSt)

③ Press the SET key so the below display appears. (Only the green monitor LED is on.)

 (1.Ano.00) (Factory setting)

④ Hold down the SET key <u>for at least 1 second</u> so the “00” part blinks, indicating that the setting can be changed. (The green and red monitor LEDs are both on.)
Use the UP and DOWN keys to set the adaptor number.
For example, to set number 3, press the UP key three times. The following will display:

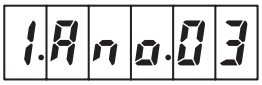
 (1.Ano.03)

⑤ Press the SET key for at least 1 second to confirm. (Only the green monitor LED is on.)

9. Communication Adaptor (CZ-CFUNC2)

(3) Setting the inter-unit control wiring connection on/off

① Repeat steps ① to ③ in section (2) "Adaptor number setting procedure" above. The following will display:



(1.Ano.03) (When the adaptor number is 3)

② Press the ○ UP key once so the following display appears:



(2.Adyu.0) (Factory setting)

③ Hold down the ○ SET key for at least 1 second so the "0" part blinks, indicating that the setting can be changed. (The green and red monitor LEDs are both on.)

Use the ○ UP and ○ DOWN keys to turn the inter-unit control wiring connection on or off as shown in the table below.

Setting value	Inter-unit control wiring connection
0	LINK1: On, LINK2: On (factory setting)
1	LINK1: On, LINK2: Off
2	LINK1: Off, LINK2: On
3	LINK1: Off, LINK2: Off

For example, to connect the inter-unit control wiring only to LINK1, press the ○ UP key once. The following display will result:



(2.AdYu.1)

④ Press the ○ SET key for at least 1 second to confirm. (Only the green monitor LED is on.)

(4) Other settings

With the display status showing as in number ③ in section (2) "Adaptor number setting procedure", press the ○ UP and ○ DOWN keys to select the setting items shown in the table below. Set as needed.
The setting procedure is the same as above.
(Press the ○ SET key for at least 1 second, press the ○ UP and ○ DOWN keys to change, then press the ○ SET key at least one second to confirm.)

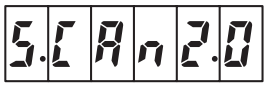
Note

① When configuring, do not set the same adaptor number more than once.
* Use numbers between 1 and 7 for connecting to an Intelligent Controller.
② Turn the inter-unit control wiring connection on/off as appropriate.
(Set to "Off" for LINKs with no connection.)
③ For connecting the inter-unit control wiring to only one link, use the "LINK1" side.

3

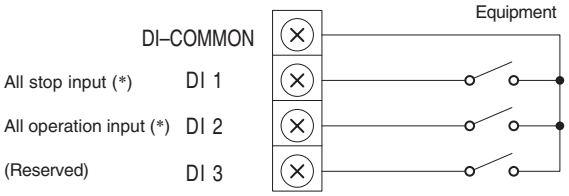
9. Communication Adaptor (CZ-CFUNC2)

Table 3-2 Communication Adaptor setting items

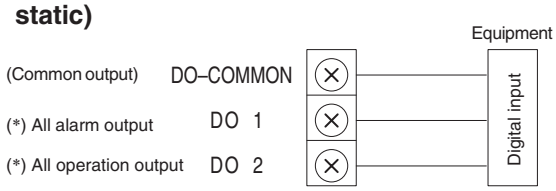
	Display	Setting item (grayed in areas indicate factory setting)
	 (1.Ano.xx)	**[1] Adaptor number setting** xx = 00 to 15: adaptor number Sets the Communication Adaptor number. Set 1 to 7 for the Intelligent Controller, making sure the same number is not used twice. When actually communicating from a master system, the link system address LINK1 is 2n and LINK2 is 2n + 1, where n is the Communication Adaptor number. Thus, when the adaptor number is 2, the LINK1 address is 4 and the LINK2 address is 5.
	 (2.AdYu.x)	**[2] Inter-unit control wiring connection settings** x = 0: LINK1 on, LINK2 on x = 1: LINK1 on, LINK2 off x = 2: LINK1 off, LINK2 on x = 3: LINK1 off, LINK2 off Set so any LINK (inter-unit control wiring) connected to the air conditioner is “on”, and any LINK not connected is “off”. * For solo installation (pulse meter dedicated), use x = 3: LINK1 and 2 both set to off.
	 (3.Cont.x)	**[3] Base unit settings** Always use 0 (the initial value).
DOWN	 (4.CAn1.x)	**[4] Settings for the number of Communication Adaptor units in one link, part 1** x = 0 to 7 x = 0: First Communication Adaptor in the LINK1 link x = 1: Second Communication Adaptor in the LINK1 link x = 7: Eighth Communication Adaptor in the LINK1 link
UP	 (5.CAn2.x)	**[5] Settings for the number of Communication Adaptor units in one link, part 2** x = 0 to 7 x = 0: First Communication Adaptor in the LINK2 link x = 1: Second Communication Adaptor in the LINK2 link x = 7: Eighth Communication Adaptor in the LINK2 link Set the Communication Adaptor unit number for each LINK system when connecting multiple Communication Adaptors to one inter-unit control wiring.
	 (6.PUL.xx)	**[6] Minimum pulse input detection time setting** x = 03: 30 msec x = 10: 100 msec If connecting a pulse meter with a pulse width between 30 and 100 msec, set to 30 msec.
	 (7.LoCA.x)	**[7] Interface Adaptor connection settings** x = 0: LINK 1 on, LINK2 on x = 1: LINK 1 off, LINK2 on x = 2: LINK 1 on, LINK2 off x = 3: LINK 1 off, LINK2 off Set whether there is a Interface Adaptor (for turning off and on) for each LINK system. If the setting is “off”, startup will be faster as no Interface Adaptor detection is run.
	 (8.SCAn.x)	**[8] Initial communication setting** Always use 0 (the initial value).

5 Connecting to external equipment

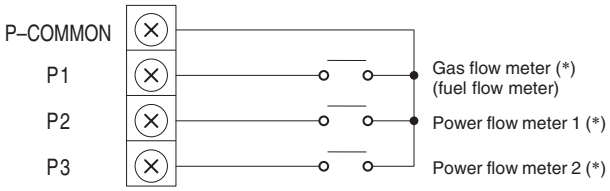
(1) External all input (No-voltage a-contact static)



(2) External all output (No-voltage a-contact static)



(3) Pulse meter input (No-voltage a-contact pulse)

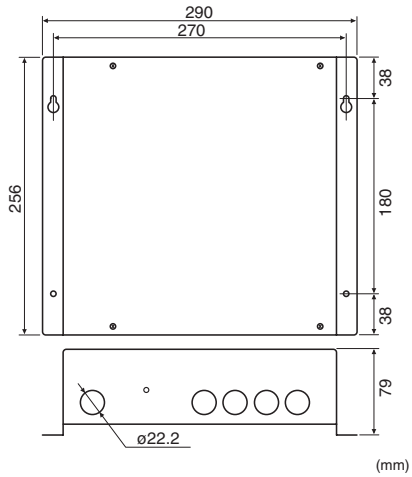


- Minimum pulse width: 100 msec
- Minimum pulse interval: 1 sec

(*) Input/output function when connecting to the Intelligent Controller

- Keep the signal input line lengths to 20 meters or less. For distances greater than this, install a standalone Communication Adaptor or use a relay.
- For use in areas that may be susceptible to electrical noise, use a two-conductor shielded cable (with one line grounded), with a cross-section at least 0.5 mm^2.
- Do not apply external voltages to the input terminals.
- About 10 mA of 5 V DC voltage is applied to the contact point for input terminal detection.
- The output terminal allowable contact voltage and current are 30 V DC and 0.5 A.

6 Outer dimensions



7 Specifications

Rated voltage	Single phase 100-240V~
Rated frequency	50/60 Hz
Power consumption	5.6 W max
Operating temperature	–10 to +50ºC
Operating humidity	20 to 80% (no condensation)

Appendix A. Connecting to an Intelligent Controller

Before making the initial settings for the Communication Adaptor, check to ensure the below **operations are complete.**

(1) Is the air conditioner test operation complete?
(2) Is the wiring for the air conditioner and the Communication Adaptor complete?

To set, follow steps 1 to 5 below in sequence.

(1) Adaptor number setting

- **This is a required setting.**
- Set the address for the Communication Adaptor control wire.
  For the Intelligent Controller internal board, the address is 0. Set a value between 1 and 7 for the external adaptor, ensuring no value is used twice.
  Refer to the number (2) “Adaptor number setting procedure” in section 4 “Setting the Communication Adaptor board”.
  * Refer to Table 3-2 [1].

(2) Inter-unit control wiring connection setting

- **This setting is required for two or more Communication Adaptors.**
- Two links can be connected to a Communication Adaptor.
  For links without an air conditioner or other such connection, set the LINK to “off”.
- The Intelligent Controller can be connected to only four links that are set to be active.
  Refer to the number (3) “Setting the inter-unit control wiring connection on/off” in section 4 “Setting the Communication Adaptor board”.
  * Refer to Table 3-2 [2].

(3) Number of Communication Adaptor units in one link setting

- **This setting is required only for using an Intelligent Controller in conjunction with a AMY Software.**
- When adding another Communication Adaptor to the inter-unit control wiring, the adaptor address for the added unit needs to be changed.
  * Refer to Table 3-2 [4] and [5].

(4) Minimum pulse input detection time setting

- **This setting is not required if pulse input (P1, P2, P3) is not used.**
- Use a pulse meter whose minimum pulse width is normally at least 100 msec.
  If and only if a pulse meter 30 msec or higher must be used, use this setting.
  * Refer to Table 3-2 [6].

(5) Interface Adaptor connection setting

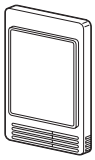
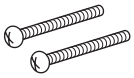
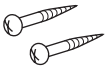
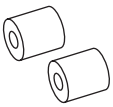
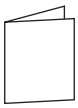
- By not using a Interface Adaptor, the configuration confirmation time can be shortened.
- **Not using this setting will not affect operation of the device.**
  * Refer to Table 3-2 [7].

Complete!

10. Remote Sensor

Remote Sensor / CZ-CSRC2

■ Parts Supplied with Remote Sensor

No.	Supplied parts	Qty
1	Remote sensor (comes with 200 mm wire) 	1
2	Machine screws M4 × 25 	2
3	Wood screws 	2
4	Spacers 	2
5	Wire joints 	2
6	Cable Tie 	1
7	Installation manual 	1

■ Remote Sensor Installation Guidelines

Place of installation

- Mount the remote sensor at a height of 1 to 1.5 meters above the floor where it can sense the average temperature of the room.
- Do not mount the remote sensor in a place exposed to direct sunlight or a place exposed to outside air such as near a window.
- Do not mount the remote sensor behind an object so that it is separated from the air circulation of the room.
- Mount the remote sensor within the room being air conditioned.
- The remote sensor must be mounted on the wall or other surface vertically.

10. Remote Sensor

■ How to Install the Remote Sensor

NOTE
- Do not twist the remote sensor wiring with the power wiring or run it in the same metal conduit, because this may cause malfunction.
- Install the remote sensor 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.

- Use an electric junction box (field supply) (Fig. 3-85) for flush mounting of the remote sensor.

When mounting the back case to the electric junction box, tighten the screws securely until the screw heads touch the back case. Otherwise, a loose screw head may damage the PCB on the back of the top cover when mounting the top cover. But do not over-tighten the screws. Overtightening may deform the back case and cause the unit to fall.

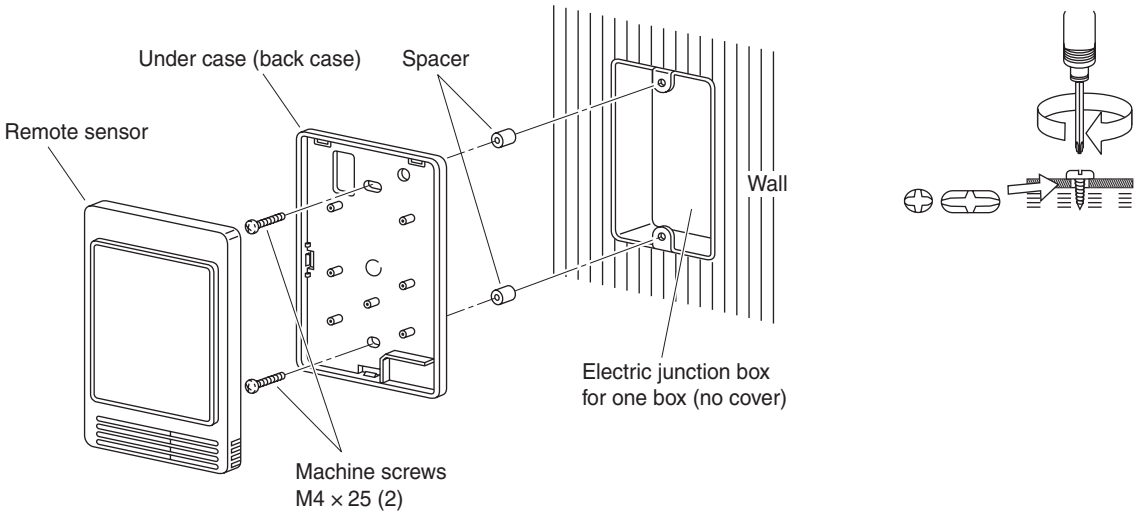


Fig. 3-85

1. Insert a screwdriver or the like in the groove on the lower side of the remote sensor body to pry off the back case. (Fig. 3-86)

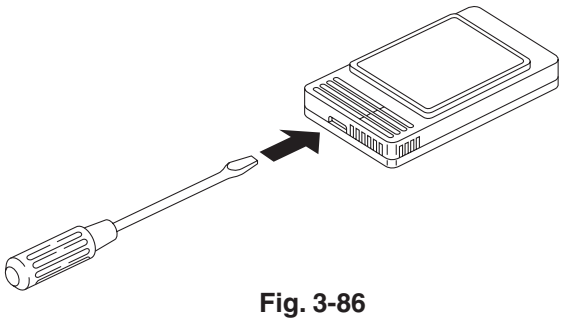


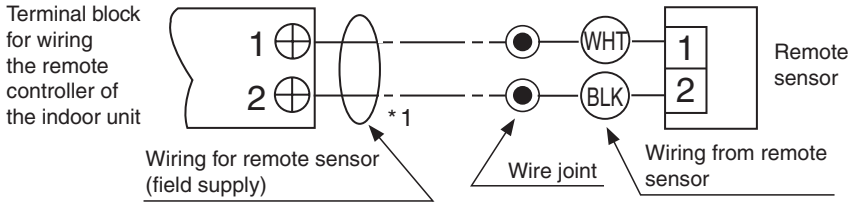
Fig. 3-86

2. Use the 2 supplied M4 machine screws to secure the remote sensor back case. Prior to mounting, clear the cutouts in the back case corresponding to the holes in the electric junction box using a screwdriver or the like. 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.
3. Connect field supplied 2 core lead wires to the lead wires from the remote sensor. (See “How to wire the remote sensor.”)
   When connecting the field supplied 2 core lead wires to the terminal block, check the terminal numbers in the indoor unit to make sure that the wires are correctly connected. (Fig. 3-87) (The remote sensor is damaged if 220 / 240V AC is applied.)
4. Fit the remote sensor to the tabs of the back case and mount it.

10. Remote Sensor

■ How to Wire the Remote Sensor

● Connection diagram



*1: 0.5 mm² to 1.6 mm² wires are used for lead wires.
Remote controller wiring can be extended to a maximum of 500 m.

Fig. 3-87

● How to connect lead wires

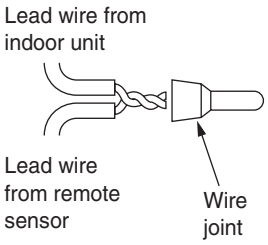
2 supplied white wire joints		1. Strip the wire to be connected of its sheathing for 14mm. 2. Twist the 2 wires together and crimp them together with the wire joint. 3. If a special crimping tool is not used, or it the connection is made using solder, wrap the joint with insulating tape.

Fig. 3-88

■ Important Information When Using Together with Remote Controller Switch

● Installation method

1. Set the remote controller switch as the main remote controller.

NOTE Do not set the room temperature sensor on the remote controller switch as the remote controller sensor.

● Basic wiring diagram

NOTE When connecting the wires, be careful not to wire incorrectly.
(Incorrect wiring will damage the unit.)

* Wiring when controlling a single indoor unit with the remote sensor and remote controller switch:

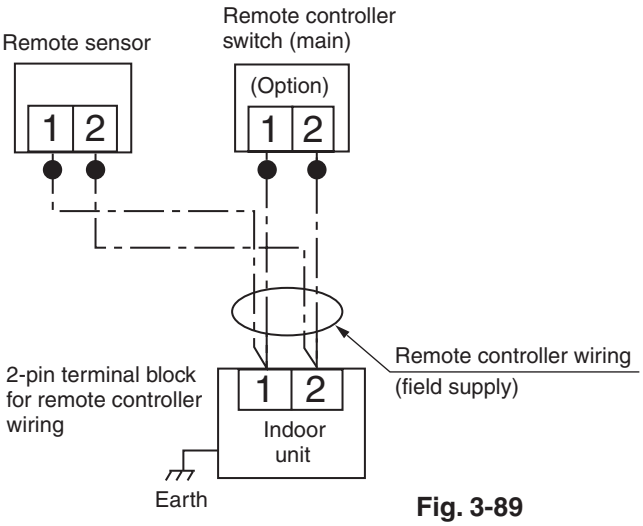


Fig. 3-89

Panasonic®

LonWorks Interface (CZ-CLNC2) INSTALLATION INSTRUCTIONS

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LonWorks is a registered trademark of the Echelon Corporation.

11. LonWorks Interface (CZ-CLNC2)

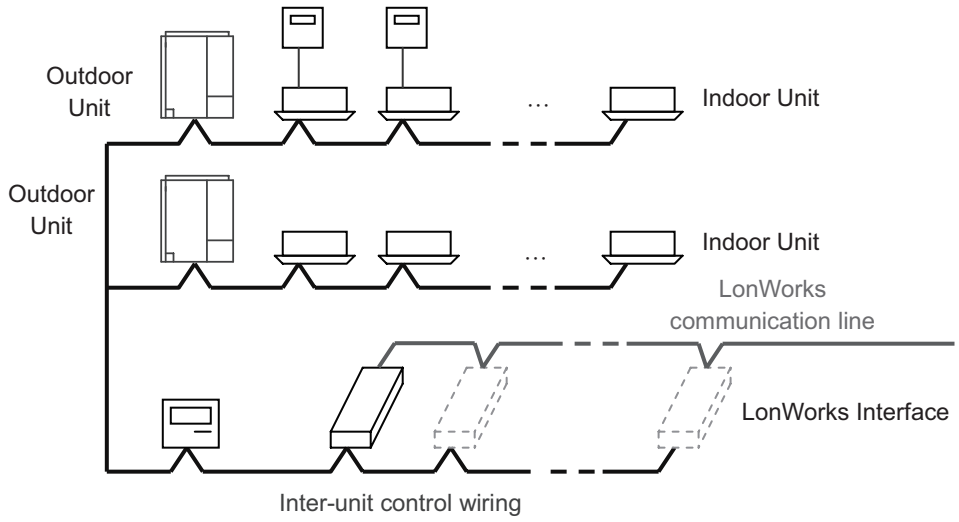
1. LonWorks Interface Overview

Product Overview

This interface is a communications interface for connecting LonWorks to an air conditioner unit control network.

From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units.

System Diagram



- Up to 16 groups of indoor units (maximum 64 units) can be controlled with 1 LonWorks Interface unit. For 17 or more groups of indoor units, connect additional interface units.
- Install a remote controller (or system controller, etc.), which can control the A/C units, to an inter-unit control wiring other than the LonWorks Interface unit.
- Before making the connection to the LonWorks Interface unit, set the central control addresses in the indoor units.

11. LonWorks Interface (CZ-CLNC2)

Functions

A/C unit settings from the LonWorks	Settings for each group of indoor units	Start/stop
		Temp. setting(*1)
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
	Settings for all units	Emergency stop
A/C unit status notifications made to the LonWorks		Start/stop
		Temp. setting
		Operation mode
		Option 1 settings(*2)
		Option 2 settings(*2)
		Alarm status(*3)
		Indoor units with active alarms(*4)
		Room temp(*5)
		A/C unit status(*6)
Configuration properties		Transmission interval settings(*7)
		Minimum time secured for transmission(*8)

(*1) When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.
(*2) Two options can be selected using the setting switch from among remote-controller prohibit, fan speed setting, air direction setting and filter sign.
(*3) When indoor units are under group control, an alarm is determined to have occurred when the alarm occurs at one or more of the units.
(*4) The number of the indoor unit at which the alarm has occurred is notified. This makes it possible to identify at which indoor unit of the indoor unit group the alarm has occurred.
(*5) When indoor units are under group control, the room temperature of the main unit in the group is notified.
(*6) When an alarm occurs at one or more indoor units, the alarm code is notified as the indoor unit status.
(*7) All the data which can be output is output at the set interval.
(*8) The same data is not output continuously at the set interval.

2. Procedures for Installation (Electrical Work) of LonWorks Interface

Safety Precautions

* The following is intended for the installer responsible for installation and test operations of the LonWorks Interface, and should be carefully read before beginning.
* The precautions given in this manual consist of specific "Warnings" and "Cautions." They provide important safety-related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠Warning	This symbol refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠Caution	This symbol refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

※After installation is completed, perform a test run to check for operating trouble. As you do, use the central control device *Operation Manual* and explain operating procedures to the customer. Then request that the customer store this manual together with the central control device *Operation Manual.*

⚠Warning

- Be sure to arrange installation from the dealer where the system was purchased or using a professional installer.
  Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Please install and ensure construction according to *Procedures for Installation (Electrical Work) of LonWorks Interface.*
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual.
  If the electrical circuit capacity is insufficient a danger of electric shock and fire may be present.
- Use the specified cables (type and wiring diameter) for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.
- Do the ground connection.

⚠Caution

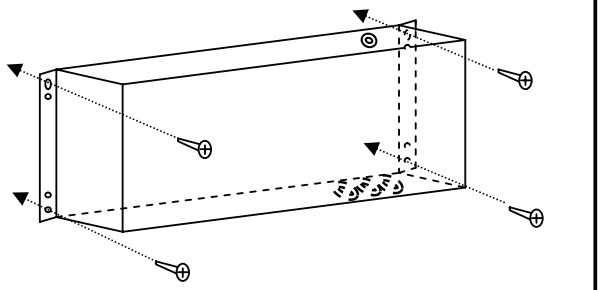
Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.

Included Parts

No.	Part	Qty
(1)	Product manual	1

Installation Method

- Install using either of the 2 methods given below.
  The screws used to install the main unit must be provided by the installer.



- Install the LonWorks Interface away from any sources of electrical noise.

Wiring Specifications

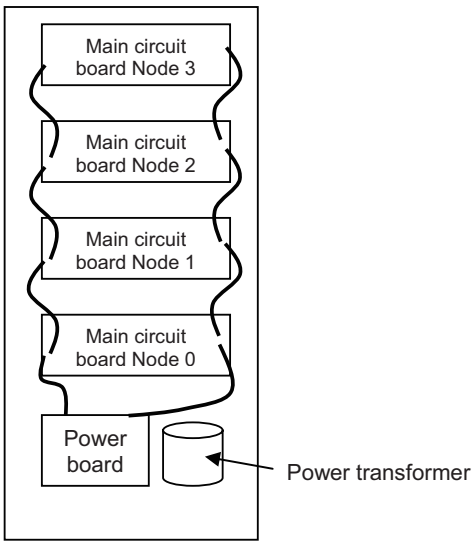
- For the inter-unit control wiring use twin-core 0.5 – 2 mm^2 shielded cables and ground the shield on both side.
- For the LonWorks communication line cables, use twisted-pair cables with a wire diameter of 0.51 mm or larger as recommended by Echelon Corp.

Examples of cables recommended by Echelon Corp			
Cable type	Wire diameter /AWG	Total cable length	
		Bus type	Free
24 AMG twisted-pair (TIA568A category 5)	0.51mm /24	900m	450m

- Do not use the same cable for the inter-unit control wiring, the LonWorks communication lines, and the power cable. Do not run them through the same conduit or place the cables near one another.
- Connect the cables so that there is no miswiring.
  (Miswiring can cause malfunction.)

LonWorks Interface Structure

- This interface contains 4 LonWorks communication boards (nodes).
- Up to 4 indoor unit groups (maximum 32 units) can be assigned to 1 node.

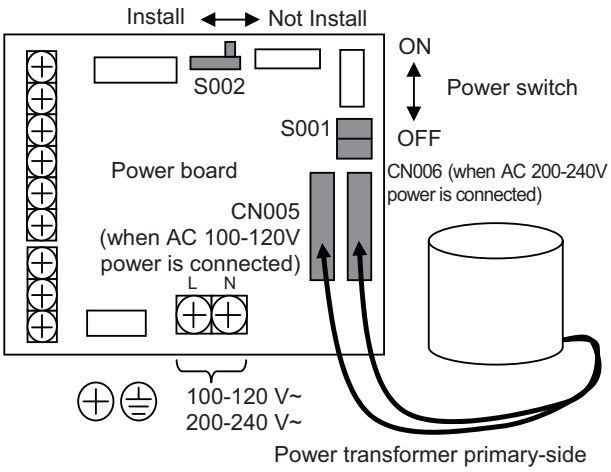


3

11. LonWorks Interface (CZ-CLNC2)

Power Board Initial Settings

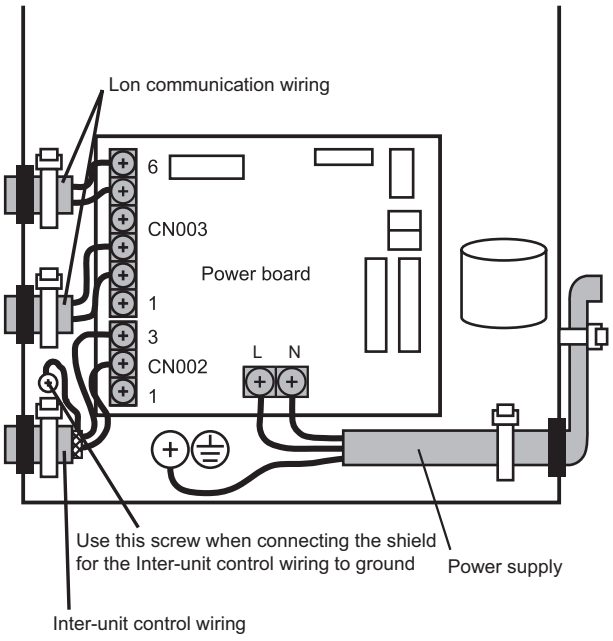
Not Install: Ordinarily, keep this set to "Not Install" (initial setting).
Install: Free topology terminal resistor (51Ω) for the LonWorks communication lines.



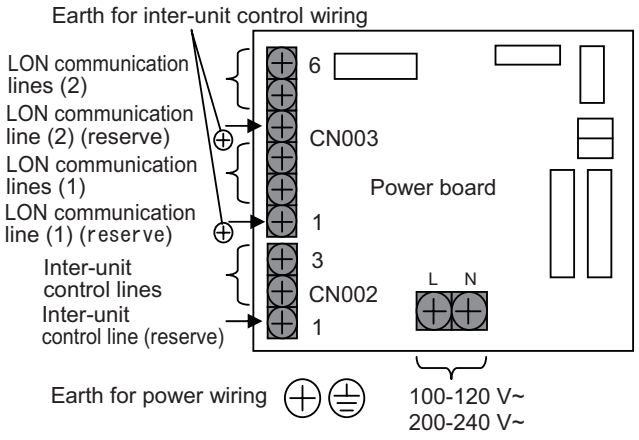
When AC 200-240V power is connected, connect the power transformer primary-side to CN006. When AC 100-120V power is connected, connect the power transformer primary-side to CN005. (It is connected to CN006 when the unit is shipped from the plant.)

Wiring Procedure

- Connect the power supply lines to the L and N power supply terminals.
  (the power suplly neutral to the N terminal.)
- Connect an earth ground line to the screw.

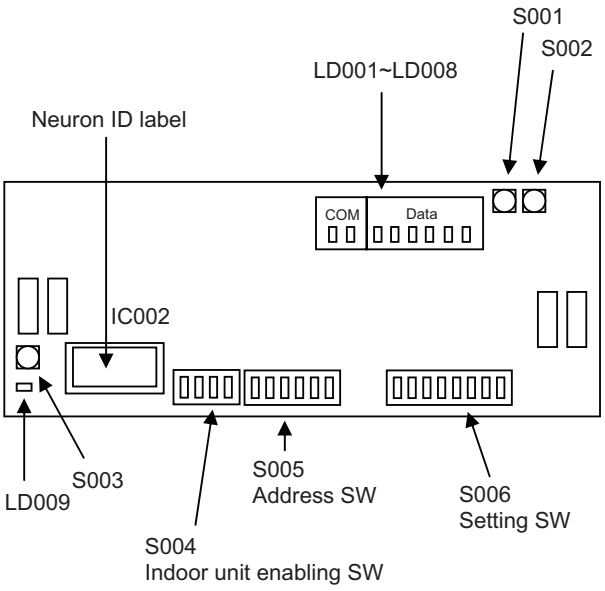


Power Board Wiring



- The LonWorks communication lines can be connected to either (1) or (2) in the above figure. The results are the same.
- Do not run the inter-unit control lines, the LonWorks communication lines, and the power cables through the same conduit, or place the cables near one another. Doing so can cause the system to malfunction.
- Before turning the power on, follow the instruction in *Power Board Initial Settings.*
- When using the spare inter-unit cotrol line, connect [1] and [3] at CN002.
- When using the spare LON communication line, connect [1] and [3] or [4] and [6] at CN003.

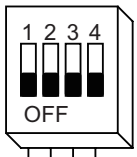
Main Circuit Board



3

11. LonWorks Interface (CZ-CLNC2)

Indoor Unit Enabling Switches



OFF Indoor unit group 3 is disabled.
ON Indoor unit group 3 is enabled.

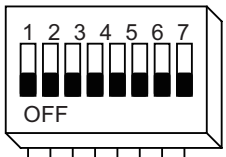
OFF Indoor unit group 2 is disabled.
ON Indoor unit group 2 is enabled.

OFF Indoor unit group 1 is disabled.
ON Indoor unit group 1 is enabled.

OFF Indoor unit group 0 is disabled.
ON Indoor unit group 0 is enabled.

- One main circuit board can control 4 groups (indoor unit groups 0 – 3).
- Set to "disable" if the indoor unit group does not exist. Set to "enable" if the indoor unit group exists.

Setting Switches



O: ON –: OFF R/C: Remote Controller

6	7	8	Option 1	Option 2
-	-	-	R/C prohibit	Fan speed
-	-	O	R/C prohibit	Air direction
-	O	-	R/C prohibit	Filter sign
-	O		Fan speed	Air direction
O	-	-	Fan speed	Filter sign
O	-	O	Air direction	Filter sign
O	O	-	–––	–––
O	O	O	–––	–––

Not used (Be sure to set to OFF.)

OFF Central/individual setting is according to the central control device (normal setting).
ON Central/individual setting is always set to "individual."

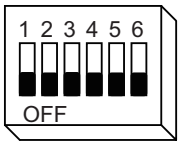
OFF Control temperature is used for the room temperature (normal setting).
ON Inlet temperature is used for the room temperature.

Not used (Be sure to set to OFF.)

OFF Communicate as a "sub" central control device.
ON Communicate as a "main" central control device.

- If there are no central control devices other than this interface, set to "main" (ON).
- To set this interface as the main, set only node 0 to "main" (ON).
- If using in combination with an communication adapter, AMY adapter, intelligent controller, or system controller, set to "sub" (OFF).
- If using in combination with an ON/OFF central controller, set the ON/OFF central controller as the main if the ON/OFF central controller's remote-controller prohibit function is to be used. If this interface's remote-controller prohibit function is to be used, set this interface as the main.

Address Switches



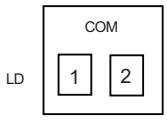
O : ON - : OFF

Address switch						Central control address
1	2	3	4	5	6	
-	-	-	-	-	-	1
O	-	-	-	-	-	2
-	O	-	-	-	-	3
O	O	-	-	-	-	4
-	-	O	-	-	-	5
O	-	O	-	-	-	6
-	O	O	-	-	-	7
O	O	O	-	-	-	8
-	-	-	O	-	-	9
O	-	-	O	-	-	10
-	O	-	O	-	-	11
O	O	-	O	-	-	12
-	-	O	O	-	-	13
O	-	O	O	-	-	14
-	O	O	O	-	-	15
O	O	O	O	-	-	16
-	-	-	-	O	-	17
O	-	-	-	O	-	18
-	O	-	-	O	-	19
O	O	-	-	O	-	20
-	-	O	-	O	-	21
O	-	O	-	O	-	22
-	O	O	-	O	-	23
O	O	O	-	O	-	24
-	-	-	O	O	-	25
O	-	-	O	O	-	26
-	O	-	O	O	-	27
O	O	-	O	O	-	28
-	-	O	O	O	-	29
O	-	O	O	O	-	30
-	O	O	O	O	-	31
O	O	O	O	O	-	32
-	-	-	-	-	O	33
O	-	-	-	-	O	34
-	O	-	-	-	O	35
O	O	-	-	-	O	36
-	-	O	-	-	O	37
O	-	O	-	-	O	38
-	O	O	-	-	O	39
O	O	O	-	-	O	40
-	-	-	O	-	O	41
O	-	-	O	-	O	42
-	O	-	O	-	O	43
O	O	-	O	-	O	44
-	-	O	O	-	O	45
O	-	O	O	-	O	46
-	O	O	O	-	O	47
O	O	O	O	-	O	48
-	-	-	-	O	O	49
O	-	-	-	O	O	50
-	O	-	-	O	O	51
O	O	-	-	O	O	52
-	-	O	-	O	O	53
O	-	O	-	O	O	54
-	O	O	-	O	O	55
O	O	O	-	O	O	56
-	-	-	O	O	O	57
O	-	-	O	O	O	58
-	O	-	O	O	O	59
O	O	-	O	O	O	60
-	-	O	O	O	O	61
O	-	O	O	O	O	62
-	O	O	O	O	O	63
O	O	O	O	O	O	64

3

11. LonWorks Interface (CZ-CLNC2)

Communications LED (Green)

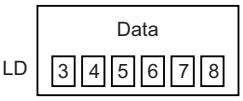


COM: Communications

LD001	LD002	Display meaning
X	X	①Power OFF
X	Low	② –––––
X	High	③Flash writer writing in progress
X	O	④Waiting for A/C unit initial communication
Low	X	⑤A/C unit initial communication in progress
Low	Low	⑥ –––––
Low	High	⑦LonWorks communication microcomputer error
Low	O	⑧EEPROM error
High	X	⑨ –––––
High	Low	⑩ –––––
High	High	⑪ –––––
High	O	⑫ –––––
O	X	⑬Test run mode
O	Low	⑭ –––––
O	High	⑮Version display in progress
O	O	⑯Normal communications in progress

X: Not lit、Low: Low-speed flashing (once/second)
High: High-speed flashing, O: Constantly lit

Data LED (Red)

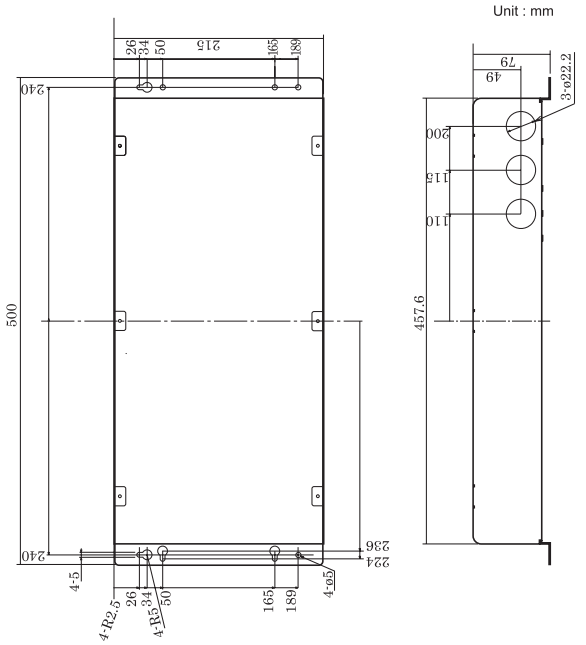


Communications LED	Data LED display meaning
①	No LED lit
②	All LEDs lit
③	–––––
④	Displays the wait time (seconds) for A/C unit initial communication.
⑤	Displays the A/C unit communications status
⑥	–––––
⑦	No LED lit
⑧	No LED lit
⑨	–––––
⑩	–––––
⑪	–––––
⑫	–––––
⑬	According to the test run mode specifications
⑭	–––––
⑮	According to the version display specifications
⑯	Displays the A/C unit communications status

• Display of A/C unit communications status

LD	Display meaning	
	Indoor unit group	**OFF:** Waiting for initial communication **Low-speed flashing:** Waiting for minimum transmission interval **High-speed flashing:** Initial communication in progress **ON:** Normal communications in progress
003	0	
004	1	
005	2	
006	3	
007	Illuminates for 200 ms when data is output to the LonWorks communicator.	
008	Illuminates for 200 ms when data is output to the indoor/outdoor communicator.	

Diagram of External Dimensions



Product Specifications

Connects to	LonWorks network FTT-10 A transceiver device
Power	Single-phase, 100-120/ 200-240V~
Power consumption	11 W max.
Service environment conditions	Temp. 0 to 40°C, humidity 20 to 80% Indoor use only
External dimensions	Height 79 mm × Width 500 mm × Depth 215 mm
Weight	Approx. 3.3 kg

3

3. Assigning Central Control Addresses

- Before assigning central control addresses for the LonWorks Interface, use the remote controller to make central control address settings for A/C units.
- Follow only the steps for "Assigning Central Control Addresses" when a system controller or other central controller is already provided.

[Setting Central Control Addresses]

(1) Press and hold both the and buttons for 4 seconds or longer.
Check that the "SETTING" display on the remote controller is flashing.

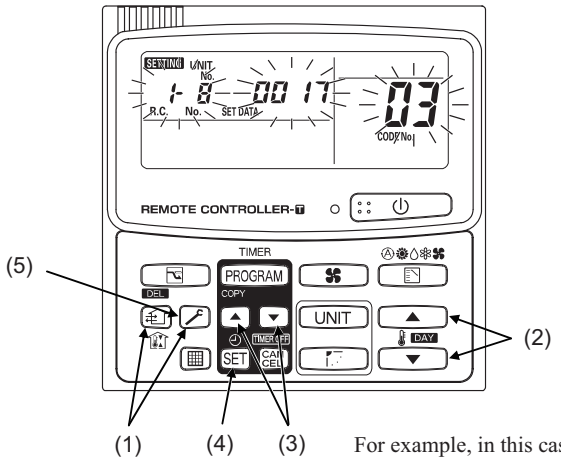
(2) Set the "03" item code by pressing the and temperature setting buttons.

(3) Set the desired central control address by pressing the and timer buttons.

(4) Press the SET button, and check that the "SETTING" display stops flashing and illuminates instead.
(The setting data cannot be changed unless the SET button is pressed.)

(5) Press the button, and check that the display on the remote controller has been cleared.

remote controller



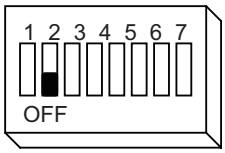
For example, in this case
Indoor unit address: 1-8
Central address: 17

[Assigning Central Control Addresses]

(1) Turn the power switch (S001) on the LonWorks Interface power board to OFF.

(2) Turn the setting switch (S006-2) to OFF (so that central control addresses are set with the DIP switches).

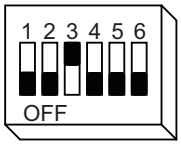
S006



(3) Set the first central control address with the address switch (S005). When assigning serial numbers, a consecutive series of numbers is assigned for the central control addresses.

<Example> If the first central control address is "5," then this circuit board assigns central control addresses "5," "6," "7," and "8."

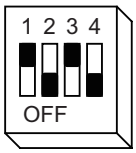
S005



(4) Make the enable/disable settings with the indoor unit enabling switches (S004).

<Example> If central control addresses "6" and "8" do not exist, enable only "5" and "7."

S004



"5" is set as the central control address for indoor unit group 0, and "7" is set as the central control address for indoor unit group 2.

(5) Turn the power switch (S001) on the LonWorks Interface power board to ON.

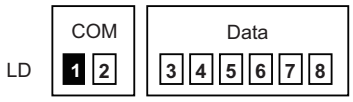
3

4. LonWorks Interface Test Run

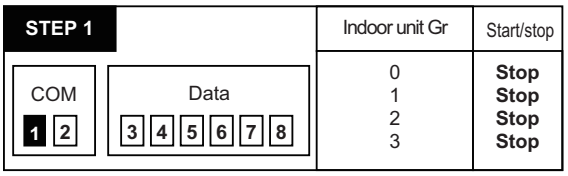
Before performing a test run of the LonWorks Interface, perform test runs of the A/C units and assign central control addresses for A/C units.

[LonWorks Interface Test Run Procedure]

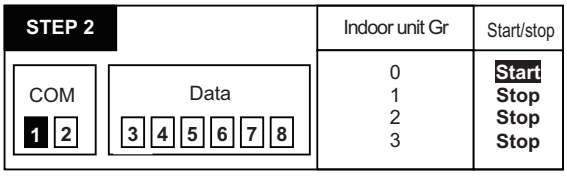
(1) Press and hold touch-switch S001 on the main circuit board for 5 seconds or longer.
Test run mode is enabled for the main circuit board that is currently being controlled. LD001 illuminates, and LD002 – LD008 turn off.



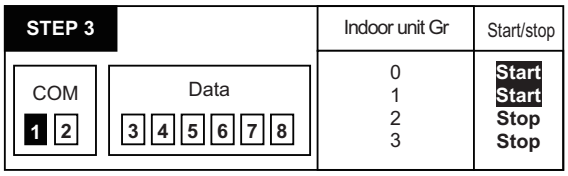
(2) Press touch-switch S002. The data LEDs appear as shown in the tables below.
In addition, the assigned indoor unit groups start and stop as shown in the tables below.

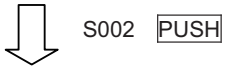


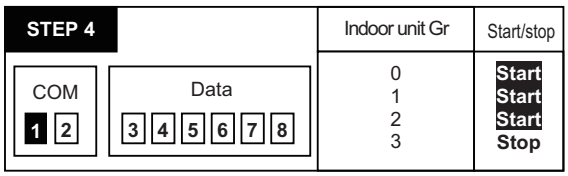




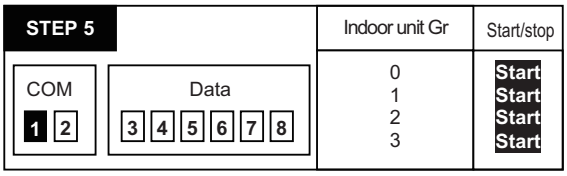




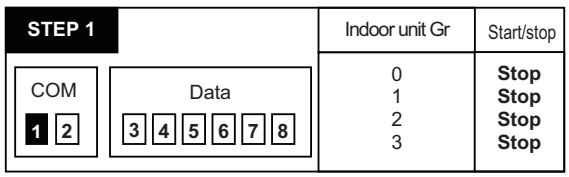


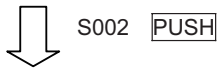








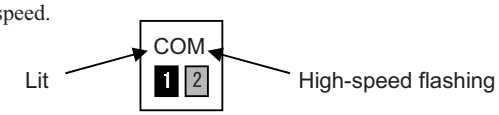




(3) Be sure to reset the power after the LonWorks Interface test run is completed.

5. Checking the LonWorks Interface Version

(1) Press touch-switch S002.
Version display mode is enabled on that circuit board for a period of 18 seconds. LD001 illuminates, and LD002 flashes at high speed.



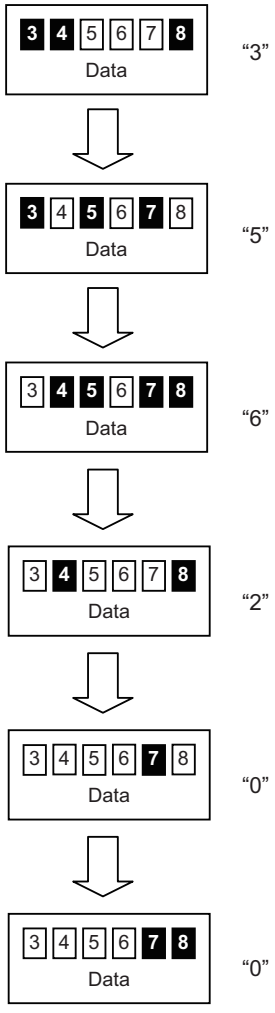
(2) While the version is displayed (18 seconds), the display contents are the following.

First 3 seconds	Displays the first digit of the main microcomputer version Off Lit 3 4 5 6 7 **8** Data
Next 3 seconds	Displays the second digit of the main microcomputer version Lit Off 3 4 5 6 **7** 8 Data
Next 3 seconds	Displays the third digit of the main microcomputer version Lit Lit 3 4 5 6 **7** **8** Data
Next 3 seconds	Displays the first digit of the LonWorks I/F microcomputer version Off Lit 3 4 5 6 7 **8** Data
Next 3 seconds	Displays the second digit of the LonWorks I/F microcomputer version Lit Off 3 4 5 6 **7** 8 Data
Last 3 seconds	Displays the third digit of the LonWorks I/F microcomputer version Lit Lit 3 4 5 6 **7** **8** Data

• Version display

0	3 4 5 6	5	**3** 4 **5** 6
1	**3** 4 5 6	6	3 **4** **5** 6
2	3 **4** 5 6	7	**3** **4** **5** 6
3	**3** **4** 5 6	8	3 4 5 **6**
4	3 4 **5** 6	9	**3** 4 5 **6**

<Example> Main microcomputer Version 3.56
LonWorks I/F microcomputer Version 2.00



6. List of LonWorks Network Variables

A/C unit	Input/output	Item	Variable name	Variable type
Indoor group 0	Input	Start/stop	nviOnOff_00	SNVT_switch
		Temp. setting	nviSetPoint_00	SNVT_temp_p
		Operating mode	nviHeatCool_00	SNVT_hvac_mode
		Option 1 setting	nviOption1_00	SNVT_switch
		Option 2 setting	nviOption2_00	SNVT_switch
	Output	Start/stop status	nvoOnOff_00	SNVT_switch
		Temp. setting	nvoSetPoint_00	SNVT_temp_p
		Operating mode	nvoHeatCool_00	SNVT_hvac_mode
		Option 1 status	nvoOption1_00	SNVT_switch
		Option 2 status	nvoOption2_00	SNVT_switch
		Alarm status	nvoAlarm_00	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_00	SNVT_switch
		Room temp.	nvoSpaceTemp_00	SNVT_temp_p
		Indoor unit status	nvoInState_00	SNVT_count
Indoor group 1	Input	Start/stop	nviOnOff_01	SNVT_switch
		Temp. setting	nviHeatCool_01	SNVT_temp_p
		Operating mode	nviSetPoint_01	SNVT_hvac_mode
		Option 1 setting	nviOption1_01	SNVT_switch
		Option 2 setting	nviOption2_01	SNVT_switch
	Output	Start/stop status	nvoOnOff_01	SNVT_switch
		Temp. setting	nvoSetPoint_01	SNVT_temp_p
		Operating mode	nvoHeatCool_01	SNVT_hvac_mode
		Option 1 status	nvoOption1_01	SNVT_switch
		Option 2 status	nvoOption2_01	SNVT_switch
		Alarm status	nvoAlarm_01	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_01	SNVT_switch
		Room temp.	nvoSpaceTemp_01	SNVT_temp_p
		Indoor unit status	nvoInState_01	SNVT_count
Indoor group 2	Input	Start/stop	nviOnOff_02	SNVT_switch
		Temp. setting	nviHeatCool_02	SNVT_temp_p
		Operating mode	nviSetPoint_02	SNVT_hvac_mode
		Option 1 setting	nviOption1_02	SNVT_switch
		Option 2 setting	nviOption2_02	SNVT_switch
	Output	Start/stop status	nvoOnOff_02	SNVT_switch
		Temp. setting	nvoSetPoint_02	SNVT_temp_p
		Operating mode	nvoHeatCool_02	SNVT_hvac_mode
		Option 1 status	nvoOption1_02	SNVT_switch
		Option 2 status	nvoOption2_02	SNVT_switch
		Alarm status	nvoAlarm_02	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_02	SNVT_switch
		Room temp.	nvoSpaceTemp_02	SNVT_temp_p
		Indoor unit status	nvoInState_02	SNVT_count
Indoor group 3	Input	Start/stop	nviOnOff_03	SNVT_switch
		Temp. setting	nviHeatCool_03	SNVT_temp_p
		Operating mode	nviSetPoint_03	SNVT_hvac_mode
		Option 1 setting	nviOption1_03	SNVT_switch
		Option 2 setting	nviOption2_03	SNVT_switch
	Output	Start/stop status	nvoOnOff_03	SNVT_switch
		Temp. setting	nvoSetPoint_03	SNVT_temp_p
		Operating mode	nvoHeatCool_03	SNVT_hvac_mode
		Option 1 status	nvoOption1_03	SNVT_switch
		Option 2 status	nvoOption2_03	SNVT_switch
		Alarm status	nvoAlarm_03	SNVT_switch
		Indoor units with active alarms	nvoAlarmIn_03	SNVT_switch
		Room temp.	nvoSpaceTemp_03	SNVT_temp_p
		Indoor unit status	nvoInState_03	SNVT_count
Indoor groups 0 – 3	Input	Emergency stop	nviAllInOff	SNVT_switch

Transmission intervals settings	nciSndHrtBt	SNVT_time_sec
Minimum time secured for transmission	nciMinOutTm	SNVT_time_sec

7. Details of LonWorks Network Variables

[nv1] Unit start/stop command

network input SNVT_switch nviOnOff_00;
network input SNVT_switch nviOnOff_01;
network input SNVT_switch nviOnOff_02;
network input SNVT_switch nviOnOff_03;

These input network variables are used to change the start/stop status of the indoor unit.
If start/stop is only done from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents state 0: Stop 1: start value (Not used)

[nv2] Unit start/stop status notification

network output SNVT_switch nvoOnOff_00;
network output SNVT_switch nvoOnOff_01;
network output SNVT_switch nvoOnOff_02;
network output SNVT_switch nvoOnOff_03;

These output network variables are used to provide notification of the unit's current start/stop status and the thermostat ON/OFF status.
They are also output when the status has been changed from an A/C unit side (as with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.
When the indoor units are subject to group control, "thermostat ON" is output when 1 or more indoor unit is thermostats ON, and "thermostat OFF" is output when all indoor unit are thermostats OFF.

Contents state 0: Stop 1: Start value 0: Thermostat OFF 200: Thermostat ON

[nv3] Temperature setting command

network input SNVT_temp_p nviSetpoint_00;
network input SNVT_temp_p nviSetpoint_01;
network input SNVT_temp_p nviSetpoint_02;
network input SNVT_temp_p nviSetpoint_03;

These input network variables are used to change the indoor unit temperature setting.
If the temperature setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.
When a temperature above the upper limit of the temperature which can be set by the indoor units has been specified, it will be set to the upper limit; conversely, when a temperature below the lower limit has been specified, it will be set to the lower limit.

Contents
Valid range

Auto heat/cool mode:	17 - 27°C
Heat mode:	16 - 26°C
Cool mode:	18 - 30°C
Dry mode:	18 - 30°C
Fan mode:	Temp. setting not used.

Temperature settings are made in units of 1.0°C. (Values after the decimal point are discarded.)

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv4] Temperature setting status notification

network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_01;
network output SNVT_temp_p nvoSetpoint_02;
network output SNVT_temp_p nvoSetpoint_03;

These output network variables are output when the temperature setting status is changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents

Valid range	Output range:	16 - 30°C
	Temp. unit:	1.0 °C

* Be aware that the temperature setting ranges may vary according to the models of the outdoor and indoor units.

[nv5] Operating mode setting command

network input SNVT_hvac_mode nviHeatCool_00;
network input SNVT_hvac_mode nviHeatCool_01;
network input SNVT_hvac_mode nviHeatCool_02;
network input SNVT_hvac_mode nviHeatCool_03;

These input network variables are used to change the indoor unit operating mode.
If the operating mode setting is only changed from an A/C unit side (as with the remote controller), then it is not necessary to use these network variables.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

* The operating modes that can be set may vary according to the models of the outdoor and indoor units.
* Settings other than the above are ignored.

[nv6] Operating mode status notification

network output SNVT_hvac_mode nvoHeatCool_00;
network output SNVT_hvac_mode nvoHeatCool_01;
network output SNVT_hvac_mode nvoHeatCool_02;
network output SNVT_hvac_mode nvoHeatCool_03;

These output network variables are output when the operating mode has been changed.
They are also output when the status has been changed from an A/C unit side (with the remote controller).
They are output when the LonWorks Interface or the A/C unit power is reset.

Contents 0: Auto heat/cool 1: Heat 3: Cool 5: Dry 9: Fan

11. LonWorks Interface (CZ-CLNC2)

[nv7] Option 1 setting command
[nv9] Option 2 setting command

network input SNVT_switch nviOption1_00;
network input SNVT_switch nviOption1_01;
network input SNVT_switch nviOption1_02;
network input SNVT_switch nviOption1_03;
network input SNVT_switch nviOption2_00;
network input SNVT_switch nviOption2_01;
network input SNVT_switch nviOption2_02;
network input SNVT_switch nviOption2_03;

These input network variables are used to make the indoor unit option settings.

Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.

Make changes using the DIP switches on the main circuit board.

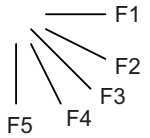
When option settings are not made from the LonWorks, it is not necessary to use these network variables.

	state	value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	(Not used)	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		
		Other			

O :Permitted
×:Prohibited

Fan speed setting	(Not used)	120	Auto
		200	High
		150	Medium
		100	Low
		Other	

Air direction setting	(Not used)	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		Other	Swing



* Positions F4 and F5 can not be set for cool- and dry-mode operation.

Filter sign	Filter sign is reset when data is updated.

[nv8] Option 1 setting status notification
[nv10] Option 2 setting status notification

network output SNVT_switch nvoOption1_00;
network output SNVT_switch nvoOption1_01;
network output SNVT_switch nvoOption1_02;
network output SNVT_switch nvoOption1_03;
network output SNVT_switch nvoOption2_00;
network output SNVT_switch nvoOption2_01;
network output SNVT_switch nvoOption2_02;
network output SNVT_switch nvoOption2_03;

These output network variables provide notification of changes in the status of the indoor unit option settings.

Two of the following 4 option settings can be selected: remote-controller prohibit, fan speed setting, air direction setting, and filter sign reset.

Make changes using the DIP switches on the main circuit board.

They are output when the LonWorks Interface or A/C unit power is reset.

	state	value	Start/stop operation	Temp. setting	Operating mode
Remote-controller prohibit	0	0	O	O	O
	1	100	×		
		120	O	×	
		140	×		
		150	O	O	×
		160	×		
		180	O	×	
		200	×		

O :Permitted
×:Prohibited

Fan speed setting	1	120	Auto
		200	High
		150	Medium
		100	Low
		50	Very
		0	Stop

Air direction setting	1	200	Swing
		170	F1
		140	F2
		110	F3
		80	F4
		50	F5
		0	Stop

Filter sign	0	0	OFF
	1		ON

11. LonWorks Interface (CZ-CLNC2)

[nv11] Alarm notification

network output SNVT_switch nvoAlarm_00;
network output SNVT_switch nvoAlarm_01;
network output SNVT_switch nvoAlarm_02;
network output SNVT_switch nvoAlarm_03;

These output network variables are output when an alarm occurs at an indoor unit, and when the alarm is reset at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0: Normal 1: Alarm value 0 at all times

[nv12] Indoor unit number with active alarm notification

network output SNVT_switch nvoAlarmIn_00;
network output SNVT_switch nvoAlarmIn_01;
network output SNVT_switch nvoAlarmIn_02;
network output SNVT_switch nvoAlarmIn_03;

These output network variables are output when an alarm occurs at an indoor unit.
They are output when the LonWorks Interface or A/C unit power is reset.

Contents state 0 at all times value Indoor unit number with active alarm × 2

* Value = 0 when no alarms are active.

[nv13] Room temperature notification

network output SNVT_temp_p nvoSpaceTemp_00;
network output SNVT_temp_p nvoSpaceTemp_01;
network output SNVT_temp_p nvoSpaceTemp_02;
network output SNVT_temp_p nvoSpaceTemp_03;

These output network variables are output when the indoor unit room temperature changes.
They are output when the LonWorks Interface or A/C unit power is reset.
When indoor units are under group control, the room temperature of the main unit in the group is output.

Contents
Valid range

Output range:	-35.0 - 92.5°C
Temp. units:	0.5°C

* Be aware that the output temperature range may vary according to the models of the outdoor and indoor units.
*When indoor units are under group control, the status is output from the main unit.

[nv14] A/C unit status notification

network output SNVT_count nvoInState_00;
network output SNVT_count nvoInState_01;
network output SNVT_count nvoInState_02;
network output SNVT_count nvoInState_03;

These output network variables are output when the A/C unit status changes.
They are output when the LonWorks Interface or A/C unit power is reset.

0	Normal communications in progress (no alarms)
1~255	According to alarm code table
300	Indoor unit not connected (initial communication in progress)

[nv15] Emergency stop

network output SNVT_switch nviAllInOff;

This input network variable is used to stop the indoor units in an emergency.
Remote-controller prohibit (start/stop prohibit) is enabled for the stopped indoor units.
The remote-controller prohibit (temperature setting, operating mode) status remains the same as before the units were stopped.
When emergency stop is canceled, remote-controller prohibit (start/stop prohibit) status returns to the status prior to emergency stop; however, the unit itself remains stopped.
If this function is not used, then it is not necessary to use this network variable.

Contents state 0: Cancel 1: Emergency stop value (Not used)

[nc49] Transmission interval setting

network input config SNVT_time_sec nciSndHrtBt;

This network configuration sets the interval for automatic data output. When the set time has elapsed, data is output automatically.
The network variables that are affected by this configuration are the following:

nvoOnOff_0? *nvoSetpoint_0?* *nvoHeatCool_0?*
nvoOption1_0? *nvoOption2_0?* *nvoAlarm_0?*
nvoAlarmIn_0? *nvoSpaceTemp_0?* *nvoInState_0?*

Contents

The valid range is 0.0 seconds to 6553.5 seconds. If 0.0 seconds is set, automatic data update is disabled.
The transmission interval setting is the same for all network variables.
When the set time has elapsed, above all network variables are output.

[nc52] Setting of minimum time secured for transmission

network input config SNVT_time_sec nciMinOutTm;

This network configuration determines the minimum interval that is secured for output network variables.
The network variables that are affected by this configuration are the following:

nvoOnOff_0? *nvoSetpoint_0?* *nvoHeatCool_0?*
nvoOption1_0? *nvoOption2_0?* *nvoAlarm_0?*
nvoAlarmIn_0? *nvoSpaceTemp_0?* *nvoInState_0?*

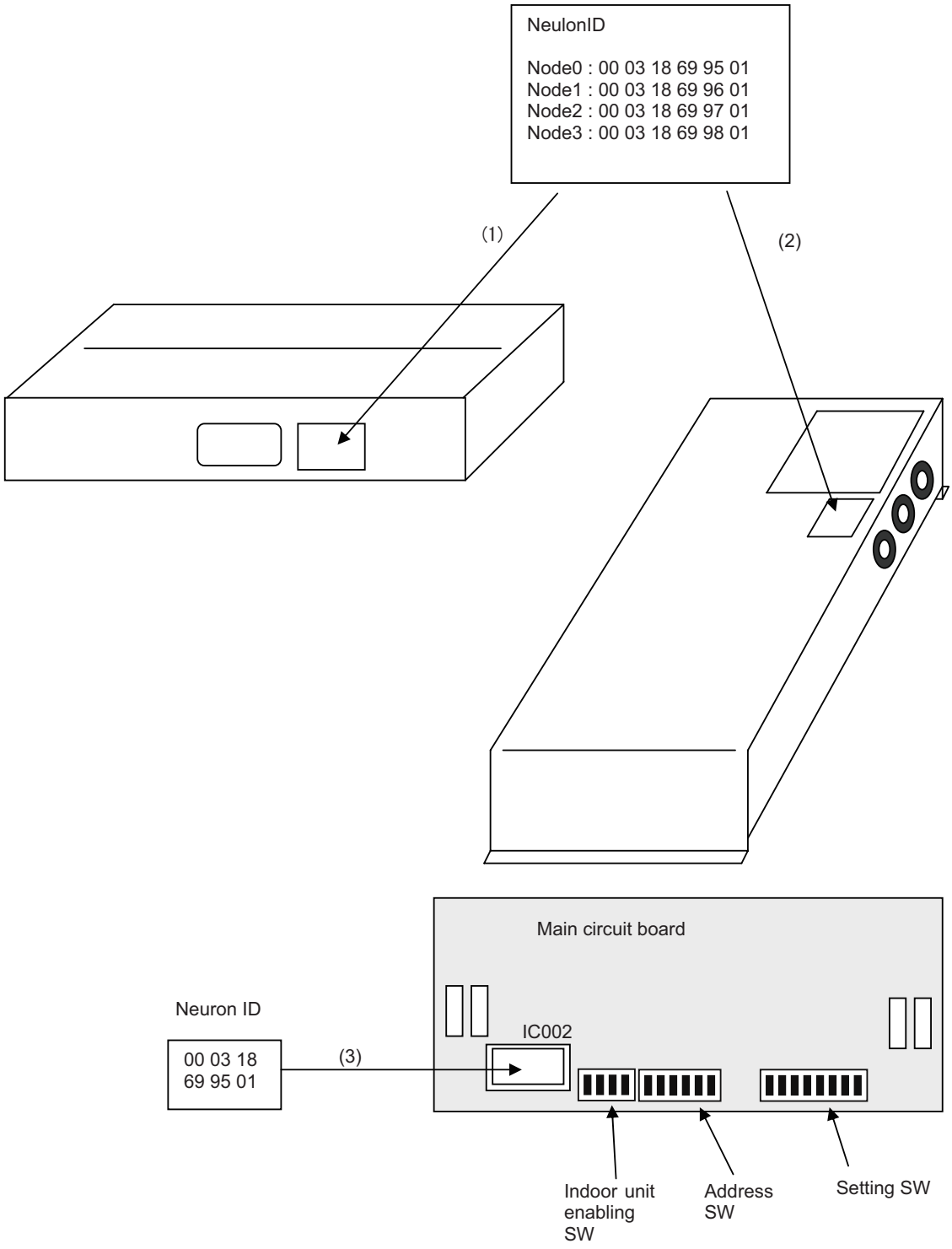
Contents

The valid range is 0.0 seconds to 6553.5 seconds.
The minimum time secured for transmission is independent for each network variable. It is not valid between different network variables.

8. Locations Where Neuron ID is Applied

The Neuron ID is applied in the following 3 locations.

(1) Packaging box
(2) Top panel lid
(3) On the main circuit board Neuron chip



Panasonic

Seri-Para I/O Unit for outdoor unit (CZ-CAPDC2) INSTALLATION INSTRUCTIONS

Procedures and Technical Points for Test Run

Warnings and Cautions

The precautions given in this manual consist of specific "Warnings" and "Cautions." They provide important safety-related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures. The labels and their meanings are as described below.

⚠ **Warning** This symbol refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.

⚠ **Caution** This symbol refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

∗ After installation is completed, perform a test run to check for operating trouble. As you do, use the central control device Operation Manual and explain operating procedures to the customer. Then request that the customer store the Procedures and Technical Points for Installation of LonWorks Interface (Electrical Work) together with the central control device Operation Manual.

3

⚠ Warning

* Be sure to arrange installation from the dealer where the system was purchased or using a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.

*Only a qualified electrician should attempt to connect this system, in accordance with the instructions in "technical standards related to electrical design," "local wiring regulations," and this manual. Electric shock or fire may result if electrical work is not correctly done.

ELECTRICAL WIRING REQUIREMENTS

Precautions regarding electrical wiring

*Use a dedicated electrical circuit. If the electrical circuit capacity is insufficient a danger of electric shock and fire may be present.

*Use the specified cables (type and wiring diameter) for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.

⚠ Caution

*Depending on the installation conditions and location, an earth leakage breaker may be required.

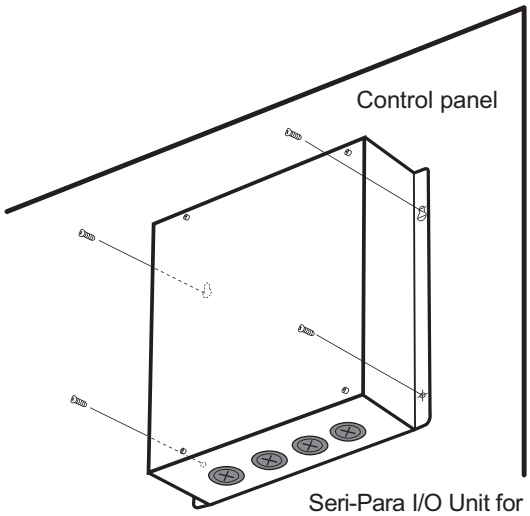
If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

1. Installing the Seri-Para I/O Unit for outdoor unit

<Note 1> Do not run the inter-unit control wiring, input/output lines, and power cables through the same conduit, or place the cables near one another. Doing so can cause malfunction.
<Note 2> Install the Seri-Para I/O Unit for outdoor unit away from any sources of electrical noise.
<Note 3> Avoid installing in any locations where the interface may come into contact with water, in locations where water accumulates, or in any extremely humid locations.
<Note 4> Avoid installing in any location that is subject to excessive vibration or physical impacts.

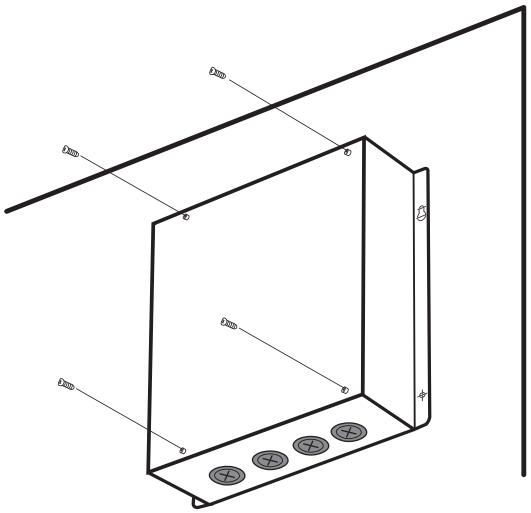
Note that when the Seri-Para I/O Unit for outdoor unit is used incorporated in the control panel, it is necessary to make local procurement of the control panel that can accommodate required number of the Seri-Para I/O Unit for outdoor unit unit.



2. Wiring for the Seri-Para I/O Unit for outdoor unit

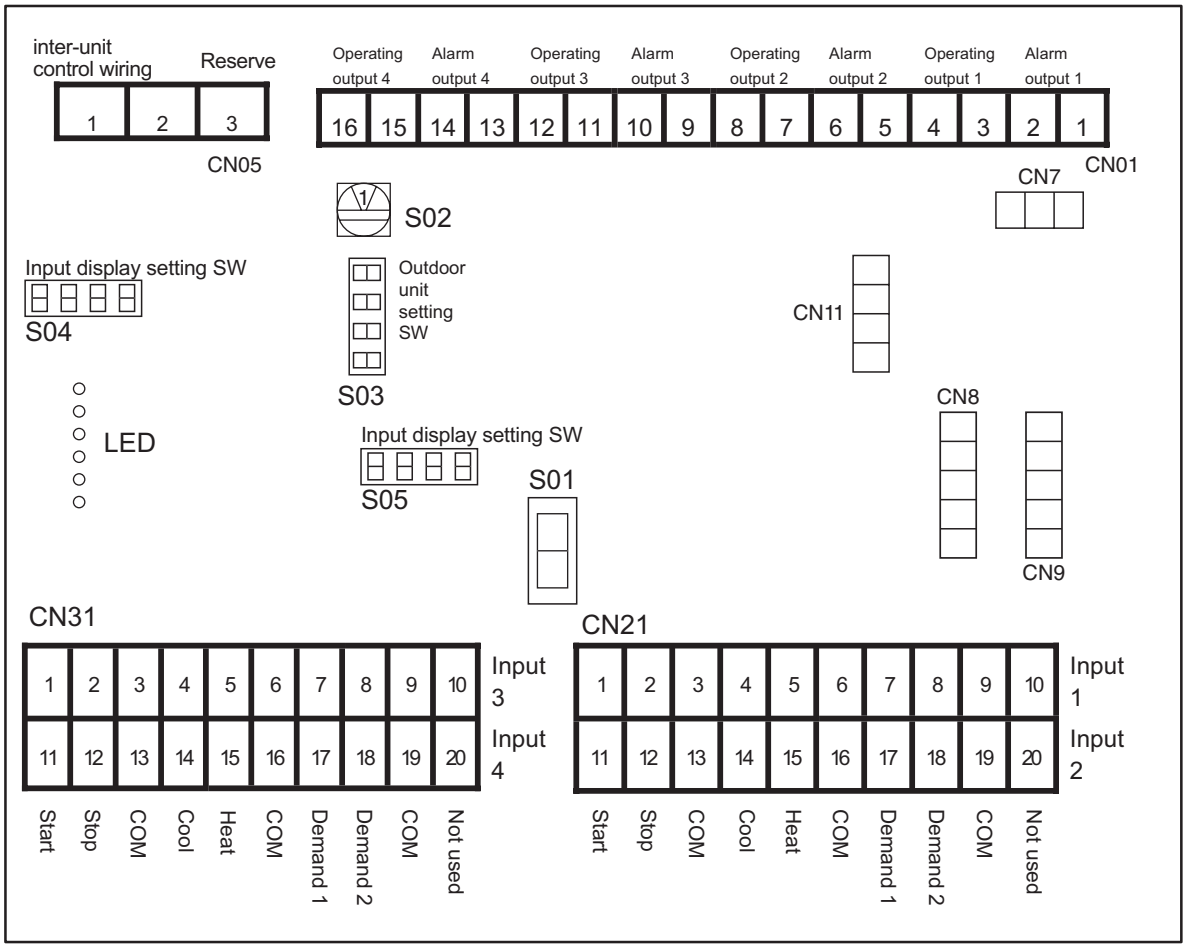
For safety, turn off the main power supply (breaker) before installing or removing the Seri-Para I/O Unit for outdoor unit.

Remove the 4 screws from the body and remove the top cover.



12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

<Arrangement of components on the Seri-Para I/O Unit for outdoor unit board>



(1) Connecting the power

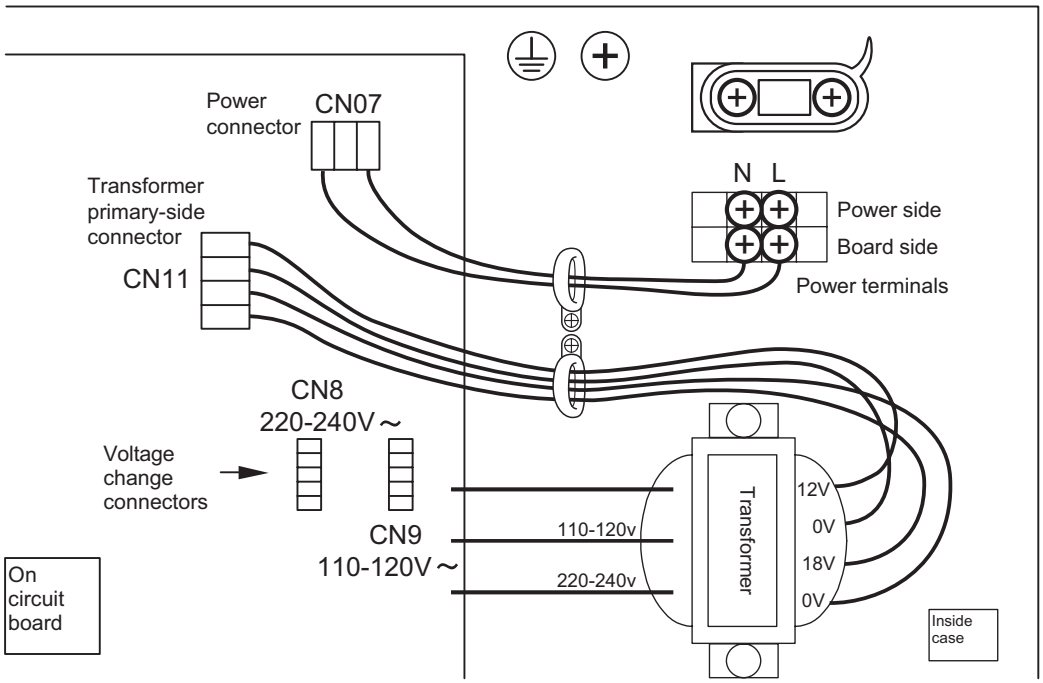
This interface canuse either 110-120V AC power or 220-240V AC power. Insert the transformer primary-side (red 5P connector) into either the 110-120V AC CN (red connector labeled “CN 9”) or the 220-240V AC CN (red connector labeled “CN8”) on the circuit board. Check the power voltage that will be used before changing it. It is initially set for 220-240V AC power.

Caution

- Be careful: If the combination of the power voltage and the transformer primary-side selection is incorrect, the interface may be damaged.
- Turn the power off before changing the connector.
- This is a high-voltage circuit, and there is danger of electric shock. Do not touch the circuit when the power is on.
- Do not touch the power connector or any other protruding metal parts when the power is on.
- Tune the power on again when a defective communication or a mulfunction is generated.

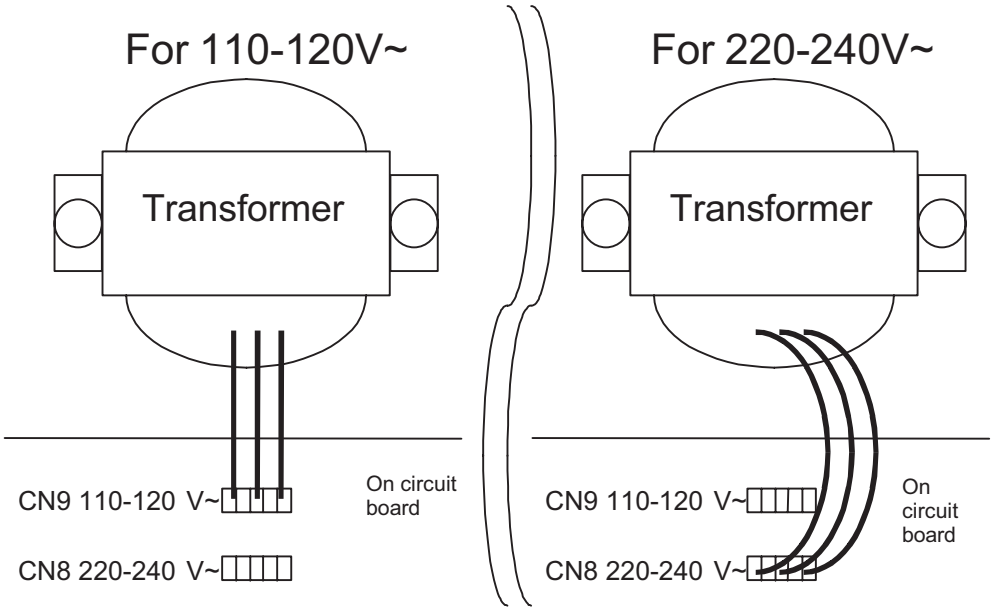
12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

<Arrangement of transformer, power connector, and terminal block>



Changing the voltage:

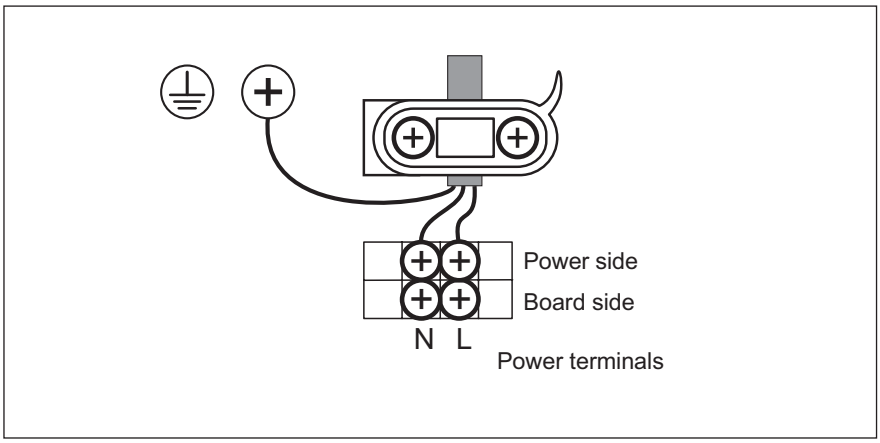
- For 110-120V AC specifications, connect the 5P connector from the transformer to the 110-120V AC side, as shown in the figure below. (Because of the danger of electric shock, turn the power off before changing the connector.)



12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

<Wiring Procedure>

- Connect the power supply lines to the L and N power suplly terminals (the power supply neutral to the N terminal.)
- Connect an earth ground line to the screw.



(2) Connecting the Seri-Para I/O Unit for outdoor unit and the inter-unit control wiring

- Use the inter-unit control wiring to connect the Seri-Para I/O Unit for outdoor unit to the A/C units.
- For the inter-unit control wiring, use twin-core 0.5– 2 mm^2 wires and shielded wiring. (Maximum length 1km.) There is no polarity to the signal wires.

  Do not use the same cable for the inter-unit control wiring and power cables. Do not run them through the same conduit or place the cables near one another. For the inter-unit control wiring, use signal wires that are clearly differentiated from the power cables.

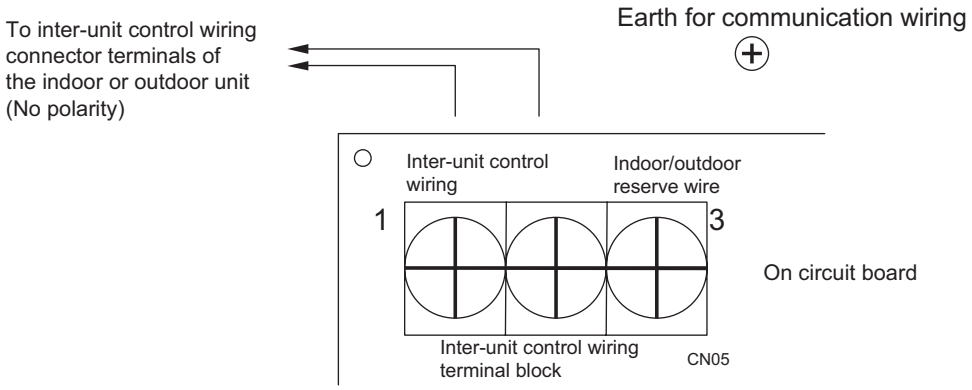
<Signal wire type> Thickness: 0.5 – 2.0 mm^2

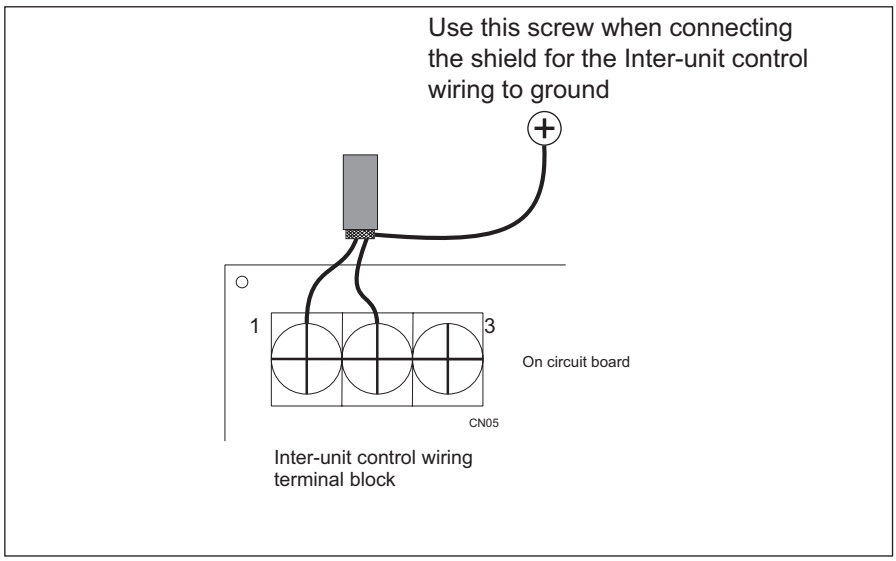
- CCV Vinyl-insulated vinyl-sheath control cable
- VCTF Vinyl cabtyre round cable
- VCT 600V vinyl cabtyre cable
- VVR Vinyl-insulated vinyl-sheath round cable
- MVVS Braided shielded instrumentation cable
- CPEVS Shielded polyethylene-insulated vinyl-sheath cable

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

<Wiring procedure>

- Inter-unit control wiring (Use the shielded wiring)
- Connect the inter-unit control wiring connector terminals for the indoor or outdoor unit to CN05 1 and 2 on the board's inter-unit control wiring terminal block (for communications).





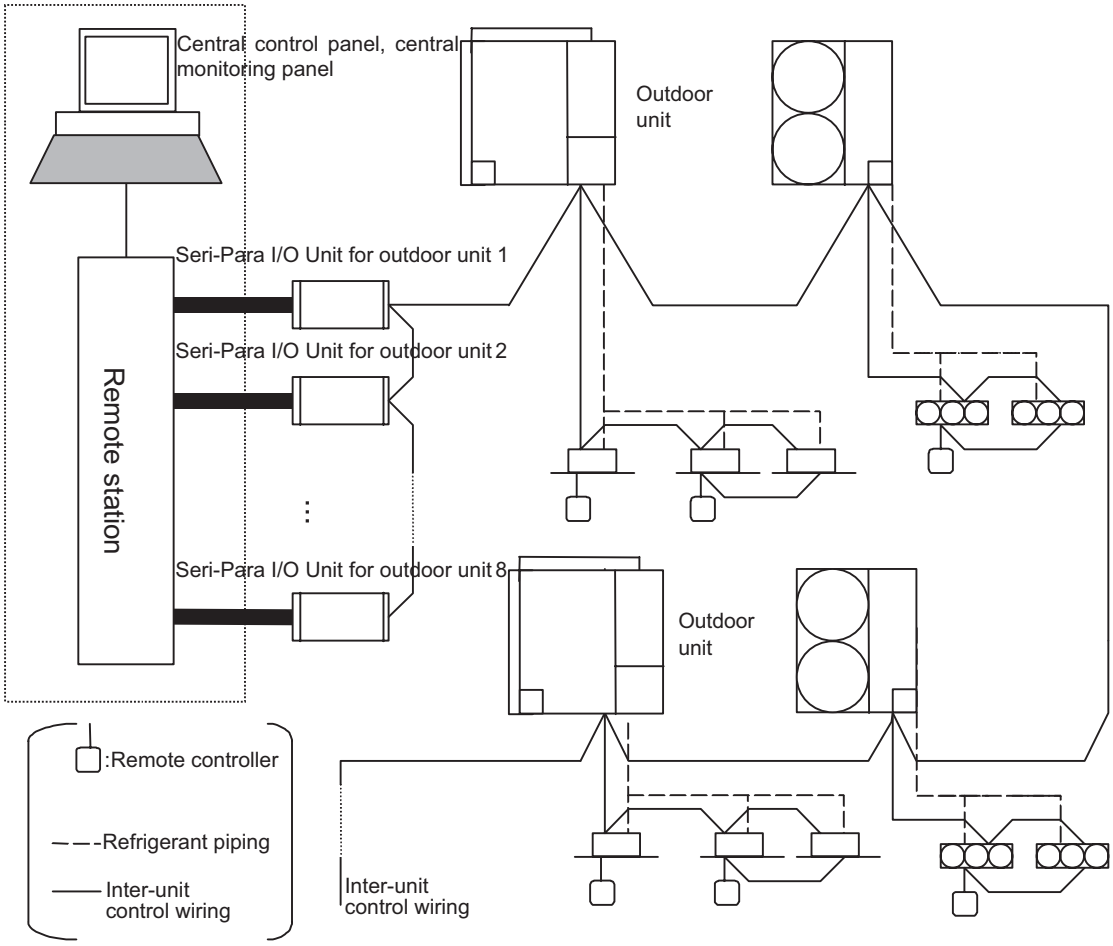
Check that the power cable (110-120/220-240V AC) has not been wired to the inter-unit control wiring terminal block. If power is accidentally applied here, the board fuse (F01) will blow in order to protect the circuit board. After correcting the power cable connection, wire by connecting the inter-unit control wiring to CN05 1 to 3 (using the indoor/outdoor reserve wire).

(Be sure to turn the power off before beginning work.)

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

<Basic wiring diagram>

- The diagram below shows a sample wiring arrangement of inter-unit control wiring for the Seri-Para I/O Unit for outdoor unit.
- One system can include a maximum of 30 connected outdoor units and 64 connected indoor units.
- One Seri-Para I/O Unit for outdoor unit can be connected to a maximum of 4 outdoor units in 1 system. A maximum of 8 Seri-Para I/O Unit for outdoor units can be connected to control up to 30 outdoor units.



12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

(3) Connections between the Seri-Para I/O Unit for outdoor unit and external connectors(central control panel, central monitoring panel)

Name	Input/output item	Seri-Para I/O Unit for outdoor unit side		Equipment (central control panel, central monitoring panel) side		
		Input/output condition	Treminal No.	Separation terminal	Sample circuit	Input/output condition
Contact input/output terminal	Status output	Operating output 1 - 4 No-voltage a-contact output Allowable contact voltage and current: 30 V, 1 A Minimum applied load: 1V, 1 mA	CN01-3,01-7, CN01-11,01-15 CN01-4,01-8, CN01-12,01-16		Digital input	Response time for start/stop input: Max. 20 s
		Alarm output 1 - 4 No-voltage a-contact output Allowable contact voltage and current: 30 V, 1 A Minimum applied load: 1V, 1 mA	CN01-1,01-5, CN01-9,01-13 CN01-2,01-6, CN01-10,01-14		Digital input	Response time for start/stop input: Max. 20 s
	Control input	All-start input (pulse/static) Photocoupler input Allowable contact voltage and current: DC 24V, 10 mA Switch 01 is set as a no-voltage contact (setting when unit is shipped).	CN21-1,21-11, CN31-1,31-11 CN21-2,21-12, CN31-2,31-12 CN21-3,21-13, CN31-3,31-13			Pulse width: 1 s or more No-voltage a-contact output
		All-start input All-stop input (pulse/static) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as DC 24 V contact.	CN21-1,21-11, CN31-1,31-11 CN21-2,21-12, CN31-2,31-12 CN21-3,21-13, CN31-3,31-13		24V COM	Pulse width: 1 s or more No-voltage a-contact output

3

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

Name	Input/output item	Seri-Para I/O Unit for outdoor unit side		Equipment (central control panel, central monitoring panel) side		
		Input/output	Terminal No.	Separation terminal	Sample circuit	Input/output condition
Contact input/output terminal	Control input (static)	Cool input Heat input (Demand 1, demand 2) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as a no-voltage contact (setting when unit is shipped).	CN21-4,21-14, (21-7,21-17) CN31-4,31-14, (31-7,31-17) CN21-5,21-15, (21-8,21-18) CN31-5,31-15, (31-8,31-18) CN21-6,21-16, (21-9,21-19) CN31-6,31-16, (31-9,31-19)			Pulse width: 1 s or more No-voltage a-contact output
		Cool input Heat input (Demand 1, demand 2) Photocoupler input Allowable contact voltage and current: DC 24 V, 10 mA Switch 01 is set as DC 24 V contact.	CN21-4,21-14, (21-7,21-17) CN31-4,31-14, (31-7,31-17) CN21-5,21-15, (21-8,21-18) CN31-5,31-15, (31-8,31-18) CN21-6,21-16, (21-9,21-19) CN31-6,31-16, (31-9,31-19)		24V COM	Pulse width: 1 s or more No- voltage a-contact output

Note: Demand 1 and 2 (shown in parentheses) are listed together because their structure is the same as cool/heat input.

- The length of digital signal wiring between the Seri-Para I/O Unit for outdoor unit and the equipment side must be 100 m or less.

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

* Input terminal block table

	Input 1	Input 2	Input 3	Input 4
All-start	CN21-1 CN21-3	CN21-11 CN21-13	CN31-1 CN31-3	CN31-11 CN31-13
All-stop	CN21-2 CN21-3	CN21-12 CN21-13	CN31-2 CN31-3	CN31-12 CN31-13
Cool	CN21-4 CN21-6	CN21-14 CN21-16	CN31-4 CN31-6	CN31-14 CN31-16
Heat	CN21-5 CN21-6	CN21-15 CN21-16	CN31-5 CN31-6	CN31-15 CN31-16
Demand 1/ thermostat OFF	CN21-7 CN21-9	CN21-17 CN21-19	CN31-7 CN31-9	CN31-17 CN31-19
Demand 2/ remote-con-troller inhibit	CN21-8 CN21-9	CN21-18 CN21-19	CN31-8 CN31-9	CN31-18 CN31-19

3

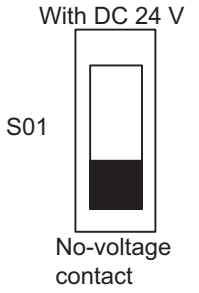
* Polarity for input wiring

	Input (start, stop, cool, heat, demand 1/thermostat OFF demand 2/remote-controller inhibit)	COM
S01-direction no-voltage contact	Because it is a no-voltage contact, there is no polarity.	Because it is a no-voltage contact, there is no polarity.
S01-direction DC 24 V contact	Positive	COM

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

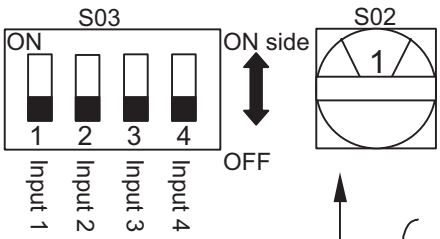
3. Setting Switches

- Setting switch S01 (Change the voltage before turning on the power.)



• S01 (contact input voltage change SW) (Set as a no-voltage contact when unit is shipped.)
1. When using the input terminal as a no-voltage a-contact, set switch S01 to the no-voltage contact side.
2. When using the input terminal as a DC 24 V contact, set switch S01 to the DC 24 V voltage side.

- Setting switches S02 and S03



• S02 (outdoor SP address setting SW)
This switch sets the Seri-Para I/O Unit for outdoor unit address. (Refer to *1.)
• S03 (outdoor unit setting SW)
This switch sets the connected outdoor units. Be sure to turn the SW to the ON side for each input that will be used. (Note: If input is turned OFF, no input or output occurs.)

1: Outdoor unit addresses 1 - 4
2: Outdoor unit addresses 5 - 8
3: Outdoor unit addresses 9 - 12
4: Outdoor unit addresses 13 - 16
5: Outdoor unit addresses 17 - 20
6: Outdoor unit addresses 21 - 24
7: Outdoor unit addresses 25 - 28
8: Outdoor unit addresses 29 - 30
(0 is set the same as 1. 9 is set the same as 8.)

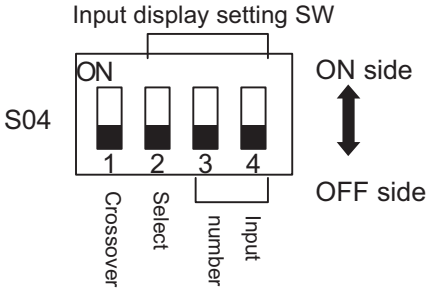
(*1) Relationship between the input/output terminal block (input/output 1 - 4) and the Outdoor unit address when S02 (outdoor SP address setting SW) is changed

S02 (outdoor SP address setting SW)	Input/output terminal block number				
	1	2	3	4	
1	1	2	3	4	System address (outdoor unit address)
2	5	6	7	8	
3	9	10	11	12	
4	13	14	15	16	
5	17	18	19	20	
6	21	22	23	24	
7	25	26	27	28	
8	29	30	30	30	

* Set the S02 not to overlap.

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

- Setting switch S04



- S04-1 (OFF when unit is shipped.)

Crossover	OFF	No crossover process (normal)
	ON	Crossover process performed (Connect only to terminal block input 1.)

* Crossover process: Performs the same process as if terminal block inputs 1 - 4 were wired across one another. (Processing proceeds as if inputs 2 - 4 were the same as input 1.) Even if there is crossover input, input and output operations are not performed if the S03 input is turned OFF.

- S04-2 (OFF when unit is shipped.)

Select	OFF	Displays the status of communications with the outdoor unit corresponding to LED 1 - 4.
	ON	Using the LED (6), displays the input status (start, stop, etc.) for the terminal block with the input number selected.

- S04-3 and 4 input number selection: Select the input number to check.

	S04-3	S04-4
Input 1	OFF	OFF
Input 2	OFF	ON
Input 3	ON	OFF
Input 4	ON	ON

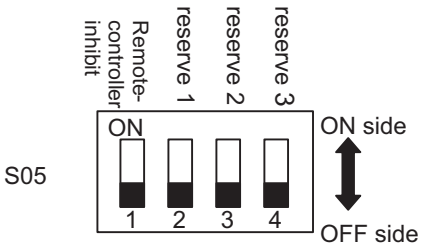
* The following information is displayed by the LED, according to the settings of S04-2 (select) and S04-3 and 4 (input number).
(If the select switch is ON, the LED illuminate according to the signal that is being input at the input terminal block with the selected number.)

Select	OFF (normal)	ON (for checking input)
LED explanation	1 ○ 2 ○ 3 ○ 4 ○ ○ ○ Status of communications with the outdoor unit corresponding to each number Normal: Lit Trouble: Flashing	Start ○ Stop ○ Cool ○ Heat ○ Demand 1 ○ Demand 2 ○ Input present: Lit No input: Not lit

Note: If S04-2 (select) is ON, there are cases when communications errors may go unnoticed. Therefore, leave this switch OFF when checking normal communications.

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

• Setting switch S05



• S05-1 (OFF when unit is shipped.)
Changes the remote-controller inhibit switch input as shown below.

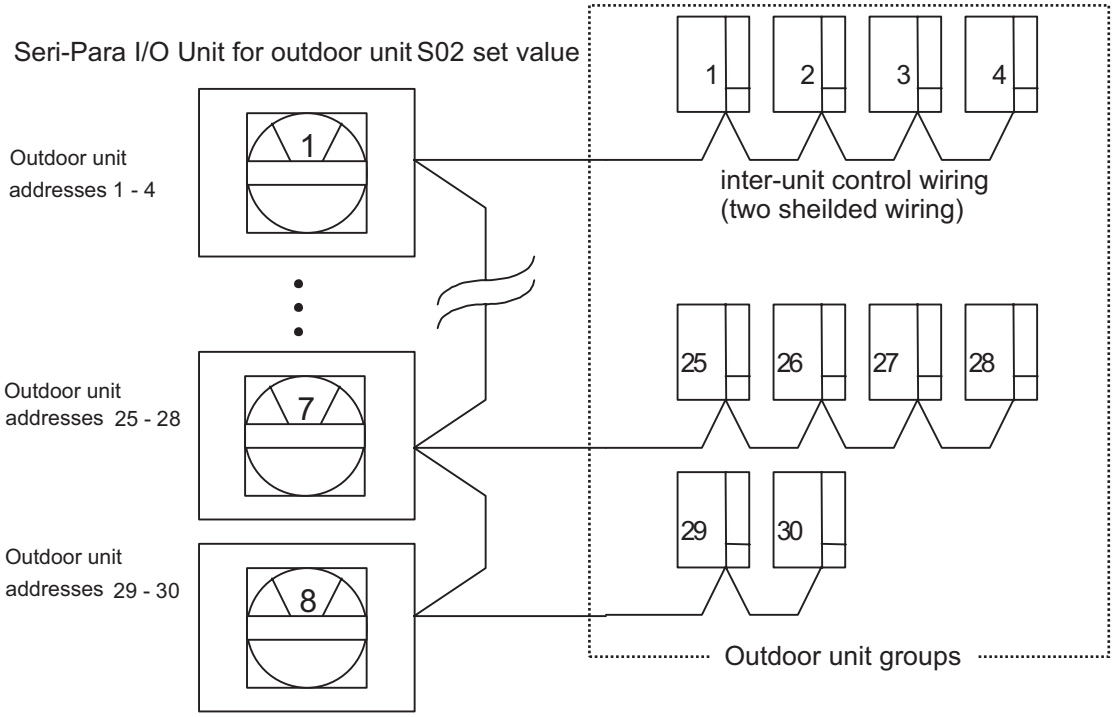
Remote-controller prohibit	OFF	Demand 1/demand 2
	ON	Thermostat OFF (*1)/remote-controller inhibit

*1 This input forces the thermostat to turn OFF (100% demand).

4. Detailed Explanation of Address Setting SW (S02)

The Seri-Para I/O Unit for outdoor unit addresses must be set (S02) when connecting and using multiple Seri-Para I/O Unit for outdoor units.

* The example here shows 8 Seri-Para I/O Unit for outdoor units and 30 outdoor units connected.



5. Test Run

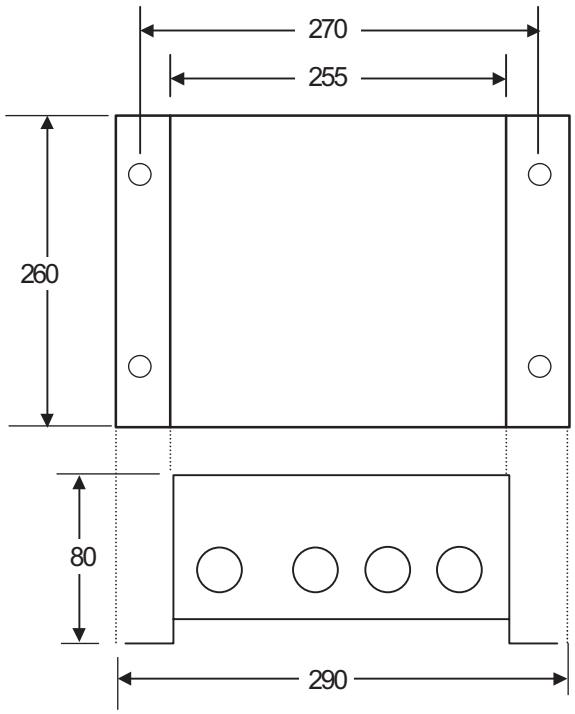
1. Turn on the power to all A/C. Check that all test-runs are completed.
2. After the A/C test-runs are completed, follow the procedure below.
3. Turn on the power to the Seri-Para I/O Unit for outdoor unit. (Complete settings before turning on the power.)
4. If there is no trouble with communications between the Seri-Para I/O Unit for outdoor unit and the outdoor units, then generate all-start input from the Seri-Para I/O Unit for outdoor unit. (Connect “Start” and “COM” on the input terminal block.) Check the operating lamps. Check all inputs in the same way. To check inputs, set the input number that you wish to check with settings switches S04-3 and 4 (input number switches). Then switch S04-2 (select switch) to ON and check the input. (Refer to **3. Setting Switches**.)

- Approximately 3 minutes after trouble occurs in the communications between the Seri-Para I/O Unit for outdoor unit and the outdoor units, the communications-check LEDs will begin flashing.

  When these LEDs are flashing, check and correct the communications line connections and power for the outdoor units which correspond to the flashing LEDs.

12. Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)

6. External Dimensions



H80 x W290 x D260 mm

7. Product Specifications

Specifications

Rated voltage:	Single-phase 110-120 / 220-240 V ~
Rated frequency:	50 / 60 Hz
Power consumption:	Approx. 18 W
Weight:	3.2 kg

13. MINI Seri-para I/O Unit (CZ-CAPBC2)

For Your Safety

Read the following instructions carefully, and carry out secure installation and electrical work.
The precautions given in this manual consist of specific "⚠Warning" and " ⚠ Caution". They provide important safety-related information. Be sure to strictly observe all safety procedures.
The labels and their meanings are as described below.

⚠Warning This symbol refers to a hazard or unsafe procedure or practice that can result in severe personal injury or death.

⚠Caution This symbol refers to a hazard or unsafe procedure or practice that can result in personal injury or product or property damage.

After installation is completed, perform a test run to check for operating trouble. Explain operating procedures to the customer and request the customer to store the Procedures for Installation (Electrical Work) and Test Operation of Seri-Para I/O Unit for each indoor unit.

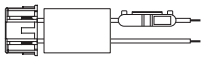
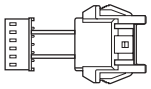
⚠Warning

- Be sure to arrange installation by the dealer where the system was purchased or by a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Be sure that this unit is securely installed in accordance with the Procedures for Installation (Electrical Work) and Test Operation of Seri-Para I/O Unit for each indoor unit. Electric shock or fire may result if any installation or wiring procedures are incorrectly performed.
- Only a qualified electrician should attempt to connect this system, in accordance with the instructions in this manual. Insufficient electrical circuit capacity or incorrect installation may cause electric shock and fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Run and fasten the cables securely so that external forces or pressure placed on the cables will not be transmitted to the connection terminals. Overheating or fire may result if connections or attachments are not secure.

⚠Caution

- Depending on the installation conditions and location, an earth leakage breaker may be required. If an earth-leakage breaker is not installed, there is a danger of electric shock or fire.
- Ground yourself to discharge static electricity before performing any wiring.

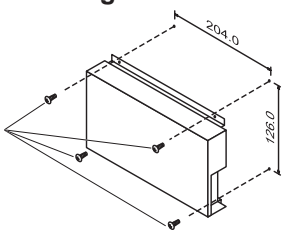
Accessories

No.	Accessory	Quantity	No.	Accessory	Quantity
①	T10 cable (150mm) *1  with a current fuse ※1	1	④	Wire joints 	2
②	T10 cable (100mm) *2 	1	⑤	Installation Plan (this manual) 	1
③	Installation Screws (tapping screws ϕ4x8mm) 	4	⑥	Earth Screw for T10 cable (for indoor unit) 4x8-3	1

※1 In the case of melting-down of fuse cables due to a short-circuit, wrong wiring or excessive current, change current to 125V/0.5A.
*1 Panasonic model or SANYO 4-series or newer type.
*2 SANYO 3-series type.

Installing

Installation Screws
(tapping screws x 4
Accessory components ③)

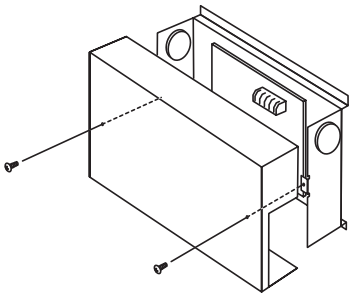


Note:
- Do not run the communication lines and power cables through the same conduit, or twist those cables together, or place the cables near one another. It can cause malfunction.
- Install it away from any sources of electrical noise.
- Avoid installing in any locations where the unit may come into contact with water, or in any extremely humid locations.
- Avoid installing in any location that is subject to excessive vibration or physical impacts.

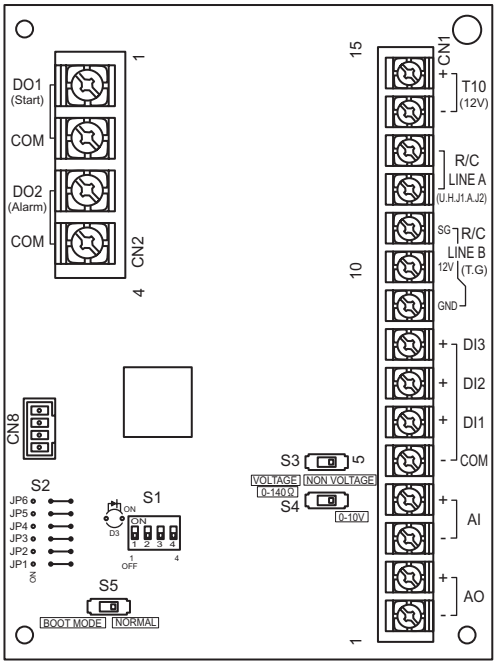
13. MINI Seri-para I/O Unit (CZ-CAPBC2)

Wiring

Removing the top cover



Arrangement of the terminal block and switches



CN1	15	+	T10(12V)	12 V power supply
	14	-		
	13		R/C LINE A	Remote control line A
	12			
	11	SG	R/C LINE B	Remote control line B
	10	12V		
	9	GND		
	8	+	DI 3	Digital input
	7	+	DI 2	
	6	+	DI 1	
	5	-	COM	
	4	+	AI	Analog input (Change temperature setting)
	3	-		
	2	+	AO	Analog output (Room temperature monitor)
	1	-		

CN2	1	DO1	Digital output 1 (Start output)
	2	COM	
	3	DO2	Digital output 2 (Alarm output)
	4	COM	

S1	Control type setting switch
S2	Detail setting switch
S3	Voltage present / absent switch
S4	Set temperature input select switch
S5	Not used

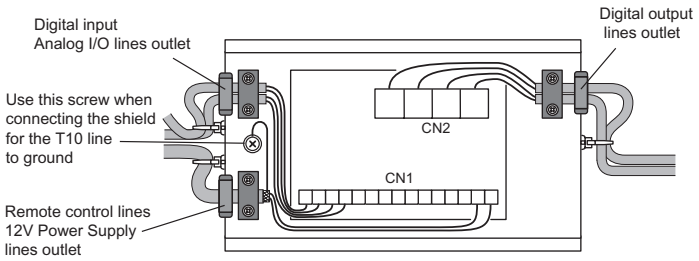
CN8	Not used

Caution:

- Always use round connectors with insulator holddown for wiring to the terminal block. (CN1 uses M3.0, CN2 uses M3.5)

Securing the wiring

Make sure to secure all wiring using the clip wires inside the unit, and the cable clamps outside the unit.



Caution:

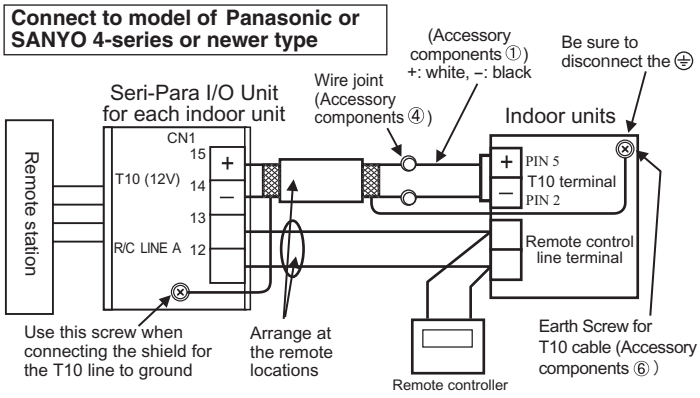
- If using high-voltage wiring such as AC power supply (Digital output), make sure that wiring does not contact any component on the circuit board, or any low-voltage (CN1) wiring.

13. MINI Seri-para I/O Unit (CZ-CAPBC2)

(1) Connecting to indoor units

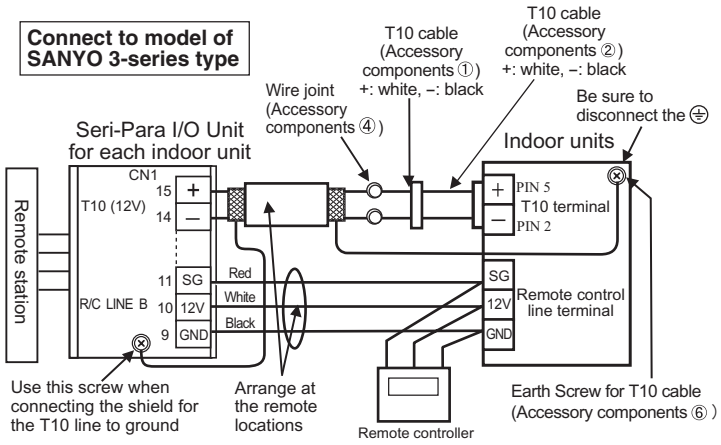
- Do not run the control lines and power cables in the same conduit, do not connect those lines and cables with the same wire, and do not place those lines and cables close together. (Maintain a minimum 30 cm separation.)
- Wiring specifications
  Type: vinyl insulated cord with sheath
  Thickness: 0.5 to 2.0 mm^2
  Length: 100 m maximum
  * Use the shielded wire for the 12 V power cable (T10).

Connect to model of Panasonic or SANYO 4-series or newer type



- Remote control line
  Connect terminals 12 and 13 (Remote Control Line A) on the Seri-Para I/O Unit terminal block CN1 to the Remote Control terminals of the indoor unit. There is no polarity for the signal wires.
- 12V power supply line
  Connect terminals 14 and 15 (12V Power Supply Line) on the Seri-Para I/O Unit terminal block CN1 to the T10 terminal of the indoor unit. The polarity of the connection is important; make sure to connect the + and - terminals correctly.
  Wiring the polarity incorrectly may result in damage to the units.

Connect to model of SANYO 3-series type



- Remote control line
  Connect terminals 9, 10, and 11 (Remote Control Line B) on the Seri-Para I/O Unit terminal block CN1 to the Remote Control terminals of the indoor unit. The polarity of the connection is important; make sure to connect the GND, 12V and SG correctly.
  Wiring the polarity incorrectly may result in damage to the units.
- 12V power supply line
  Connect terminals 14 and 15 (12V Power Supply Line) on the Seri-Para I/O Unit terminal block CN1 to the T10 terminal of the indoor unit. The polarity of the connection is important; make sure to connect the + and - terminals correctly.
  Wiring the polarity incorrectly may result in damage to the units.

3

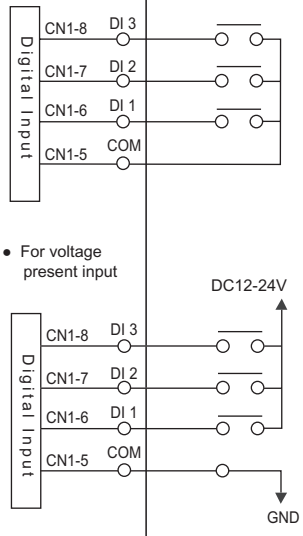
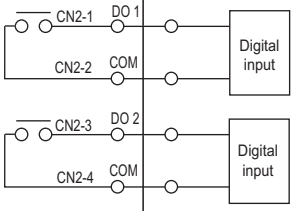
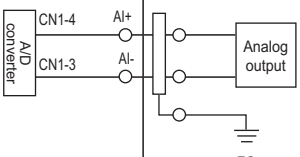
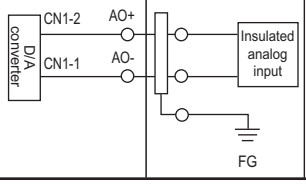
13. MINI Seri-para I/O Unit (CZ-CAPBC2)

Cautions

* In addition to the Seri-Para I/O Unit, be sure to install a remote control or centralized control device (system controller, etc.) in the indoor unit
* Two or more Seri-Para I/O Units cannot be linked within a remote control line.
* The Seri-Para I/O Unit cannot be used with a control device which uses the T10 terminal of the indoor unit (example: indoor unit relay board, schedule timer, etc.)

(2) Connecting to the Remote Stations

- Do not run the control lines and power cables in the same conduit, do not connect those lines and cables with the same wire, and do not place those lines and cables close together. (Maintain a minimum 30 cm separation.)

Name	Input/ output item	Seri-Para I/O Unit side		Remote Station side	
		Input/output conditions	Terminal number	Example Circuit	Input/output conditions
Digital input/output terminal	Digital input ※1	DI1 Input DI2 Input DI3 Input Voltage a-contact static or Voltage a-contact pulses Allowable contact voltage and current : DC 24 V, 10 mA Voltage present / absent switch : S3 Voltage absent : set to [NON VOLTAGE] Voltage present : set to [VOLTAGE]	• For voltage absent input (factory default) • For voltage present input		Voltage present 12 to 24V or Voltage absent When pulse input: 200 ms minimum
	Digital output ※2	Start output Alarm output No-voltage a-contact static Allowable contact voltage and current : AC 240 V, 3A DC 24 V, 3A (Minimum load 10mA)			
Analog input/output terminal	Analog input ※3	Indoor temperature setting input Input voltage : 0 to 10V or 0 to 140 Ω Temperature setting range: Within the indoor units temperature setting range Temperature reading: In steps of 1°C Set temperature input select switch : S4 Voltage level input: set to [0 to 10V] Resistance connection : set to [0 to 140 Ω]			For analog inputs, use within 0.1% of reference accuracy
	Analog output ※4	Indoor temperature monitor output Output current : 4 to 20 mA Temperature indication range : 5 to 36 °C, 0.5 °C step			Allowable load: 240 Ω maximum

13. MINI Seri-para I/O Unit (CZ-CAPBC2)

※1 Digital input

- Select the control type using control type setting switch S1, according to the table below.

Control type	Input1 (DI 1) (open) (close)	Input1 (DI 1) (close) (open)	Input2 (DI 2) (open) (close)	Input2 (DI 2) (close) (open)	Input3 (DI 3) (open) (close)	Input3 (DI 3) (close) (open)	Voltage a-contact static/pulses ※1
0	Start Fan low	Indoor units stop when all of Input 1, 2, 3 are open	Start Fan medium	Indoor units stop when all of Input 1, 2, 3 are open	Start Fan high	Indoor units stop when all of Input 1, 2, 3 are open	All input: static
1	Start Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	Start Accept R/C Start/Stop	Stop Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	-	Input 1, 2: static Input 3: pulse
2	Start Prohibit R/C Start	Stop Prohibit R/C Start/Stop	Accept R/C Start/Stop	Stop Prohibit R/C Start/Stop	Stop Prohibit R/C Start/Stop	-	Input 1, 2: static Input 3: pulse
3	Start <-> Stop Prohibit R/C Start/Stop	-	Start <-> Stop Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	All input: pulse
4	Start Prohibit R/C Start/Stop	-	Start Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	
5	Start Prohibit R/C Start	-	Accept R/C Start/Stop	-	Stop Prohibit R/C Start/Stop	-	
6	Start Accept R/C Start/Stop	-	Stop Accept R/C Start/Stop	-	-	-	
7	Start <-> Stop Prohibit R/C Start/Stop	-	Start <-> Stop Accept R/C Start/Stop	-	Set thermostat OFF	Release thermostat OFF	Input 1, 2: pulse Input 3: static
8	-	-	-	-	-	-	-
9	Heat	-	Cool	-	Fan	-	All input: pulse
10	Heat Start	Indoor units stop when all of Input 1, 2, 3 are open	Cool Start	Indoor units stop when all of Input 1, 2, 3 are open	Fan Start	Indoor units stop when all of Input 1, 2, 3 are open	All input: static
11	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-
15	Start	Stop	-	-	Set thermostat OFF	Release thermostat OFF	All input: static

※ R/C: Remote Controller

※1: When inputting pulses, set the pulse width to 200 ms.

- Wiring specifications

  Type: vinyl insulated cord with sheath
  Thickness: 0.5 to 2.0 mm^2
  Length: 100 m maximum

※2 Digital output

- D01 for start output signal.
  D02 for alarm output signal.
- Maximum allowable contact voltage and current are AC 240 V and 3 A maximum or DC24 V and 3 A maximum.
- Wiring specifications are for digital input.

※3 Analog input

●Select the temperature setting control method from the following 3 types.

- Input voltage ① (equally divided upper and lower setting temperature limits)
- Input voltage ② (fixed voltage)
- Input resistance

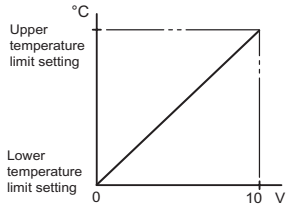
●In case of Input voltage ①, ②

- Set the Set temperature input switch S4 to "0 to 10 V" (factory default)
- Wiring specifications

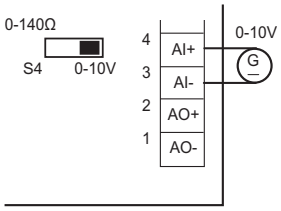
  Type: vinyl insulated cord with sheath (shield line recommended)
  Thickness: 1.25 to 2.00 mm^2
  Length: 70 m maximum

●Input voltage ① (equally divided upper and lower setting temperature limits) (factory default)

- Performed in the input range of 0 to 10 V DC (lower setting temperature limit to upper setting temperature limit).
- Relationship between setting temperature and voltage is as the diagram below.
- Upper and lower temperature setting limits may vary according to the indoor units and operation mode.
  Refer to the relationship between setting temperature and voltage, described in (example) 3-1 "Operation mode of a typical model [lower limit to upper limit]".



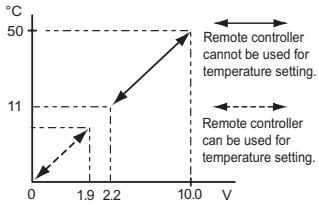
Relationship between input voltage and temperature

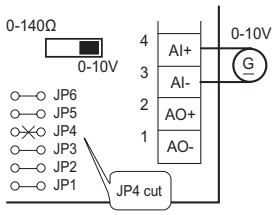


Line connection

●Input voltage ② (fixed voltage)

- Performed in the input range of 0 to 10 V DC.
- The effective range of the setting temperature is 2.2 V to 10 V (11 °C to 50 °C). Remote controller cannot be used for temperature in this range.
- When the input exceeds the upper or lower setting temperature limits, it is set to the upper or lower limits.
  For example, in case of air-conditioning (cool) [18 °C to 30 °C], if the voltage is below 3.5 V, the temperature is set to 18 °C, and if over 6.2 V, to 30 °C.
- To set the temperature using remote controller, set the input voltage below 1.9 V.





Mapping table of setting temperature and input voltage (input voltage ②)

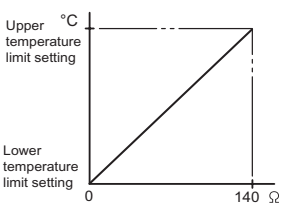
Temperature setting [°C]	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Input voltage [V]	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0

Note:
Input voltage after an indoor unit has been connected. The maximum input voltage is 10 V. Over 10 V input voltage may cause malfunction.

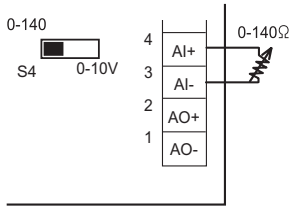
● Input resistance

- Temperature setting (1 °C step) is performed in the range of 0 to 140 Ω.
- Relationship between setting temperature and resistance is as the diagram below.
- Upper and lower temperature setting may vary according to the indoor units and operation mode.
  Refer to the relationship between setting temperature and resistance, described in (example) 3-1 "Operation mode of a typical model [lower limit to upper limit]".
- Set the Set temperature input switch S4 to "0 to 140 Ω".
- Wiring specifications

  Type: vinyl insulated cord with sheath (shield line recommended)
  Thickness: 1.25 to 2.00 mm^2
  Length: 70 m maximum



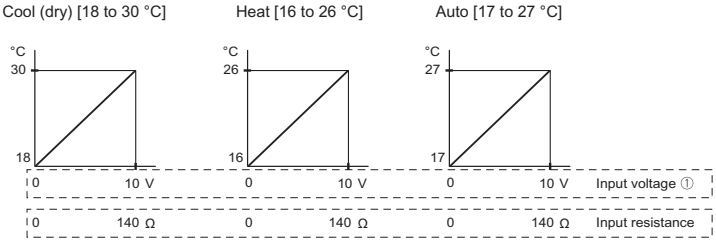
Relationship between connection resistance and temperature



Line connection

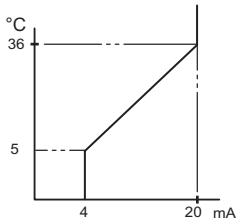
13. MINI Seri-para I/O Unit (CZ-CAPBC2)

(example) 3-1: Operation mode of a typical model [lower limit to upper limit °C]



※4 Analog output

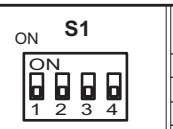
- The indoor temperature monitor output is from 4 to 20 mA DC (5 to 36°C), and the temperature can be set in steps of 0.5°C.
  Take care of the measurement units used by the central monitor. The wiring specifications are for analog input. Keep the load resistance below 240 Ω.



Relationship between current value and temperature

Settings switch

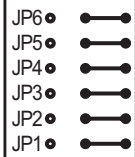
Control type setting switch S1



Control type	S1 1	S1 2	S1 3	S1 4	Control type	S1 1	S1 2	S1 3	S1 4
0	–	–	–	–	8	–	–	–	●
1	●	–	–	–	9	●	–	–	●
2	–	●	–	–	10	–	●	–	●
3	●	●	–	–	11	●	●	–	●
4	–	–	●	–	12	–	–	●	●
5	●	–	●	–	13	●	–	●	●
6	–	●	●	–	14	–	●	●	●
7	●	●	●	–	15	●	●	●	●

Refer to digital input.

Detail setting switch S2



JP6	Connection	N/C (factory default)	
	Cut	N/C	
JP5	Connection	With Remote controller or centralized control system (factory default)	※4
	Cut	Without Remote controller or centralized control system	※4
JP4	Connection	Input voltage ① (factory default)	※3
	Cut	Input voltage ②	※3
JP3	Connection	Output control temperature as room temperature (factory default)	※2
	Cut	Output intake temperature as room temperature	※2
JP2	Connection	Set temperature push priority (factory default)	※1
	Cut	Prohibit Remote controller temperature setting	※1
JP1	Connection	N/C (factory default)	
	Cut	N/C	

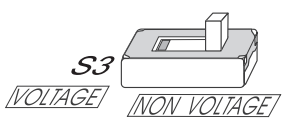
※1: Switches the local remote control temperature setting operation between push priority and operation prohibited.

※2: Switches the room temperature monitor output between the temperature used by the controller (when heating, the intake temperature with shift, or the remote control sensor) and the intake temperature.

※3: **Cut (fixed voltage) JP4, although no change the setting temperature with Seri-Para I/O Unit. Do not input voltage to No.3 and 4 (AI±) of CN1 at the time.**

※4: When using the Seri-Para I/O Unit, it is standardized to connect a remote controller or a centralized control system (i.e. System controller). To use the Seri-Para I/O Unit by itself (without a remote controller or a centralized control system), cut JP5. In this regard, however, the operational functions (such as operation mode, fan speed and wind direction) will be limited with only the Seri-Para I/O Unit.

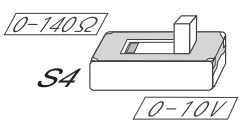
Voltage present / absent switch S3



(factory default)

For digital input, switches between voltage present and voltage absent.

Set temperature input switch S4

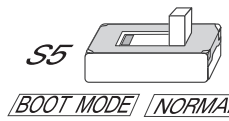


(factory default)

For analog input, switches between input voltage and input resistance.

13. MINI Seri-para I/O Unit (CZ-CAPBC2)

Boot Switch S5



(factory default)

Always set the S5 switch to NORMAL.

LED (Green) display

LED (Green) display

LED display	Meaning	Action to take
Off	Power Off	Check the remote control line connection
Blinking at 3 s intervals	12V (T10 terminal) power supply error	Check the power supply line connection Make sure that the fuse of the T10 cable (accessory components 1) does not meltdown.
On/off out at 1 s intervals	Indoor unit alarm	Clear the indoor unit alarm
On/off out at 100 ms intervals	Initializing communications, communications error	Check the remote control line connection
On ※1	Normal operation	-

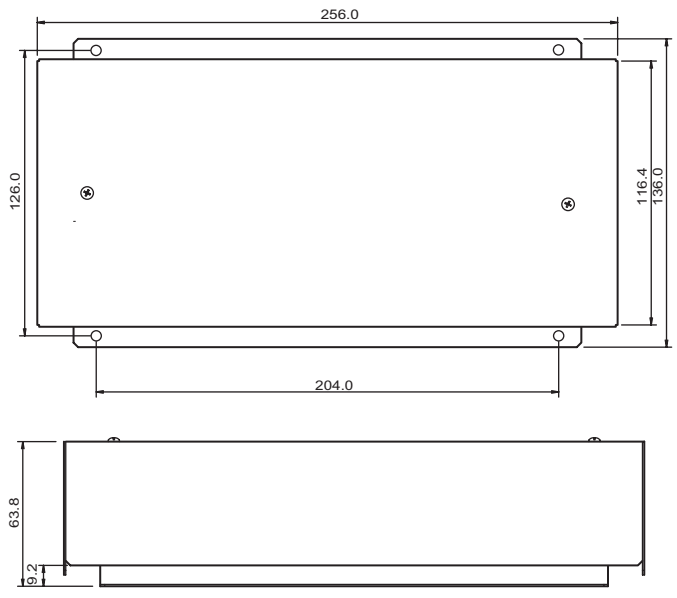
※1: When transmitting setting data to an indoor unit, the LED will be turned off for 200 ms.

Product specifications

Power	DC12V
Power consumption	1.2W, 0.1A
Operating environment conditions	Temperature: -10 to 50°C; Humidity: 20 to 80%; for indoor use only
External dimensions	256.0 mm (w) x 136.0 mm (d) x 63.8 mm (h)
Weight	0.9 kg

External dimensions

unit: mm



14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

Safety Precautions

- Read these Safety Precautions before beginning installation or electrical work, and perform the work only in the correct manner.
- Precautions in this manual are given in the form of "Warnings" or "Cautions." Both types of precautions contain important information related to your safety, the safety of users, and the correct operation, installation or maintenance of the air conditioning system. Be sure to carefully observe all relevant precautions.

WARNING	This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.
CAUTION	This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

When installation work is completed, perform a test run and check that no trouble occurs. Also be sure to explain the methods for using the product to the customer, based on the contents of the Operation Manual. In addition, request that the customer keep and conveniently store the "Information for the Person in Charge of Installation (Electrical) Work and Servicing " together with the Operation Manual.

WARNING

- Request installation and electrical work only from the dealer or a qualified air conditioning specialist. Attempting to carry out installation work on your own, and doing so incorrectly, may result in electrical shock, fire, or other hazards.
- Installation procedures must be performed correctly, carefully following the instructions in this document.
  Failure to do so may result in electrical shock, fire, or other hazards.
- Electrical work must be performed by a qualified electrician. It must be performed in accordance with technical standards related to electrical equipment, interior wiring regulations, local codes, and the contents of these instructions.
  Insufficient power circuit capacity or improper electrical work may result in electrical shock or fire.
- Use only the designated cables for wiring, and connect them securely. Fasten cables so that no external force is applied to the terminal connections.
  Insufficient connections or cable fastening may result in heat generation, fire, or other hazards.

CAUTION

- Depending on the installation location, it may be necessary to install an earth leakage breaker. Failure to do so may result in electrical shock or fire.
- Do not install in kitchens, workshops, or other locations where there is oil mist in the air.
- Do not install next to windows or in other locations exposed to direct sunlight or in direct contact with outside air.
- Do not install near an elevator, automatic door, industrial sewing machine, or other devices that can be expected to produce electrical noise.
- To prevent possible hazards from insulation failure, the unit must be grounded.

3

Accessories for Interface Adaptor

No.	Supplied parts	Qty.
①	Fastening screws, Tapping screws 4 x 8 	4
②	Binding strap 	2
③	Terminals (M3) 	11

Installing the Interface Adaptor

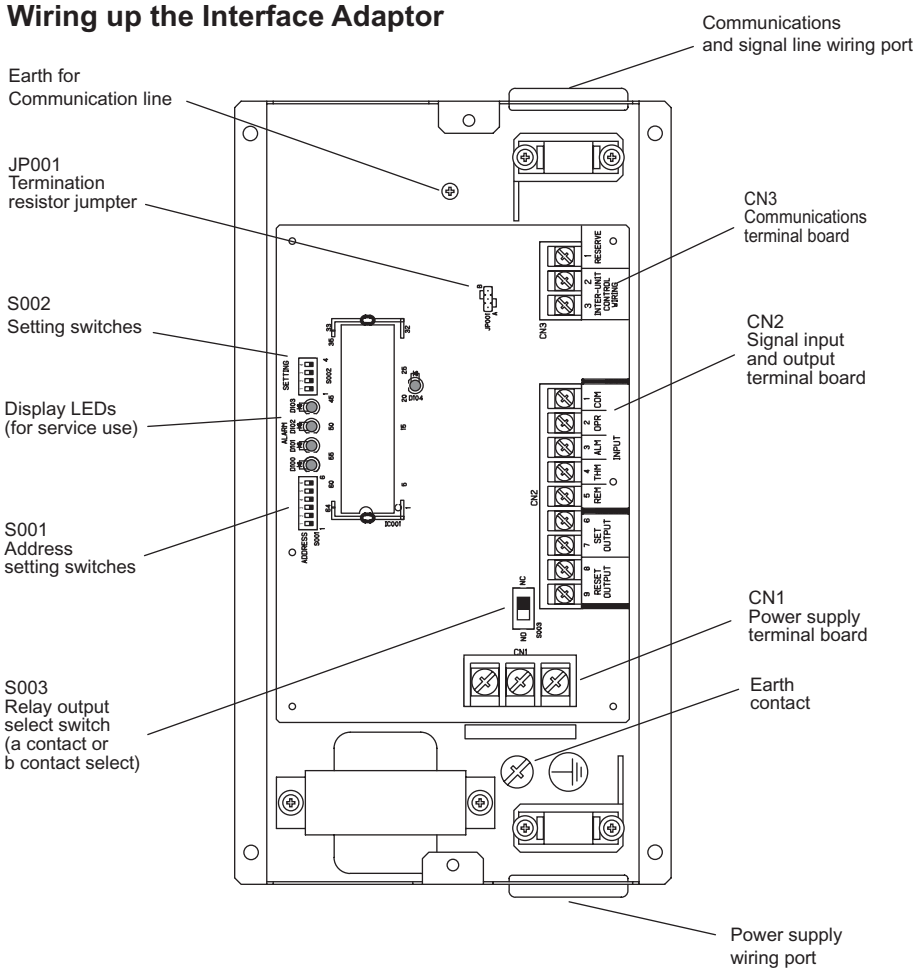
<Note 1> Avoid twisting the inter-unit control wiring or the input/output wiring together with power or other wiring, and avoid running them in the same metal conduit. Doing so can cause malfunction.

<Note 2> Install the interface adaptor at a location away from any sources of electrical noise.

<Note 3> Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

Wiring up the Interface Adaptor



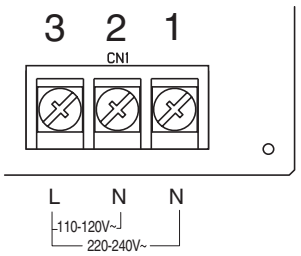
(1) Connecting the power supply

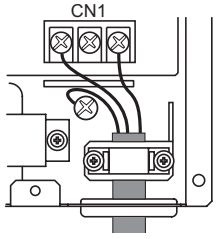
This interface adaptor can use either 110-120 V AC or 220-240 V AC power supply.

Use terminals 2 and 3 for 110-120 V AC, or terminals 1 and 3 for 220-240 V AC.

※ Be sure of the power supply voltage before connecting the power supply terminals. Connecting the wrong power supply voltage could result in fire or other damage.

※ Connect the power supply wires securely to the power supply terminals, using M4.5 round connectors with insulator holddown.





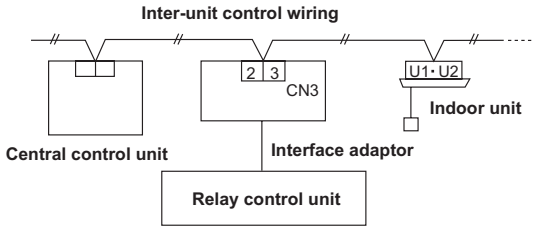
Wiring sample for 220-240 V AC

14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

(2) Connecting to the central control unit

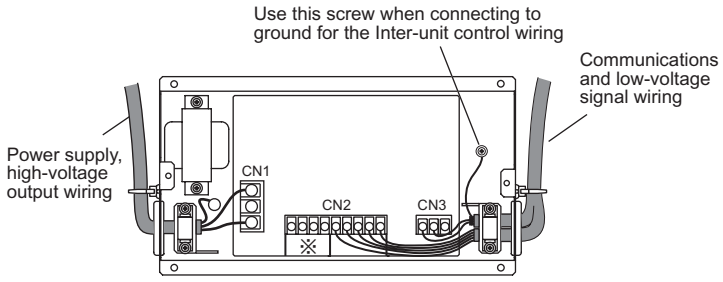
Connect the interface adaptor inter-unit control wiring (CN3, (2) and (3)) to the central control unit inter-unit control wiring, as shown in the diagram below. Use the shielded wiring.

- These signal lines do not have polarity; either signal line may be connected to terminals (2) and (3).
- These terminals may also be connected to the inter-unit control wiring of other indoor or outdoor units.
- Ground the communication wiring.



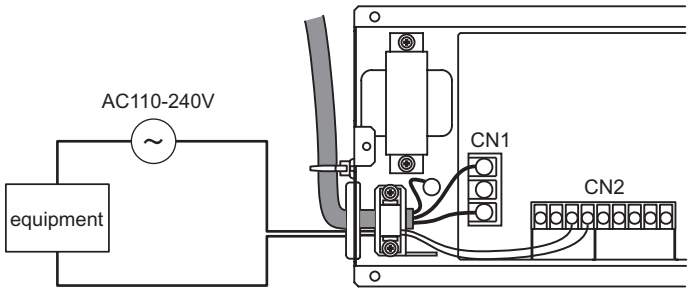
Securing the wiring

Make sure to secure all wiring using the clip wires inside the unit, and the cable clamps outside the unit.



※ If the SET / RESET output uses high voltage signaling (110 - 240 V AC), pull that signal line out through the power supply wiring port. Bundling the high voltage signal line with the communications lines or low-voltage signal lines, or allowing it to touch them, may result in malfunction.

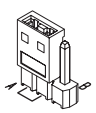
Circuit example for high-voltage set output



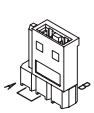
Termination Plug (JP001)

If the system is comprised of a single interface adaptor, and there are no air conditioner units connected directly to the inter-unit control wiring, then a jumper must be installed on the B side of the termination plug (JP001) of the single interface adaptor.

Jumper on the A side of JP001: termination resistor not connected (factory default setting)
Jumper on the B side of JP001: termination resistor connected



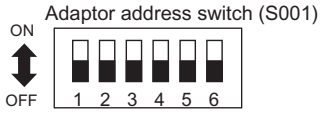
no termination resistor



termination resistor connected

14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

How to Set the Adaptor Address



The adaptor address corresponds to the indoor unit number.
If multiple interface adaptors are used, make sure each adaptor has a unique address.

(1) Setting the central control address from the central control unit
(Setting switch S002-3 OFF)

This mode is useful for systems with both interface adaptors and indoor units which are connected directly to inter-unit control wiring, and when the central control unit sets or changes central control addresses.

Set the interface adaptor addresses, beginning with address 1.
※Interface adaptors are registered as system address 31.

Example: When the interface adaptor address is set to 1, then the interface adaptor unit number becomes 31-1.
In this case, the central control unit is free to set the interface adaptor's central control address.

(2) Setting the central control address using the interface adaptor address switches
(Setting switch S002-3 ON)

The inerface adaptor address becomes the central control address.
Set the interface adaptor address as desired.
※ Interface adaptors are registered as system address 31, and the adaptor address and central control address will be the same.

Example: If the interface adaptor address is set to 5, then the interface adaptor unit number becomes 31-5, and its central control address becomes 5.

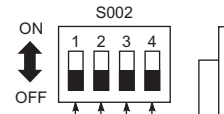
※ The central control address is fixed by the adaptor address switches.
(The central control address may not be changed by the central control unit.)

Set the address so that it does not match that of any indoor unit central control address.

Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6	Channel	adaptor address switch number 1 2 3 4 5 6
1	○○○○○○	17	○○○○●○	33	○○○○○●	49	○○○●●●
2	●○○○○○	18	●○○○●○	34	●○○○○●	50	●○○●●●
3	○●○○○○	19	○●○○●○	35	○●○○○●	51	○●○●●●
4	●●○○○○	20	●●○○●○	36	●●○○○●	52	●●○●●●
5	○○●○○○	21	○○●○●○	37	○○●○○●	53	○○●●●●
6	●○●○○○	22	●○●○●○	38	●○●○○●	54	●○●●●●
7	○●●○○○	23	○●●○●○	39	○●●○○●	55	○●●●●●
8	●●●○○○	24	●●●○●○	40	●●●○○●	56	●●●●●●
9	○○○●○○	25	○○○●●○	41	○○○●○●	57	○○○●●●
10	●○○●○○	26	●○○●●○	42	●○○●○●	58	●○○●●●
11	○●○●○○	27	○●○●●○	43	○●○●○●	59	○●○●●●
12	●●○●○○	28	●●○●●○	44	●●○●○●	60	●●○●●●
13	○○●●○○	29	○○●●●○	45	○○●●○●	61	○○●●●●
14	●○●●○○	30	●○●●●○	46	●○●●○●	62	●○●●●●
15	○●●●○○	31	○●●●●○	47	○●●●○●	63	○●●●●●
16	●●●●○○	32	●●●●●○	48	●●●●○●	64	●●●●●●

● : ON　○ : OFF

Setting Switches



Relay output (SET OUTPUT) operation answer-back coupling control
OFF: No relay output
ON: Relay output is coupled with the answer-back input
(The output can be either pulsed or static, based on the relay output setting.)
Set to ON when controlling equipment with remote control, such as circulation fans with full heat exchanger.

Central control address setting switch
OFF: Set by central control unit
ON: Set by Interface adaptor ADDRESS switches (S001)

Coupled answer-back switch
OFF: Do not use
ON: Use
Set to ON when not using coupled answer-back, such as controlling a heater.

Relay output switch (SET / RESET OUTPUT)
OFF: Pulse output
ON: Static output

All switches are OFF when shipped from the factory.

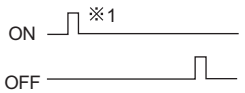
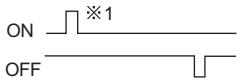
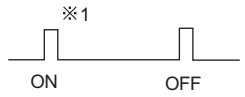
14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

Connection as a Relay Control Unit

The interface adaptor output terminal and input terminal specifications are given below.
Use the signals most appropriate for the type of equipment being controlled.

(1) Output terminals

The interface adaptor provides four styles of ON (set relay) and OFF (reset relay) output signals for use by the equipment being controlled. Select the style appropriate for your application. For more information, see the "Relay Circuit Examples" section.

Output style	Contact outputs (relay contact)	Setting method
Pulse contact output ON (set) output: a contact OFF (reset) output: a contact		・S002-1: OFF ・S002-4: OFF ・S003: NO
Pulse contact output ON (set) output: a contact OFF (reset) output: b contact		・S002-1: OFF ・S002-4: OFF ・S003: NC
Pulse contact output ON (set) output: a contact Both start and stop signals are sourced in turn from the ON (set) relay		・S002-1: OFF ・S002-2: OFF ・S002-4: ON ・Only the ON contact output is used. ・The OFF contact output becomes a local prohibit signal (see ※2)
Static contact output (continuous contact)		・S002-1: ON ・Only the ON contact output is used. ・The OFF contact output becomes a local prohibit signal (see ※2)

※1 The pulse width is approximately 0.5 seconds.
※2 The output changes according to a signal from the Central control unit.
Use this signal as needed.
Individual permission: OFF (continuous contact)
Local prohibit: ON (continuous contact)

< Contact capacity >

Output	Contact capacity (resistive load)
ON (set) relay output (CN1, terminals 6 and 7)	250 V AC, 10 A (inductive load: 5 A) Minimum usable load: 5 V, 100 mA
OFF (reset) relay output (CN1, terminals 8 and 9)	250 V AC, 3 A Minimum usable load: 5 V, 100 mA

Caution:
Note that the ON (set) relay output and OFF (reset) relay output have different contact capacities.

(2) Input terminals

・Status monitor signals from the equipment being controlled are received by the relay contacts.
・The local start/stop input uses a pulse style, so connect it to a momentary input device, such as a push switch.

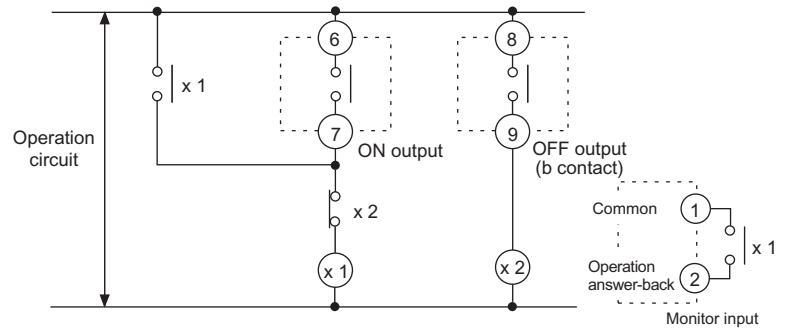
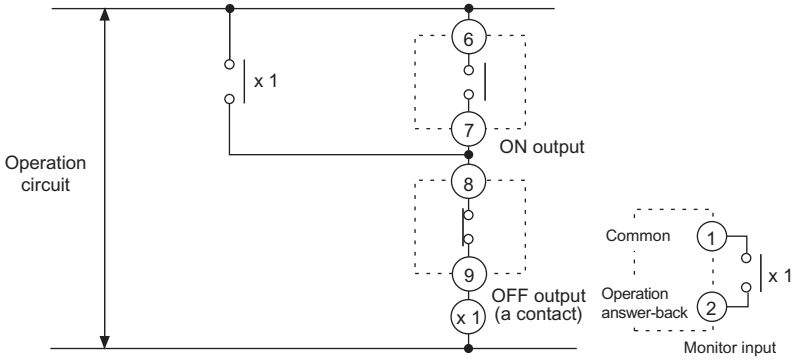
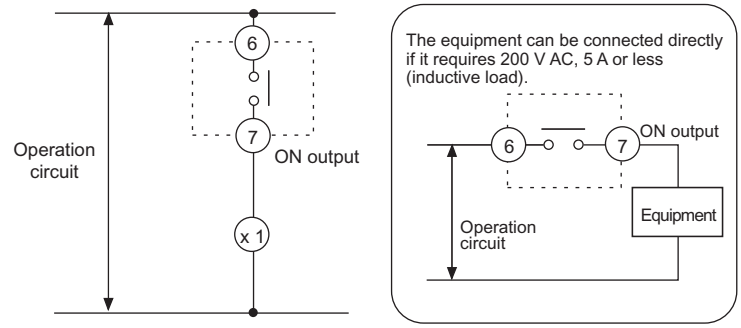
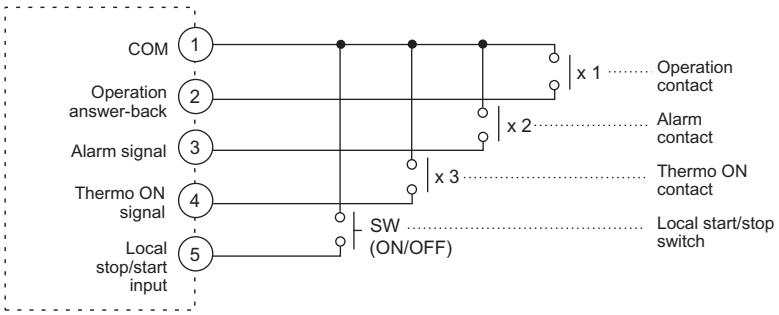
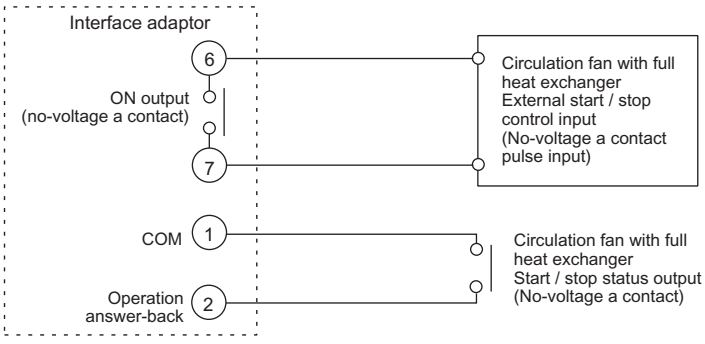
Input	Terminal numbers	Input style	Usage
Operation answer-back input	1, 2	No-voltage a contact (static)	Monitor the operation (start/stop condition)
Alarm signal input	1, 3	No-voltage a contact (static)	Monitor general alarms
Thermo ON signal input	1, 4	No-voltage a contact (static)	Monitor the load when the thermo is ON, and report to the central control unit
Local start/stop input	1, 5	No-voltage a contact (pulse)	Equipment ON/OFF from interface adaptor

Circuit contact voltage and current: 12 V DC, 10 mA

Caution:
When local prohibit (central) is set by the central control unit, the local start/stop input will be ignored.
When stopped, the alarm input will be ignored.

14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

Relay Circuit Examples

Style	Installed equipment (areas within the dashed lines are the interface adaptor)	Notes
Pulse contact output (no-voltage contact) (ON output a contact + OFF output a contact)		1) X1, X2 are auxiliary devices 2) The interface adaptor OFF output uses the a contact (S003 set to NO) 3) Switch S002-1 is OFF, switch S002-4 is OFF
Pulse contact output (no-voltage contact) (ON output a contact + OFF output b contact)		1) X1 is an auxiliary device 2) The interface adaptor OFF output uses the b contact (S003 set to NC) 3) Switch S002-1 is OFF, switch S002-4 is OFF
Continuous contact output (no-voltage contact) (ON output a contact)		1) X1 is an auxiliary devices 2) Switch S002-1 is ON 3) The equipment can be controlled directly (power supply directly shut off) by the ON output if it requires 250 V AC, 5 A or less (inductive load) 4) The output will be OFF during a commercial power outage 5) The OFF output may be used for individual / central selection (will be ON when the central control unit is set to "central", off when the central control unit is set to "individual").
Input (no-voltage a contact)		1) X1, X2, X3 are auxiliary devices; SW is a push switch. 2) If operation answer-back from the equipment is not used, switch S002-2 is ON. In this case, the internal answer-back will be OFF during a commercial power outage. 3) If the answer-back input is unused, it should not be connected. (Only connect inputs that are used.)
Connecting to a circulation fan with a full heat exchanger		1) Switch S002-1 is OFF, switch S002-2 is OFF, switch S002-4 is ON 2) The circulation fan with full heat exchanger's external start/stop control input uses no-voltage a contact pulse, and its start/stop condition output uses no-voltage a contact. **Caution:** If the Central control unit or circulation fan with full heat exchanger remote control repeatedly and continuously initiates start/stop operations, the circulation fan with full heat exchanger may not be able to recognized the settings.

14. Local Adaptor for ON/OFF Controller (CZ-CAPC2)

Alarm Display

Alarm			Service display lamps			
Item	Meaning	Action	D100	D101	D102	D103
Alarm from connected equipment	An alarm signal was received by the interface adaptor from a connected piece of equipment during operation.	Investigate the reason for the alarm from the connected equipment, and remove the cause of the alarm.	※	●	●	●
System stop	The system is stopped.	Not an alarm	※	※	※	※

※: blink ●: Off

Of the items listed above, only the alarm from connected equipment is passed to an upstream central control unit, which will display "C12". If the central control unit does not have an LCD display, then its warning LED will blink.

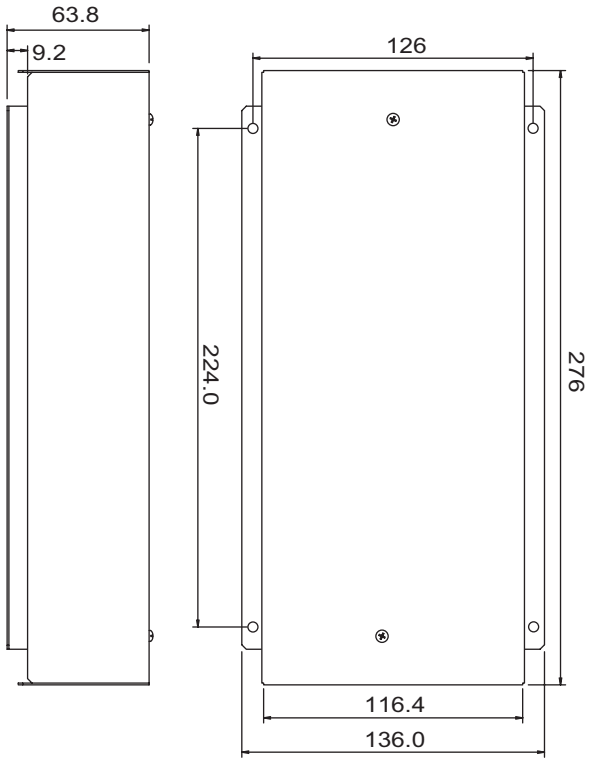
Specifications

Power source	110 -120V / 220-240 V ~ 50 / 60Hz , single-phase
Power consumption	4.9 W
Operating environment	0-40℃, 20-80% humidity, indoor only
External dimensions	50 mm (h) x 235 mm (w) x 96.5 mm (d)
Weight	Approx. 1.3 kg

3

External dimensions

Unit: mm



Operation Manual

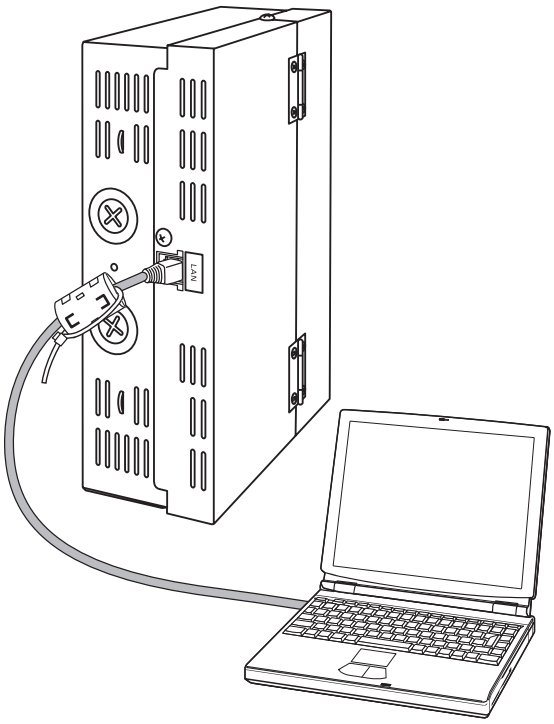
Panasonic

Centralized Control System

CZ-CWEBC2

Web Interface

Thank you for choosing the CZ-CWEBC2 Web Interface.
Before using the system, be sure to read this manual carefully. In particular, be sure to read the "Important Safety Instructions".
After reading this manual, store it in a convenient place.



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Centralized Control System

CZ-CWEBC2

Web Interface

Operation Manual

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[Note]
The screen display examples in this manual are for explanation use and may be different from the displays of air conditioners actually used.
The screen displays may also vary, depending on the operating system of your PC and the Web browser you use.

3

1 Important Safety Instructions

Before using the system, be sure to read these "Important Safety Instructions".

The precautions given in this manual consist of specific "⚠ Warnings" and "⚠ Cautions". They provide important safety related information and are important for your safety, the safety of others, and trouble-free operation of the system. Be sure to strictly observe all safety procedures.

- The labels and their meanings are as described below.

⚠ Warning This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.

⚠ Caution This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

- Meaning of symbols

⚠ Indicates "Warning" or "Caution".

⃠ Indicates "Prohibited".

❗ Indicates an action that should always be performed.

- After reading this manual, save it in a convenient place.
  Be sure to provide this manual to any person who may use the product.

Installation Precautions

⚠ Warning	
Do not install by yourself. ❗ Installation should always be performed by your dealer or a professional service provider. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.	Use only specified air conditioners. ❗ Always use only air conditioners specified by dealer. Installation should always be performed by a professional service provider. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
Electrical work must be carried out by qualified personnel. ❗ Contact your dealer for installation. Do not attempt to install the product by yourself.	Avoid installation in the following locations: ❗ Locations subject to inflammable gas leakage

15. Web Interface (CZ-CWEBC2)

1 Important Safety Instructions

⚠ Caution

Do not install in damp locations or locations subject to vibrations.

Damage to the system can result.

Do not install under direct sunlight or in places near heat sources.

Damage to the system can result.

Do not install near sources of noise.

Malfunctions can result.

Elevators, automatic doors, industrial machinery, etc.

Avoid static electricity during cabling work.

Before starting cabling work, touch ground to discharge static electricity from the body.

Avoid installation in the following locations:

- Near beaches or other places with a large amount of salt
- Hot springs or other locations subject to sulfuric gas
- Locations subject to water and oil (including industrial lubricants) sprays and high humidity
- Locations with large changes in voltage
- Near machines generating electromagnetic waves
- Locations close to organic solvents

Keep televisions, radios, PCs, etc, at least 1 m away from the Centralized Control System, indoor units, and remote controllers.

Picture breakup and noise can occur.

Do not use heaters near the Centralized Control System.

The Centralized Control System may malfunction because the temperature becomes outside the range of the operating temperature for the system.

Use remote controllers or system controllers together.

Should the Centralized Control System fail, operation of air conditioners is disabled with the Centralized Control System. Be sure to use the remote controllers or system controllers together.

1 Important Safety Instructions

Precautions for Use

⚠ Warning

Do not touch switches with wet hands.



Prohibited

Electric shock and damage to the system can result.

Protect the Web Interface from water.



Prohibited

Damage to the system can result.

Stop the system and turn the power off if you sense unusual smells or other irregularities.



Turn off the power.

Continuing operation when the system is out of order can result in electric shock, fire, and damage to the system. Contact your dealer.

⚠ Caution

Do not drop the system or subject it to strong shocks.



Prohibited

Damage to the system can result.

Use only fuses with the correct capacity.



Prohibited

Use of pins or copper wire can result in fire and damage to the system.

Use only the specified power source.



Use of any other power source can result in fire and damage to the system. Use single-phase 100-240 V AC power.

1 Important Safety Instructions

Moving and Repair Precautions

⚠ Warning	
Do not disassemble or repair.  Prohibited Never disassemble or repair the system by yourself. Contact your dealer for repair. Electric shock or fire may result if an inexperienced person attempts to repair the system.	Contact your dealer before moving the system.  Contact your dealer Contact your dealer or a professional service provider about moving and reinstalling the system. Electric shock or fire may result if an inexperienced person performs any installation procedures incorrectly.

2 Features of the System

The Web Interface is a centralized air conditioning management system dedicated to PAC and GHP for small-sized buildings.
Operations and status monitoring of air conditioners can be performed by a customer's PC after logging into the Web Interface.

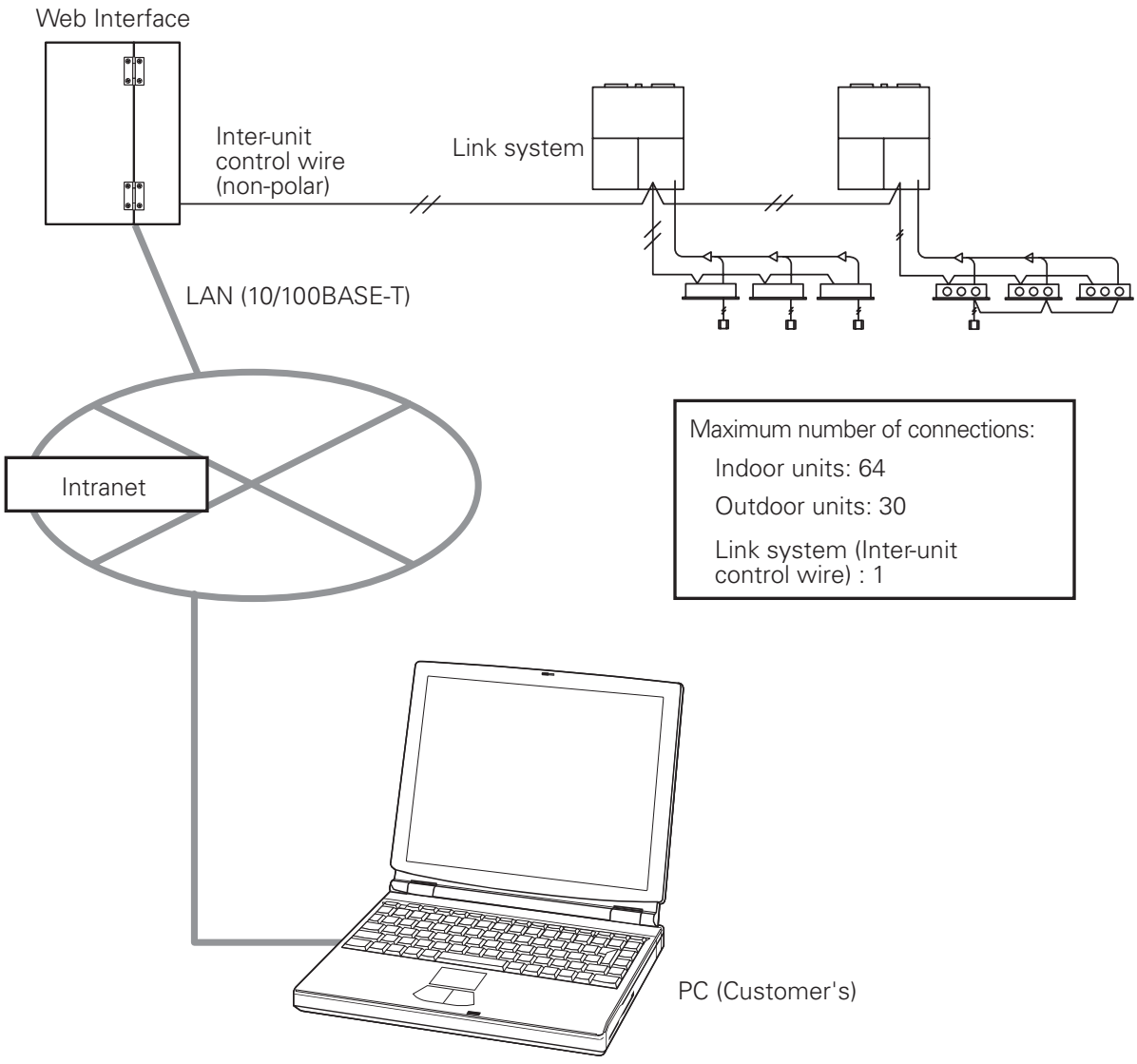
- Number of connectable units ..... • Up to 64 indoor units can be connected to one Web Interface.
  • Up to 30 outdoor units can be connected.
- Display ..... • No display unit is provided with this product. Operations are performed from and indications are displayed on a customer's PC after login.
- Operation functions ..... • Start and stop, temperature settings, operation mode selection, fan speed settings, fan direction settings, prohibition of use of remote controllers, ventilation, and resetting of filter cleaning sign
- Operation monitoring ..... • Monitoring of operation status (operating/stopped, operation mode, etc.) and alarms
  • Monitoring of filter cleaning signs
  • Display of alarm logs
- Program timers ..... • Up to 50 types of weekly timers can be programmed by combining 50 types of daily timers (50 times per day).
  • Programs for a tenant holiday and five types of timer special days can be set.
- Supported languages ..... • The following languages are supported, and you can select a language when logging in by entering a language code:
  English
  French
  German
  Italian
  Portuguese
  Spanish

Terms and abbreviations used in this manual and in the system software

Full term	Abbreviation
Outdoor unit system address	Outdoor unit system, Outdoor unit, Outdoor system, Outdoor, O/D
Indoor unit address	Indoor unit, Indoor, I/D
Tenant number	Tenant No., Tenant
Unit name	Unit
Central control address	Central address, CNTR

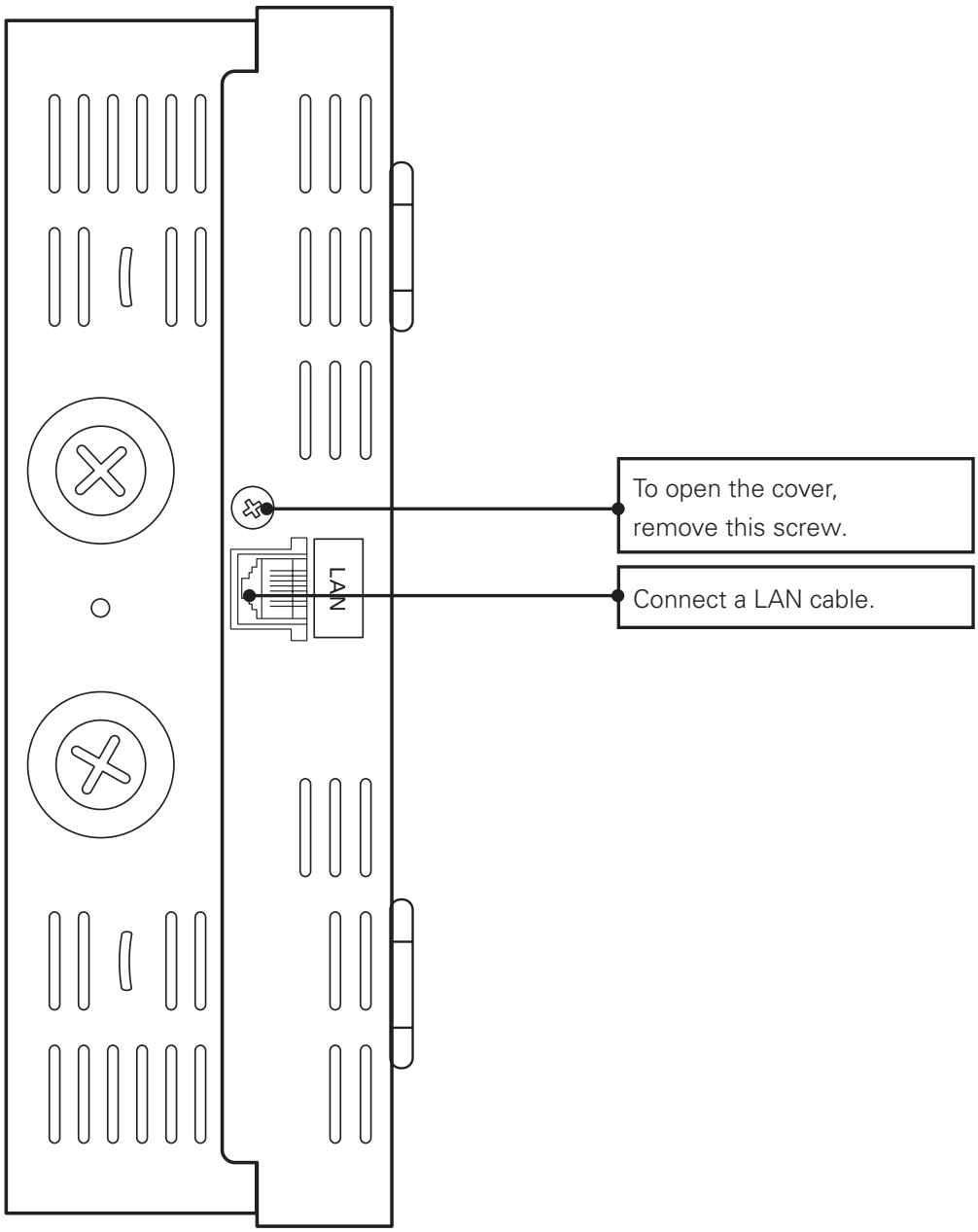
3 System Configuration

System Configuration Example



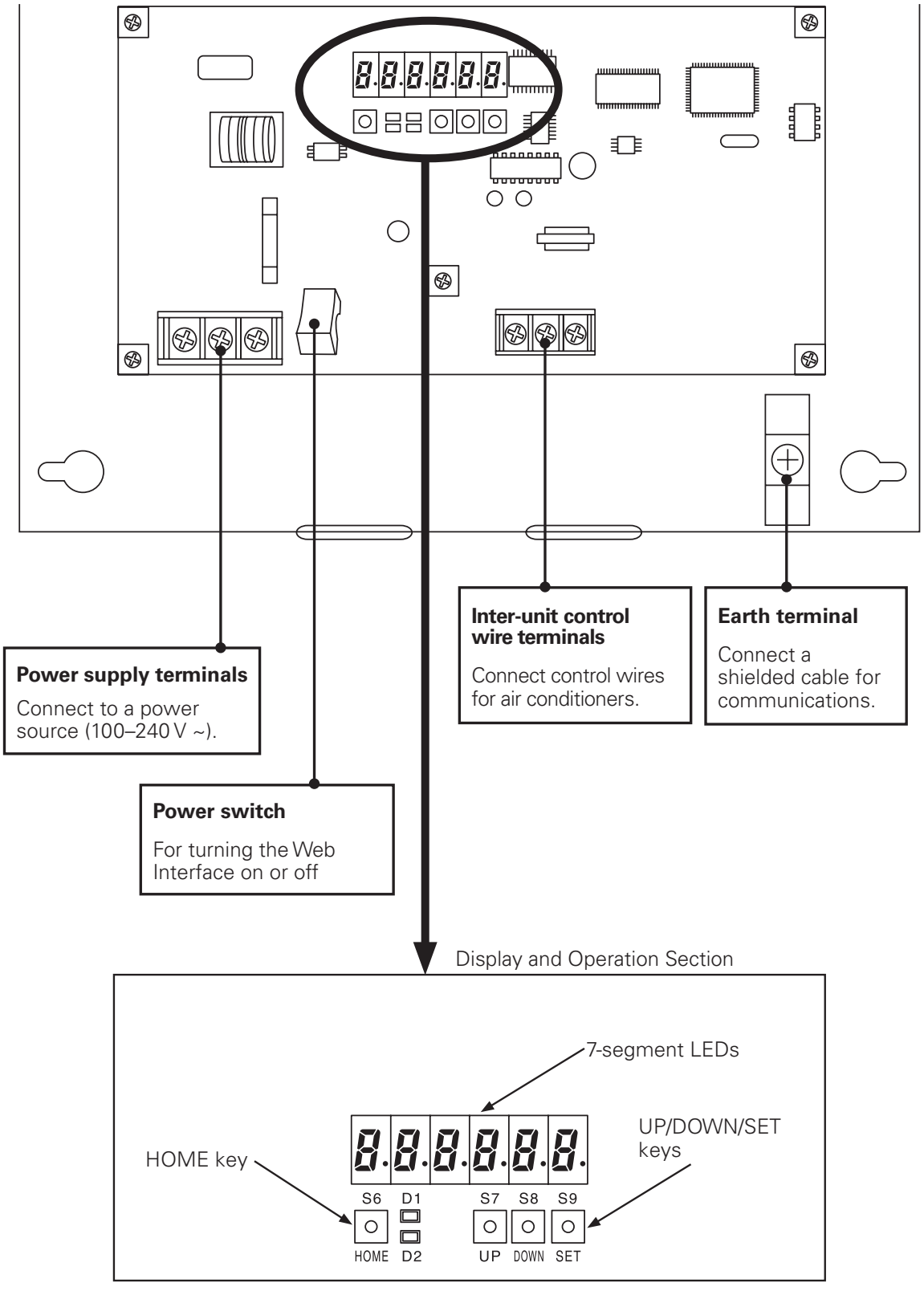
4 Names and Functions of Parts

- Exterior



4 Names and Functions of Parts

- Under the cover



4 Names and Functions of Parts

[Notes on Connecting a LAN cable]

- Use a LAN cable of Category 5* or higher standards.
- Be sure to attach the supplied ferrite core at one end of the LAN cable (Web Interface side). Use a cable tie to make sure the ferrite core stays in place.
- Take security measures, such as installing a firewall, in order to protect this system against external unauthorized access.
- For details on connections and settings, consult the network administrator of the field site.

*Category 5

The standards for telecommunications cabling systems defined by the Telecommunications Industry Association (TIA) and the Electronic Industries Alliance (EIA). Up to 100 MHz frequencies can be used for telecommunications.
Straight and cross cables can be used. Straight cables are used for connections between a PC and a hub, and the Web Interface and the hub. Cross cables are used for directly connecting the Web Interface and a PC.

5 Preparations and Login

5.1 Turning the Web Interface On

After checking the connection with the air conditioners and making sure that **all the air conditioners are ON**, set the Power switch of the Web Interface to ON.

5.2 Checking the PC

The following environment is required for a customer's PC to access the Web Interface for operations of air conditioners:
(The system may not function properly in an environment other than that mentioned below.)

(1) Browser : Microsoft Internet Explorer 6.0
(2) Java applet : Sun Microsystems Java Plugin Ver1.4.2
* Free downloading is possible from http://www.java.com/ja/download/manual.jsp.
(3) Communications protocol : IPV4 (IPV6 not supported)
(4) Display resolutions : XGA (1024 × 768 dots) or higher recommended

5.3 Log-in

Enter the following in the address bar of the Web browser on the PC:

http://[① or ②]/sacwww/index_[③].asp

① IP address : IP address that has been set for the Web Interface unit
The factory default settings are "192.168.1.1" and the DHCP "Invalid".
② ID name : "Device Name" that has been set for the Web Interface unit
The ID name is required when the DHCP server is to be used.
③ Language code (Enter with one-byte characters.)

English: en	French: fr	German: de
Italian: it	Portuguese: pt	Spanish: es

[Example]
In a case where the IP address of the Web Interface is "10.31.139.212" and you are accessing English pages

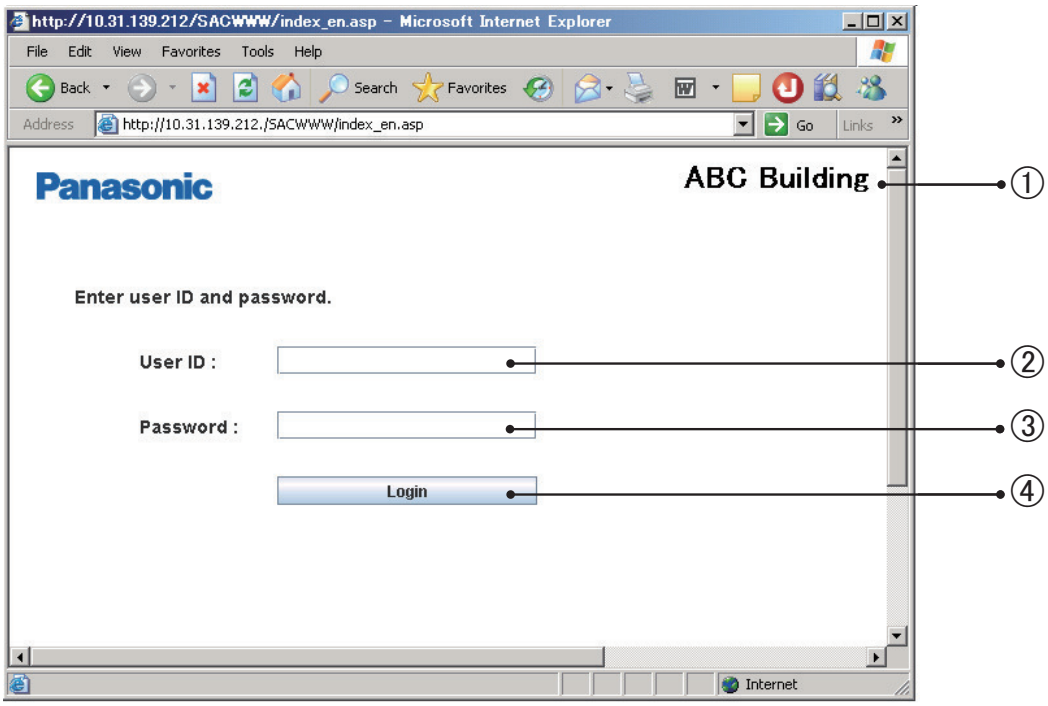
http://10.31.139.212/sacwww/index_en.asp

In a case where a DHCP server is used and the ID name (device name) of the Web Interface is "WindowsCE0"

http://WindowsCE0/sacwww/index_en.asp

5 Preparations and Login

If the network works properly, the following login screen is displayed:



Log in using the user ID and password that have been set for the Web Interface.

①The "Site name" that has been set for the Web Interface is displayed.
② Enter the "User ID" that has been set for the Web Interface.
③ Enter the "Password" that has been set for the Web Interface.
④ Click on this button to log in.

If a wrong user ID or password is entered, the following message will be displayed:





After login is executed properly, the "Each tenant" screen (next page) will be displayed.

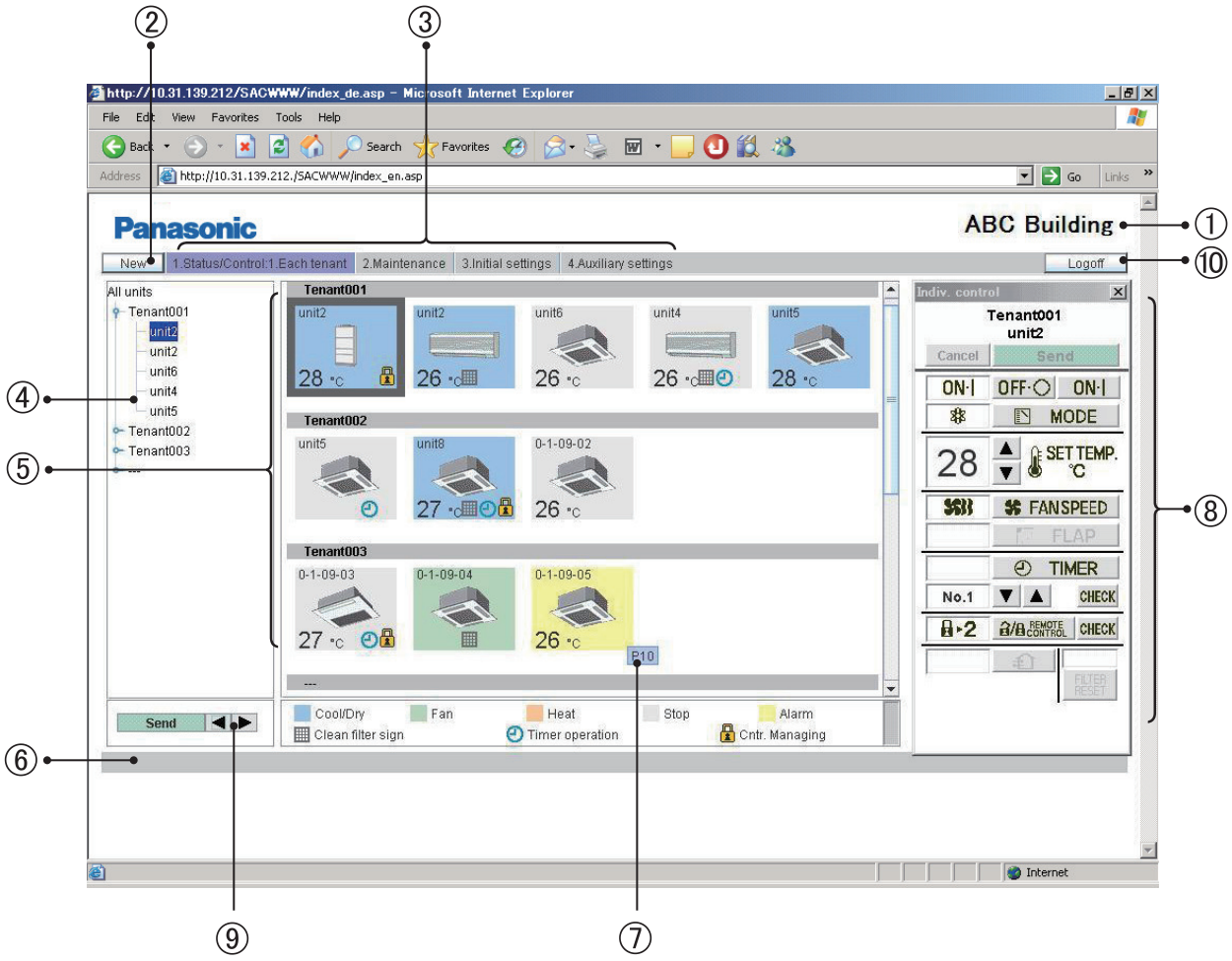
> At the factory, the Administrator user shown below is registered. After logging in using this administrator user account, change the password:*
> User ID : administrator
> Password : admin
> *For details on how to change the password, see "8.4 User Settings".

6 Status/Control

Main 1 Sub 1

6.1 Displaying general information by tenant

When you log in the Web Interface, or when "1. Status/Control: 1. Each tenant" is selected from the menu, the screen shown below is displayed.
(The details of the displayed screen vary, depending on the type of account used for login.)



In a case of group control, only the main units will be displayed.

① Site name
The "Site name" that has been specified on the "WEB settings" screen (Main 3 Sub 3) is displayed.

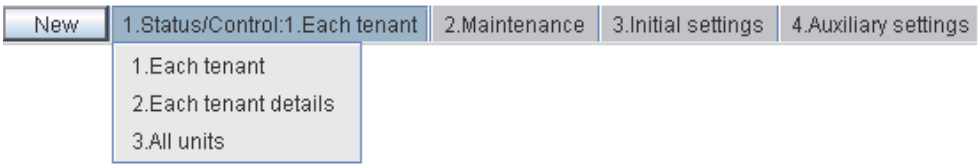
② "New" button
For updating the data on the screen to the latest data. This button is displayed on every screen.

6 Status/Control

Main 1 Sub 1

③ Menu (The displayed menu varies, depending on the type of account used for login.)
Select a screen by displaying the pulldown menu, as shown below.

★ Menu for the "Admin." (Administrator) user



★ Menu for a "Special" user



★ Menu for a "General" user



④ Tree view section
A tree view of relationships among the indoor units that are connected with the Web Interface and tenants is displayed.
Indoor units and tenants to be selected vary, according to which part of the tree you click on.
Each indoor unit is selected when an indoor unit name (highlighted part in the screen example) is clicked on.
When a tenant name is clicked on, all the units belonging to the tenant are selected.
All indoor units are selected when the top line ("All units" in the screen example) of the tree is clicked on.
According to the type of account used for login (Admin, Special, or General), only the operable tenants will be displayed.

⑤ Icon display section
The indoor units connected with the Web Interface are displayed with icons.
For details on the meanings of colors and symbols of the icons, see the legend displayed below the icon display section.
When an indoor unit icon is clicked on, that indoor unit is individually selected, and the selected indoor-unit icon is indicated with an inversed frame.
When a tenant name is clicked on, all the indoor units belonging to that tenant are selected, and all the indoor-unit icons are indicated with highlighted frames.
While any of the icons is selected, the display for the corresponding remote controller (⑧) is displayed.

⑥ Notification column
The communication status between the Web browser and the Web Interface is displayed.
For example, while a screen is being updated, "Updating" is displayed.
When settings for an indoor unit are changed, while those data are being sent, "Sending" is displayed.

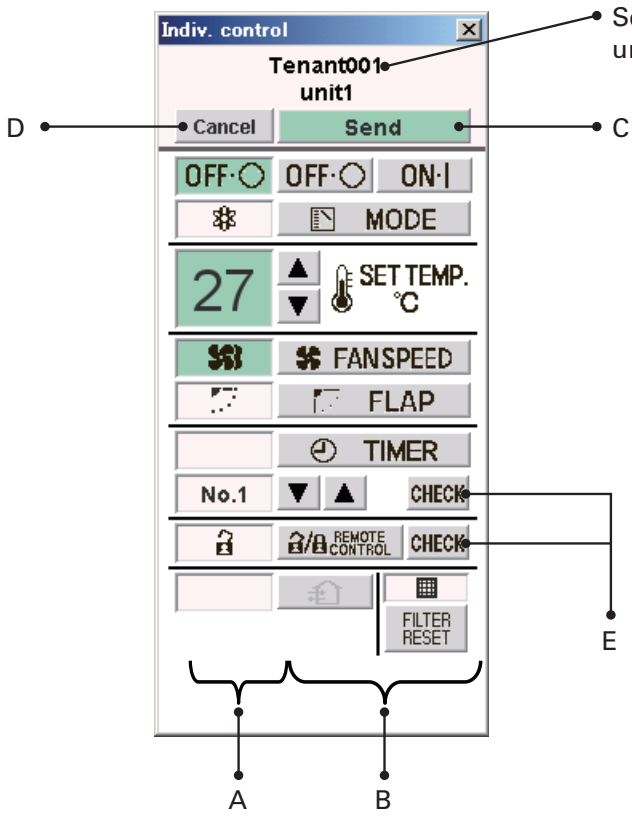
⑦ Alarm code display
If you move the cursor onto the icon of the indoor unit from which an alarm has been issued, an alarm code will be displayed after about 1 second.

6 Status/Control

Main 1 Sub 1

⑧ Remote control window

If any of the indoor units is selected, the remote control window shown below will be displayed for detailed setting modifications.



A: Status/Control screen section

The status and operations of the selected air conditioner are displayed.
If a setting is changed, the background color of the changed item will turn green, and the “Send” button will be enabled.
In the above example, the background color for the items of start/stop, setting temperature, and fan speed is green.
When the “Send” button is clicked on, data for all changes are enabled and sent to the Web Interface.
To disable the changes made, click on the “Cancel” button or select another air conditioner.

B: Control section

The settings for start/stop, operation mode, setting temperature, fan speed, and swing/fan direction can be changed.

3

6 Status/Control

Main 1 Sub 1

C: Send button

For sending all the changes made so far to the Web Interface.
The settings of the air conditioner will not be changed until the data for the changes are sent using this button.

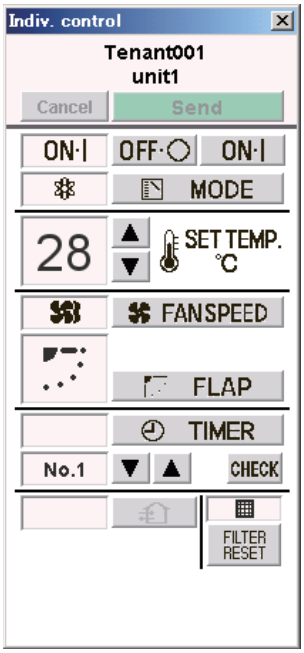
D: Cancel button

For cancelling all the changes made so far.

E: Check buttons for timer setting and remote controller prohibition setting

For displaying a check screen for the corresponding settings.
(See "Tenant holiday/Timer special day" and "Prohibiting remote control use".)
To return to the previous screen, click on the "Return" button.

*For a user who has logged in using the "General" user account, the buttons that have been set as prohibited will be disabled.
In addition, the "R/C" button and the "Check" button on its right will not be displayed.



Remote controller for a "General" user

6 Status/Control

Main 1 Sub 1

⑨ Display order change buttons

For changing the display order of indoor units

After selecting an indoor unit whose order you wish to change, click on the "◀" or "▶" button. Each time the "◀" button is clicked on, the order of the indoor unit will move one place upward in the tree or leftward in the icon display section.

Each time the "▶" button is clicked on, the order of the indoor unit will move one place downward in the tree or rightward in the icon display section.

To register the changed setting, click on the "Send" button.

The changed order will be reflected on the "Each tenant details" and "All units" screens.

⑩ "Log off" button

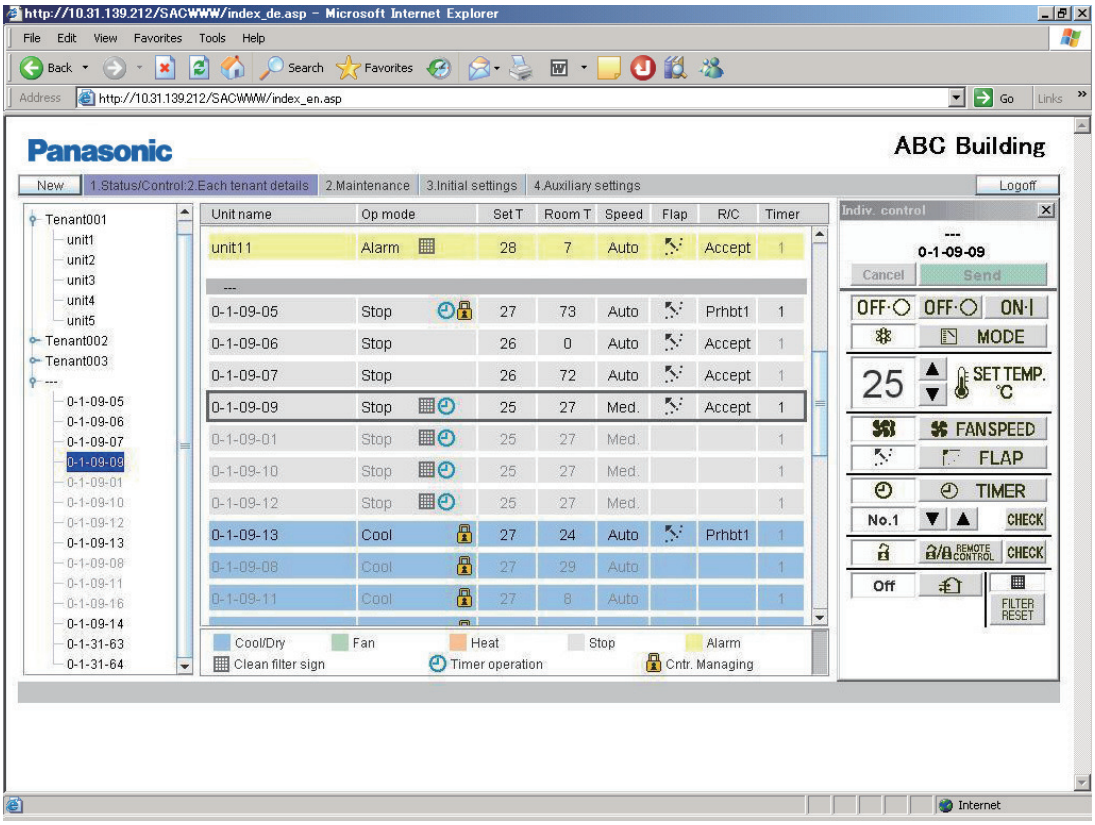
For logging off the currently logged-in user. The login screen will be displayed.

6 Status/Control

Main 1 Sub 2

6.2 Displaying detailed information by tenant

When "1. Status/Control: 2. Each tenant details" is selected from the menu, the screen shown below is displayed. (The details of the displayed screen vary, depending on the type of account used for login.)
When any of the indoor units is clicked on, the remote controller screen will be displayed. Operations on this screen are the same as those on the "Each tenant" screen. See the relevant heading.



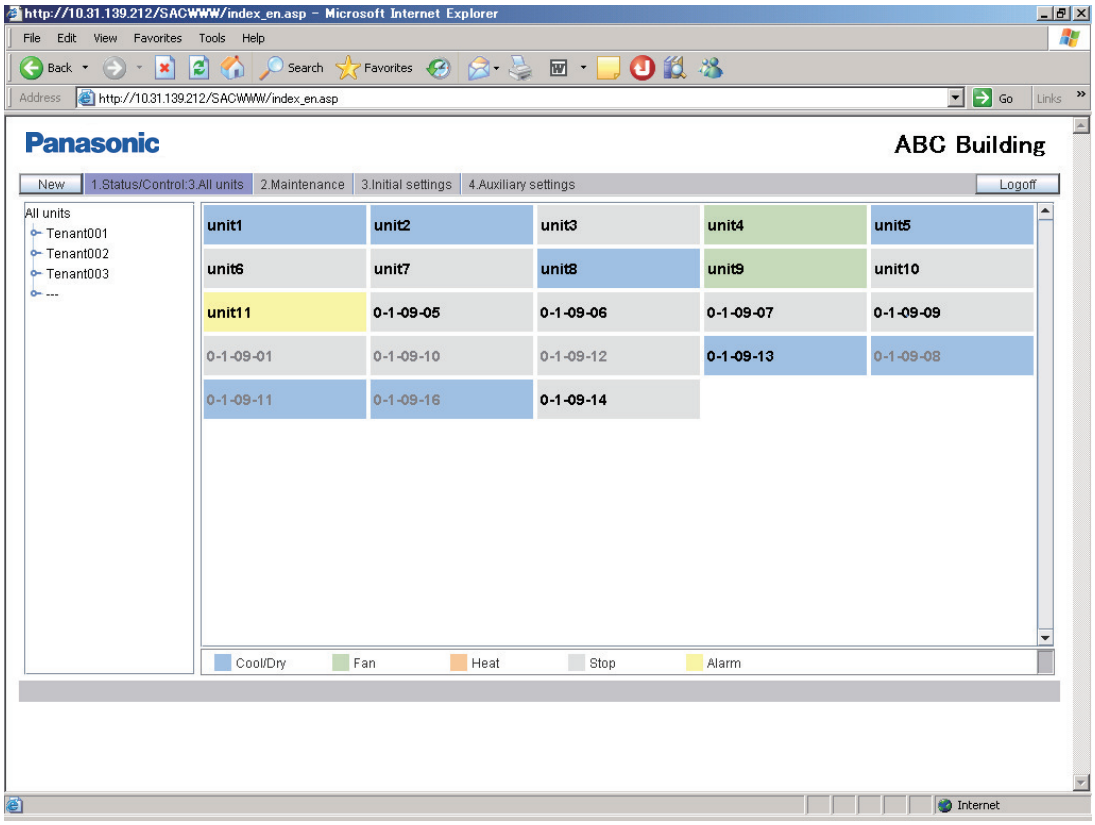
Even in a case of group control, the main units, as well as sub unit, are displayed.
The indications for sub units are grayed, and the remote controller screen will not open if you click on a grayed indication. To open the remote control screen, select the main unit.
For sub units, the cells for the flap setting and remote controller prohibition setting are blank.

6 Status/Control

Main 1 Sub 3

6.3 All Units

When “1. Status/Control: 3. All units” is selected from the menu, the screen shown below is displayed.
(The details of the displayed screen vary, depending on the type of account used for login.)
A maximum of 64 indoor units are displayed on a screen. In a case of group control, sub units, as well as main units, are displayed.
Operations on this screen are the same as those on the “Each tenant” screen. See the relevant heading.
When any of the indoor units is clicked on, the remote controller screen will be displayed.



As the number of indoor units increases, the display space for one unit will be reduced. As a result, part of a unit name may become hidden.

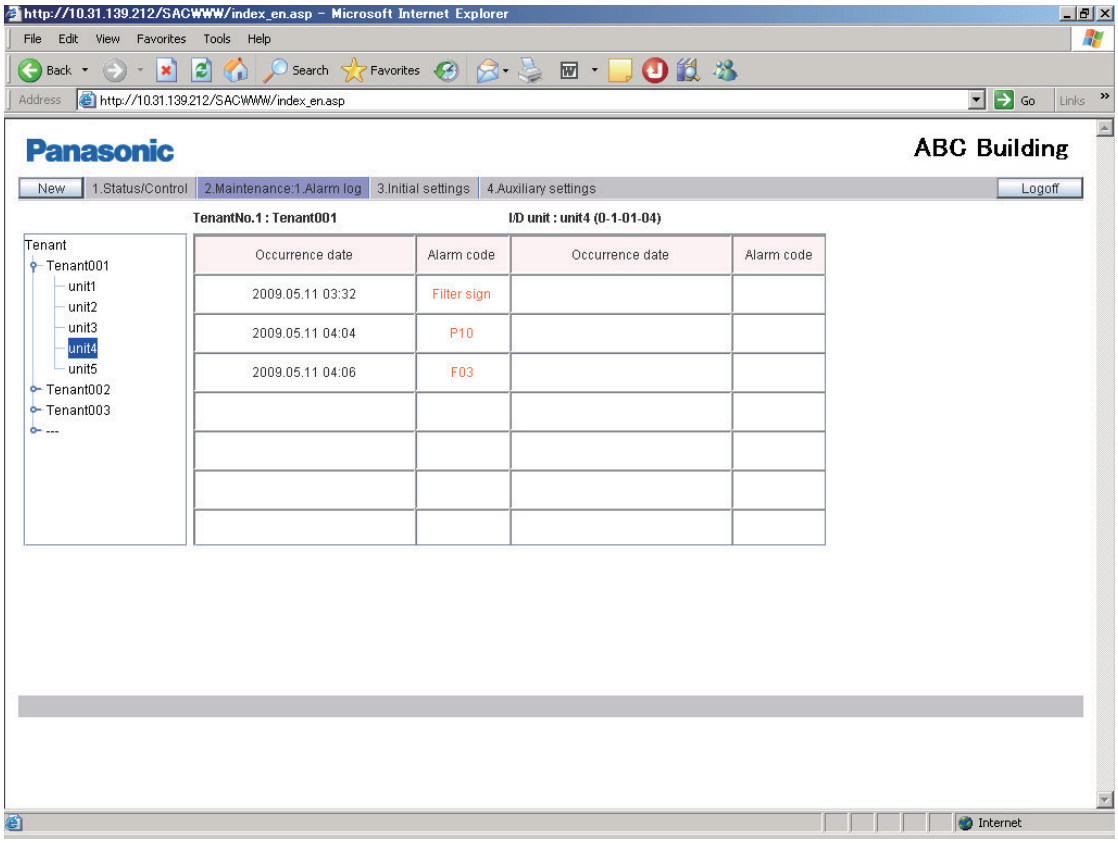
3

7 Maintenance

Main 2 Sub 1

7.1 Alarm Log

If you log in using the administrator or special user account, when “2. Maintenance: 1. Alarm log” is selected from the menu, the screen shown below is displayed.
When an indoor unit is selected in the tree, the latest 14 alarm logs will be displayed.
If 15 or more alarms are issued, all but the latest 14 logs will be erased.
A log for restoration from an error will not be recorded.



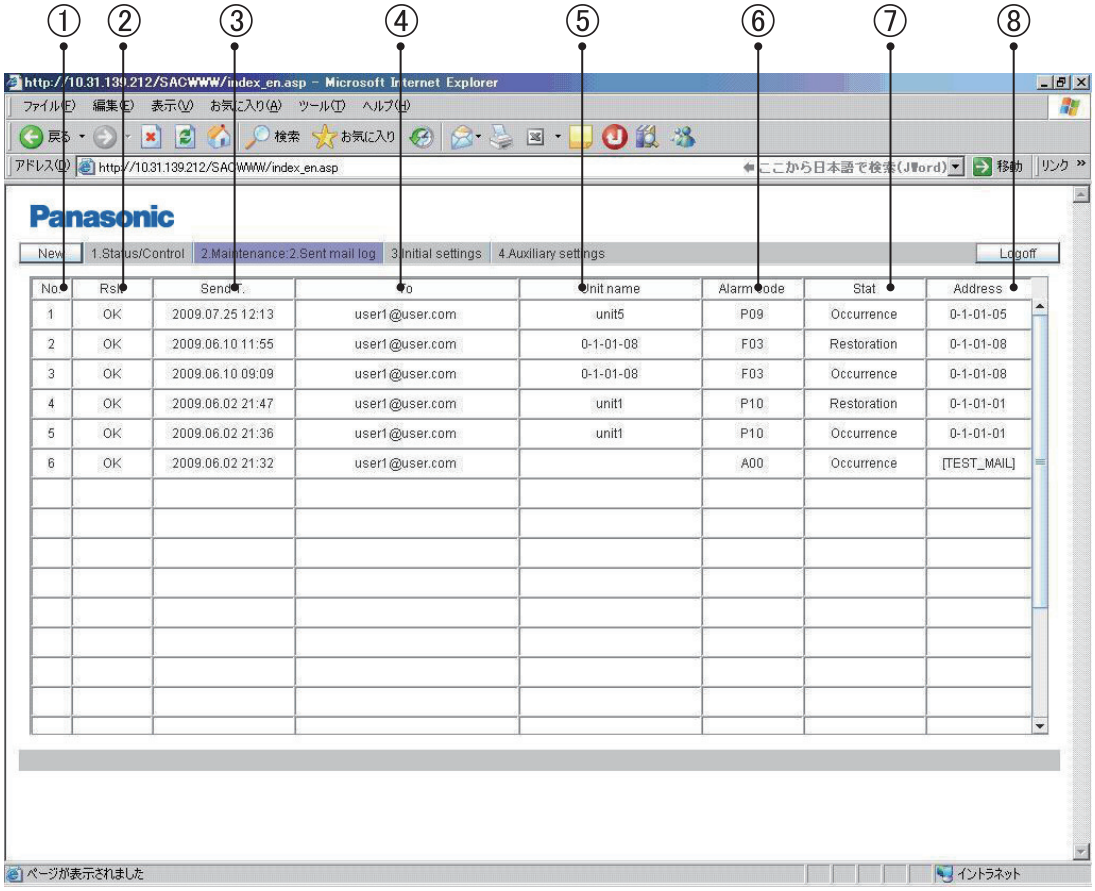
The content of an alarm is indicated with an alarm code.
For details on the meanings of alarm codes, refer to the operation manual of the air conditioners or consult your service representative.

7 Maintenance

Main 2 Sub 2

7.2 Sent Mail Log

If you log in using the administrator user account, when “2. Maintenance: 2. Sent mail log” is selected from the menu, the screen shown below is displayed.
The logs for pieces of e-mail that were delivered to the specified addresses when an alarm was issued from air conditioners or when the air conditioners were restored are displayed.



① No.
The entry numbers for the sent mail log. With a maximum of 20 (No. 1 to 20) possible entries, the newest entries appear at the top of the list. When the number of entries exceeds 20, entries are deleted starting with the oldest.
As up to three mail recipients can be specified, up to three log entries can be recorded for one alarm occurrence.
When normal status is restored for the alarm, up to 3 e-mail delivery logs are recorded, in the same way.

② Rslt
“OK” appears when a piece of alarm mail is sent properly, and “N/A” appears when sending fails.

③ Send T.
The date and time a piece of alarm mail was sent (or sending was attempted).

④ To
The recipient address a piece of alarm mail was sent to. If the address is too long, only part of the address may appear.

⑤ Unit name
The name of the indoor unit for which the alarm occurred.

7 Maintenance

Main 2 Sub 2

⑥ Alarm code
The code for the alarm that occurred.

⑦ Stat
"Occurrence" appears when a notification of an alarm occurrence is sent, and "Restoration" appears when a notification of an alarm restoration is sent.

⑧ Address
The address of the indoor unit for which the alarm occurred.
The display format is "0-1- Outdoor unit system address - Indoor unit address".
When a piece of test mail is sent, "TEST_MAIL" appears.

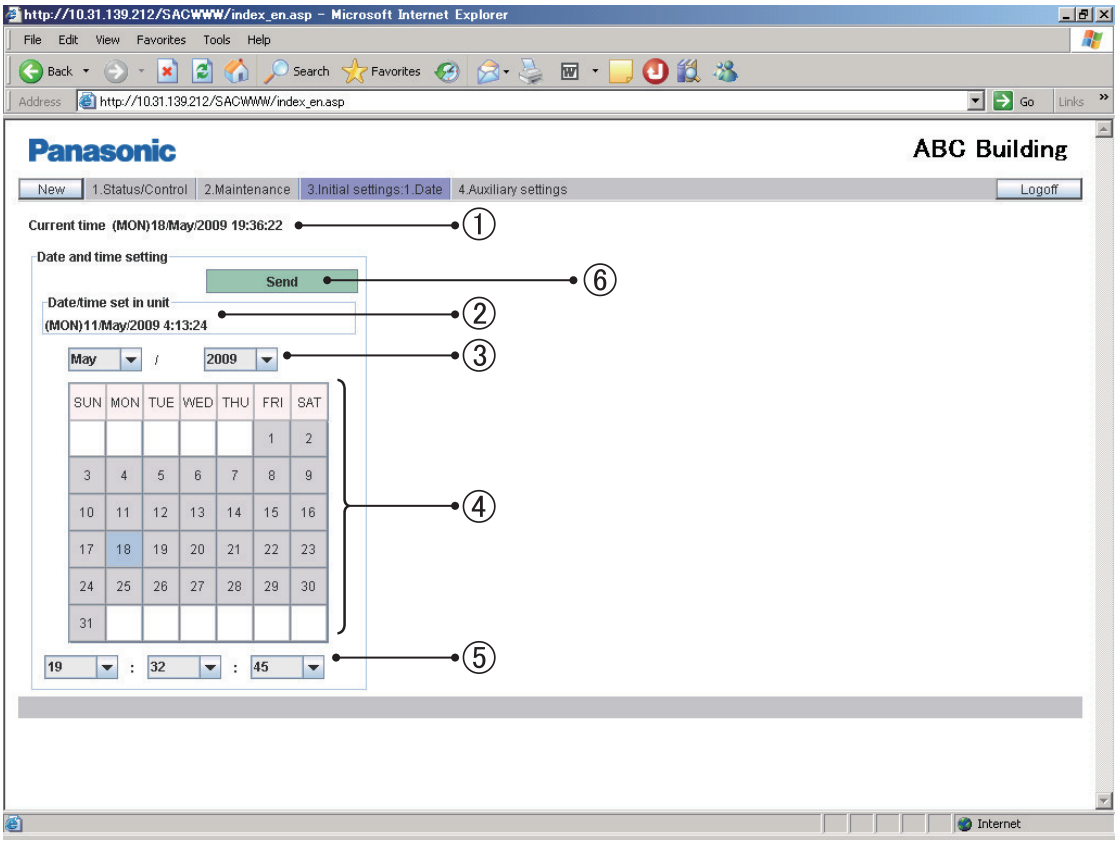
*For details on the setting of a destination address for alarm e-mail, see "WEB settings" (Main 3 Sub 3).

8 Initial Settings

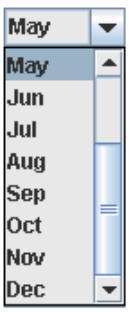
Main 3 Sub 1

8.1 Date and Time Setting

If you log in using the administrator user account, when "3. Initial settings: 1. Date" is selected from the menu, the screen shown below is displayed.
Setting of the current date and time can be made.
Be sure to set the date and time before starting any operation, as this setting is required for program timer settings.



① The current date and time settings of the PC are displayed. (This indication is periodically updated.)
② The current date and time settings of the Web Interface main unit are displayed. (Only when this screen is displayed or updated is this indication updated.)
③ To set the date, click on "▼" to open the pulldown menu shown below. Select the year (2000–2070) and month.

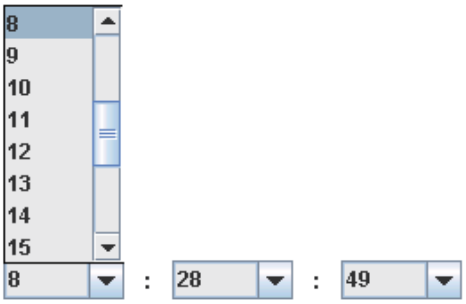




8 Initial Settings

Main 3 Sub 1

④ Directly click on the day to be set. The selected day will be highlighted in light blue.
⑤ To set the time, click on "▼" to open the pulldown menu shown below.
Select the hour, minute, and second.



⑥ When you click on "Send", the following message will be displayed. Click on "YES" with the time signal. The date and time settings of the Web Interface are updated.
The date and time of the PC will not be updated.



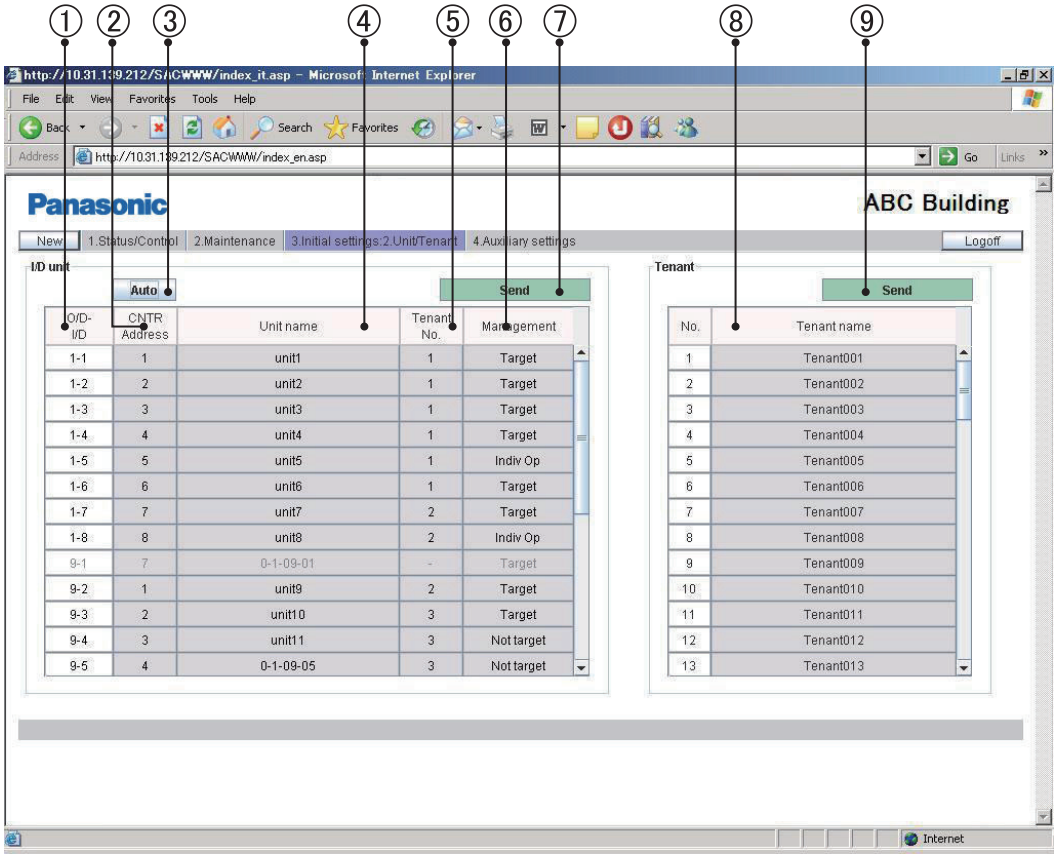
Note: In Steps ③, ④, and ⑤, the settings of the PC will be reflected when this screen is displayed or updated.

8 Initial Settings

Main 3 Sub 2

8.2 Unit/Tenant

If you log in using the administrator user account, when “3. Initial settings: 2. Unit/Tenant” is selected from the menu, the screen shown below is displayed.
Setting of the central control addresses, unit names, and tenants can be made.



① The address for each indoor unit is displayed. The display format is “Outdoor system address – Indoor address”.

② The current central control address for each indoor unit is displayed.
To set or change a central control address, click on the cell you wish to set/change then enter a value in the range of 1–64.
In a case of group control, a sub unit cannot be selected. The central control address of the main unit will be applied to the sub units.
If a value outside the range of 1–64 is entered, the message shown below is displayed.



③ If you click on “Auto”, the central control addresses will be automatically allocated from 1 to the indoor units in ascending order of the indoor unit address.

The same central control address must not be assigned to two or more indoor units belonging to the same link system. Any such invalid input will be cancelled.

If another piece of central control equipment (system controller, etc.) is connected, it is recommended to set the central control addresses on such equipment.

3

8 Initial Settings

Main 3 Sub 2

④ The name of each indoor unit is displayed.
To set or change the name of a unit, click on the cell you wish to set/change then enter a name, using up to 12 characters.
An "=" (equal sign) or "," (comma) cannot be used.

⑤ The tenant No. for each indoor unit is displayed.
A "Tenant" represents a group of several indoor units used on the "Each tenant" screen and other screens.
To set or change a tenant No., click on the cell you wish to set/change then enter a value in the range of 1–64.
In a case of group control, a sub unit cannot be selected. The same tenant No. as that for the main unit is allocated to the sub units.
If a value outside the range of 1–64 is entered, the message shown below is displayed.



⑥ The type of management for each indoor unit can be set.
To select the management type, click on "▼" to open the pulldown menu, as shown below. Select the type.

- Target : The corresponding indoor unit is a target for management. The factory default is "Target" for all the indoor units.
- Indiv Op : The indoor units that are set to "Indiv Op" will be excluded from the operations for all units. When the operations (start/stop, temperature setting, etc.) for all units or all tenants are performed by the Web browser, those commands will not be sent to the units set to "Indiv Op".
- Not target : The indoor units that are set to "Not target" will be excluded from targets of all operations, monitoring, and display. Such units will not be displayed on any screen other than this one.



⑦ Clicking on this button will enable the settings of ②, ④, ⑤, and ⑥ above and send the data to the Web Interface. The changed data will only be enabled after being sent.
The data for tenant name settings shown below will not be sent.

⑧ The tenant name for each tenant number is displayed. A maximum of 64 tenant names can be set.
To set or change the name of a unit, click on the cell you wish to set/change then enter a name, using up to 20 characters.
An "=" (equal sign) cannot be used.

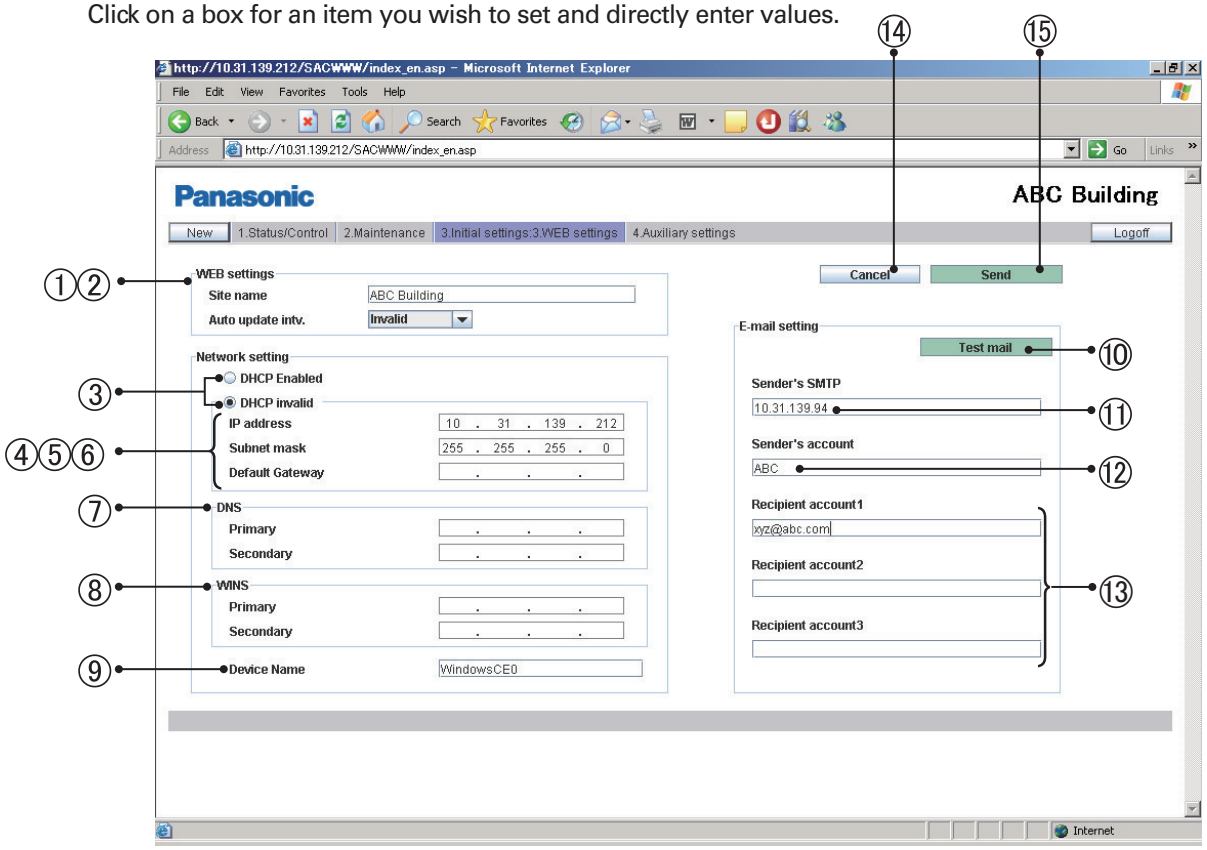
⑨ Clicking on this button will enable the settings of the above tenant names and send the data to the Web Interface. The changed data will only be enabled after being sent.
The data of the settings of the above ②, ④, ⑤, and ⑥ will not be sent.

8 Initial Settings

Main 3 Sub 3

8.3 WEB Settings

If you log in using the administrator user account, when "3. Initial settings: 3. WEB settings" is selected from the menu, the screen shown below is displayed.
The Web-related settings, such as site name, e-mail settings, and network settings, can be made.
Click on a box for an item you wish to set and directly enter values.



[WEB settings]

① Enter a site name (within 40 characters). An "=" (equal sign) cannot be used.

② An automatic updating interval of a screen that will be displayed on the Web browser can be set. You can select from among Invalid, 10 seconds, 20 seconds, 30 seconds, 1 minute, 2 minutes, 10 minutes, 30 minutes, and 1 hour.
If "Invalid" is selected, the data on a screen will not be updated until you click on the "New" button.
* The following screens will be automatically updated:
Each tenant (Main 1 Sub 1)
Each tenant details (Main 1 Sub 2)
All units (Main 1 Sub 3)

[Network setting]

③ When a DHCP instead of a static IP is used, select the "DHCP Enabled" radio button. If "DHCP Enabled" is selected, items ④–⑥ will be disabled.
The factory default is "DHCP invalid".

④ Enter the IP address for the Web Interface. Refer to the settings of other devices, such as the PC and router. The factory default is "192.168.1.1".

⑤ Enter the subnet mask for the Web Interface. Refer to the settings of other devices, such as the PC and router.

⑥ Enter the IP address of the default gateway that is connected with the Web Interface, as required.

8 Initial Settings

Main 3 Sub 3

⑦ Enter the IP addresses for the primary and secondary DNS servers, as required.
⑧ Enter the IP addresses for the primary and secondary WINS servers, as required.
⑨ Enter a device name (ID name) of the Web Interface.
(This device name is used for identifying the Web Interface when a DNS server is used.)
Up to 15 characters, "-" (hyphen), and "_" (underscore) can be used.
Only an alphabetic (A–Z, a–z) can be used for the first character.
Neither a "-" (hyphen) nor an "_" (underscore) can be used for the last character.

[E-mail setting] The settings for automatic delivery of e-mail notifying of an occurrence of or restoration from an error of an air conditioner:

⑩ For sending test mail
⑪ Enter the IP address (or domain name) of the mail (SMTP) server that is separately contracted.
One-byte alphanumerics, "@" (at sign), "・" (bullet), "_" (underscore), and ":" (colon) can be used.
⑫ Enter a sender's account name (within 40 characters).
An "=" (equal sign) cannot be used.
⑬ Enter a recipient account name (mail address) (within 40 characters).
A maximum of 3 accounts can be set.
⑭ For disabling input/changed data and returning to the original settings
⑮ Clicking on this button will enable the input settings and send them to the Web Interface.
The input data will only be enabled after being sent.
When the following message is displayed, click on "YES":



If any of the settings ③–⑨ is changed, the Web Interface will be restarted after the message shown below is displayed. Wait for at least 5 minutes before logging in again.

> Network settings have been changed. The unit will restart.
> Please log in again after about 5 minutes.

* For details on the settings on this screen, consult the network administrator for the environment where the Web Interface has been installed.
* The range of values that can be set for the IP addresses, subnet mask, default gateway, and the DNS and WINS blocks is 0–255.
* For the IP addresses, neither "0.0.0.0" nor "255.255.255.255" can be set.
* If an invalid value is entered, the following error message will be displayed:

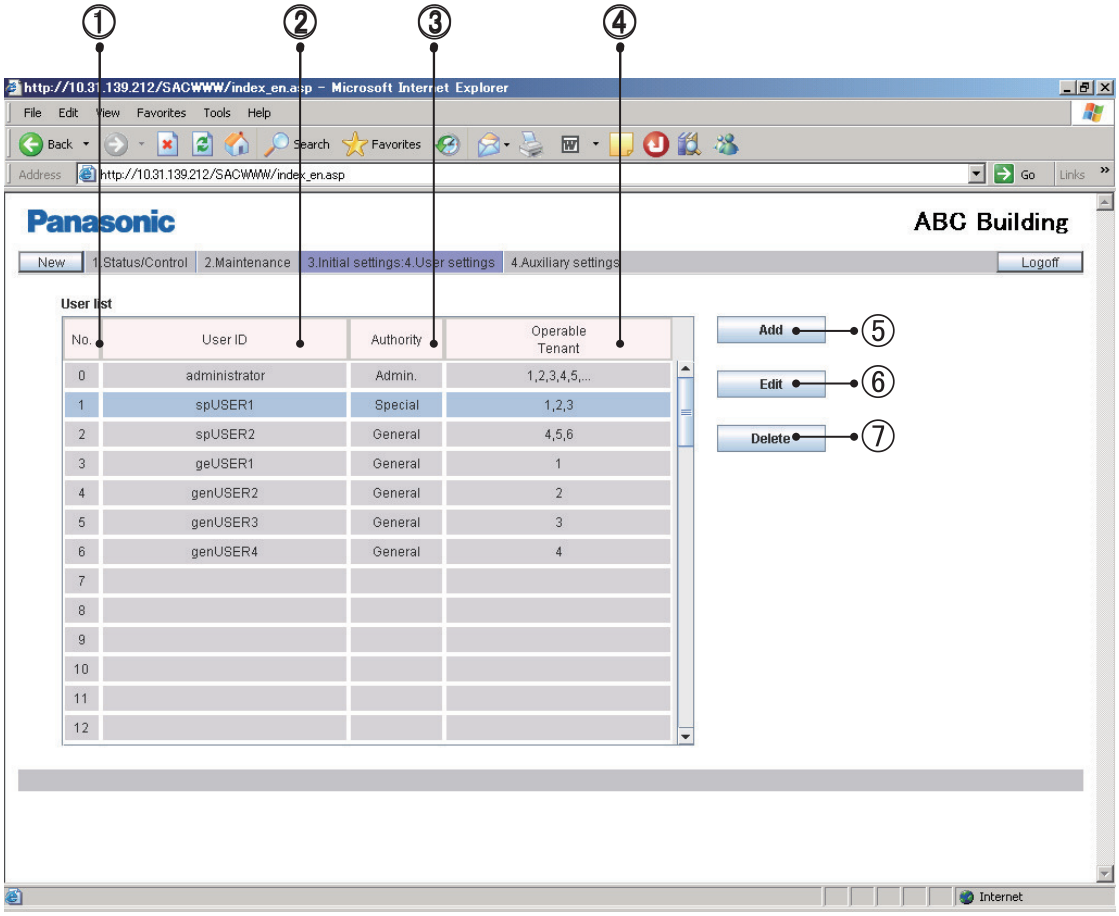


8 Initial Settings

Main 3 Sub 4

8.4 User Settings

If you log in using the administrator user account, when “3. Initial settings: 4. User settings” is selected from the menu, the screen shown below is displayed.
Setting of the user ID, password, and authority types that are required for logging in the Web Interface can be made.



① User No. A maximum of 64 (No. 1–64) users can be set.
At the factory, the Administrator user shown below is registered at the top (No. 0).
After logging in using this administrator user account, change the password.
User ID : administrator
Password : admin

② User ID

③ The user authority types include “Admin.”, “Special” and “General”. Only one “Admin.” can be set, and the administrator user is displayed at the top (No. 0).

④ The tenant numbers of whom monitoring and operations are allowed for that user are displayed. Although a maximum of 64 tenants can be set, only 5 are displayed in the cell at a time. If there are 6 or more tenants, “...” will be affixed.

⑤ For adding a new user. If users have been already set for all of No. 1–64, this button is disabled.

⑥ For editing the already set user data

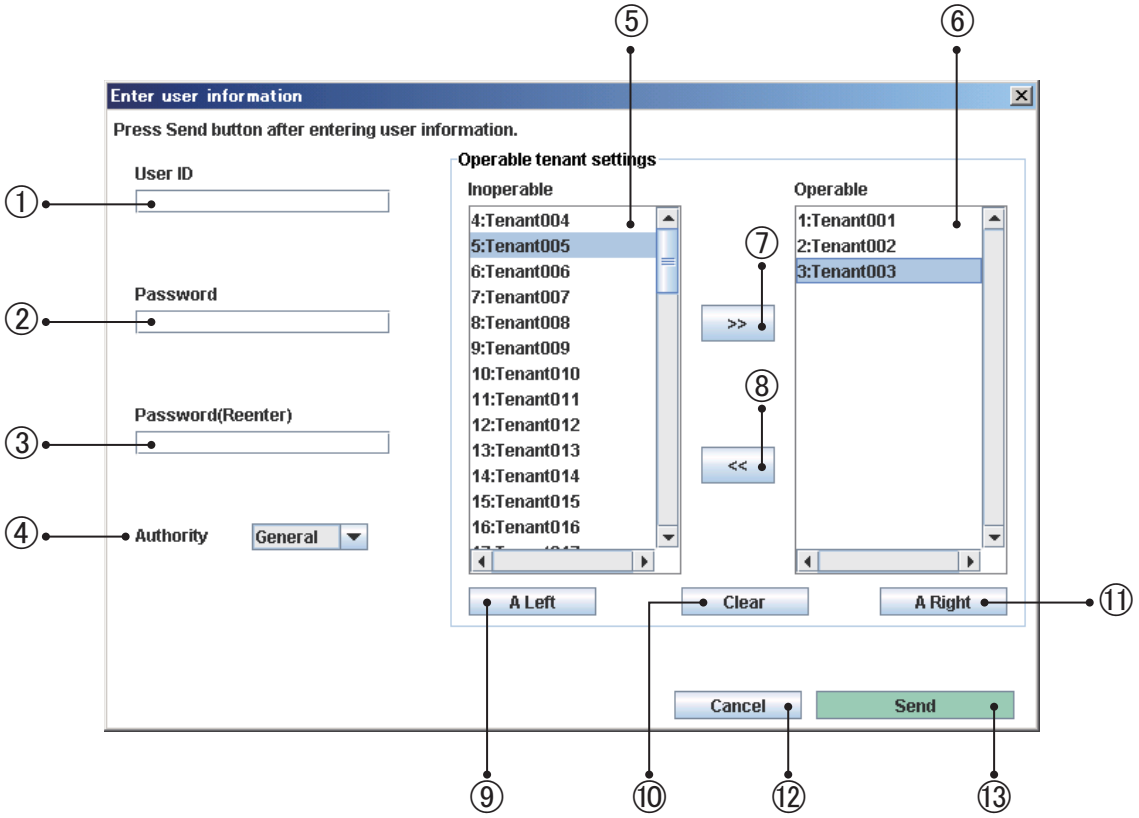
⑦ For deleting a user setting. The administrator user at the top cannot be deleted.

8 Initial Settings

Main 3 Sub 4

(1) Adding a New User

If you click on the "Add" button, the following screen will be displayed:



If a user is added, that user will be registered as the lowest user number to which no user is currently registered.
No user number to be used for registration can be skipped.

① Enter a user ID (within 20 characters).
② Enter a password (within 10 characters).
③ For reconfirmation, enter the same password as that in Step ②. (In Steps ② and ③, input characters will not be displayed on the screen.)
④ Select the type of user authority, "Special" or "General".
⑤ A list of the tenants of whom monitoring and operations are not allowed for that user is displayed.
⑥ A list of the tenants of whom monitoring and operations are allowed for that user is displayed.

After selecting a tenant or several tenants on the list at the left or right, perform the operations described below.
Several tenants can be simultaneously selected in the following ways:

- While holding the Ctrl key pressed, click on the tenants you wish to select one by one.
- After selecting one tenant, click on another tenant while holding the Shift key pressed. All the tenants displayed between the selected tenants will be selected.

⑦ The tenant(s) selected on the left list will be moved to the right list and registered as operable target(s).
⑧ The tenant(s) selected on the right list will be moved to the left list and registered as inoperable target(s).

8 Initial Settings

Main 3 Sub 4

⑨ For selecting all the tenants on the left list
⑩ For cancelling the current selection of tenant(s) on both the left and right lists
⑪ For selecting all the tenants on the right list
⑫ For cancelling all the settings made and closing the screen
⑬ For enabling and sending the set data to the Web Interface for registering the operable tenants

(2) Editing the data of existing users

- If you click on the "Edit" button, the same screen as that shown in the previous heading will be displayed.
- The current settings displayed on the screen can be edited in the same manner as when adding a user.
- The changed settings will be enabled only after they are sent by clicking on the "Send" button.
- For the administrator user located at the top (No. 0), only the user ID and password can be changed.
  The authority type is fixed at "Admin." and cannot be changed.
  The operable tenants are fixed at "All tenants" and cannot be changed.

(3) Deleting the data of existing users

After selecting a user, click on the "Delete" button. The following message will be displayed.



If you click on "YES", that user will be deleted.
When a user is deleted, the subsequent users will be shifted upward, and their user numbers will be decreased by one.
If the same user is registered again, the user number for that user will be the final user number.
The administrator user at the top (No. 0) cannot be deleted.

(4) Error messages

If any entered data are wrong, one of the following error messages may be displayed when you click on the "Send" button.
Correct the corresponding data and send the data again.

[Invalid user ID entered.]
A wrong or no user ID (no input) was entered and sent.



8 Initial Settings

Main 3 Sub 4

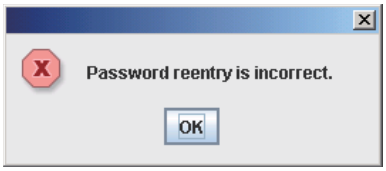
[The user ID already exists.]

The input user ID has already been registered.



[Password reentry is incorrect.]

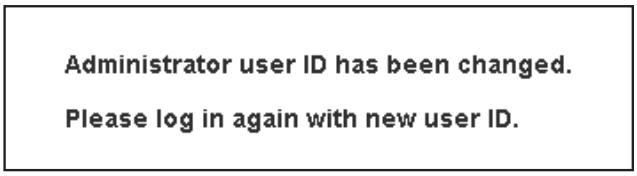
The password reentered in Step ③ is not the same as that entered in Step ②.



[Administrator user ID has been changed.]

If the administrator user ID is changed, the message shown below will be displayed.

Log in again with the new user ID.



3

8 Initial Settings

Main 3 Sub 4

(5) Comparison of authority for each user

○: Denotes that corresponding operations and displays are available.

× : Denotes that neither the corresponding function nor its screen display is available.

All other functions and displays that are not shown in the table below are available for all users.

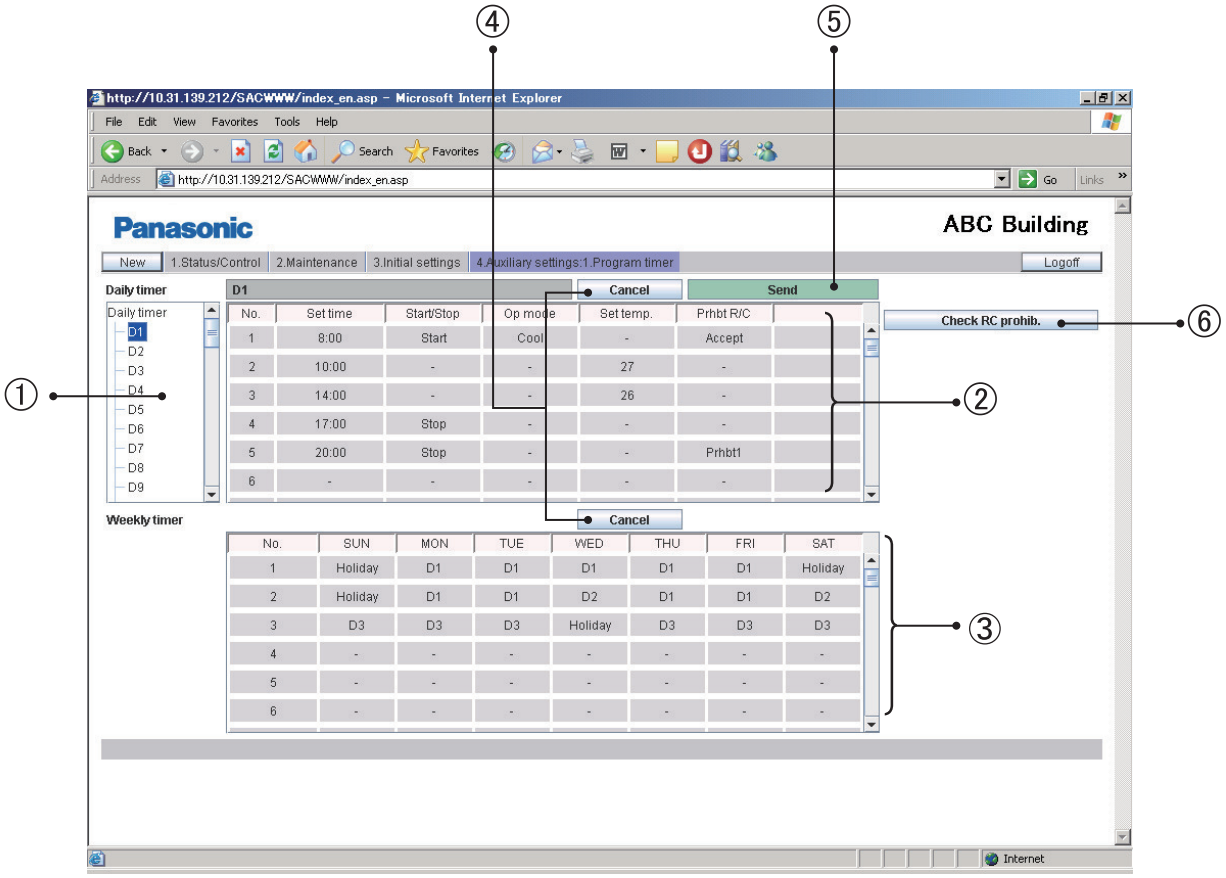
Users / Functions and displays	Admin. user	Special user	General user
Operable tenants	All	Only set tenants	Only set tenants
Prohibit R/C selection 1–4 (Remote controller screen)	○	○	×
Alarm logs	○	○	×
Sent mail log	○	×	×
Date and time setting	○	×	×
Unit and tenant setting	○	×	×
Tenant name setting	○	×	×
WEB settings	○	×	×
User settings	○	×	×
Program timers setting	○	Checking only	Checking only
Tenant holiday and timer special days setting	○	×	×
Remote controller prohibition setting	○	Checking only	×
Other settings	○	×	×

9 Auxiliary Settings

Main 4 Sub 1

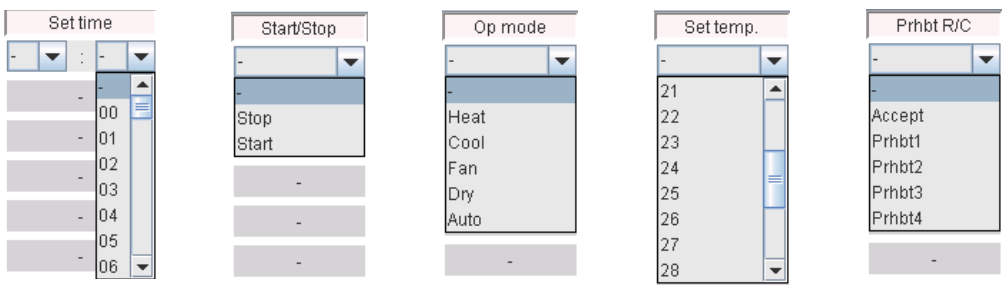
9.1 Program Timer

If you log in using the administrator user account, when "4. Auxiliary settings: 1.Program timer" is selected from the menu, the screen shown below is displayed.
Settings for the daily timers and weekly timers can be made. (For a special or general user, only checking of the timer settings is possible.)



① When a daily timer No. is selected in the tree, the current setting for that timer is displayed.
A maximum of 50 daily timers, one timer for a "Holiday", and five timers for "Sp day" (special days) are provided.
The "Holiday" timer is a daily timer reserved for a holiday for the tenant.
An "Sp day" timer is a daily timer reserved for a special day for the tenant.
For details on how to use them, see "Tenant holiday/Timer special day".

② To set operation time and operations for a daily timer, click on a setting item you wish to set to open the pulldown menu, as shown below. Select operation time or operation.

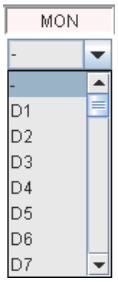


Up to 50 actions per day can be set for a daily timer.
Several actions can be set for one operation time.

9 Auxiliary Settings

Main 4 Sub 1

③ For a weekly timer, select a daily timer from the pulldown menu in the same way as with a daily timer.
Select a desired daily timer number (D1–D50, holiday, or special day 1–5) for each day of the week.
A maximum of 50 weekly timers can be set.

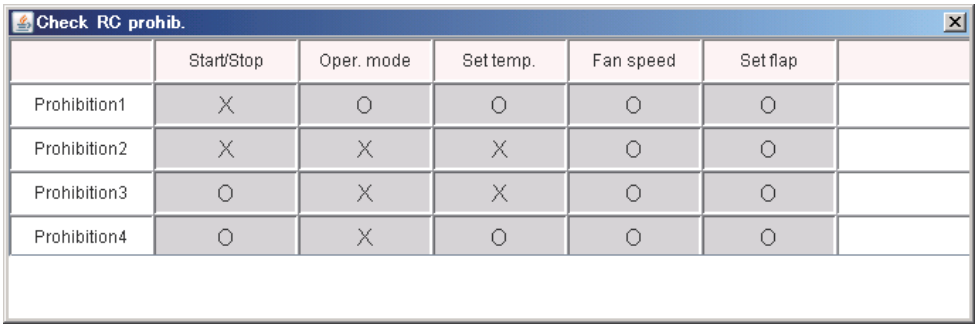


④ For disabling input/changed data and returning to the original settings.
⑤ Clicking on this button will enable the input settings and send them to the Web Interface.
The input data will only be enabled after being sent.
Setting data for each daily timer No. (D1, D2, . . .) must be sent each time the setting for the daily timer is completed. If you attempt to move to D2 setting while you are setting D1, for example, the error message "Send for each daily timer." will be displayed, as shown below.



If this message is displayed, click on the "Send" button to enable the setting, or click on the "Cancel" button to disable the setting then perform the setting for another daily timer No.

⑥ The items for which operations with the remote controller are prohibited can be confirmed.
When you click on this button, the screen shown below will be displayed.
You can only confirm the prohibited items. You cannot change the setting. To change settings, see "Prohibiting remote control use".



	Start/Stop	Oper. mode	Set temp.	Fan speed	Set flap	
Prohibition1	X	O	O	O	O	
Prohibition2	X	X	X	O	O	
Prohibition3	O	X	X	O	O	
Prohibition4	O	X	O	O	O	

The setting temperature will be automatically set within the range of each air conditioner's upper and lower limit values during actual operation, as the upper and lower temperature limits vary depending on the indoor unit models. Setting for an item for which "Set time" is not set will be invalid.

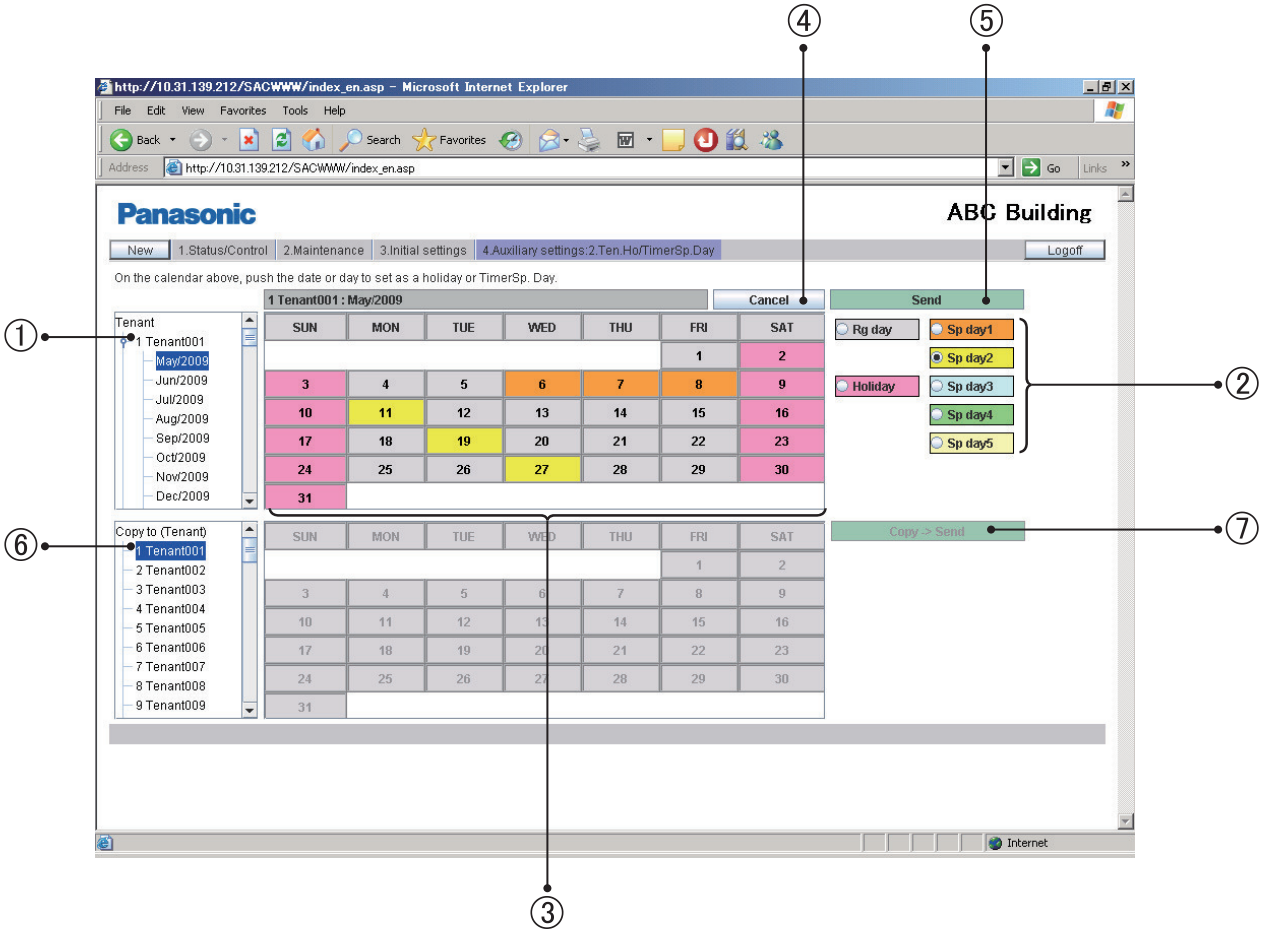
3

9 Auxiliary Settings

Main 4 Sub 2

9.2 Tenant holiday/Timer special day

If you log in using the administrator user account, when "4. Auxiliary settings: 2.Ten.Ho/TimerSp.Day" is selected from the menu, the screen shown below is displayed.
The timer settings for the tenant holiday and special days can be made.



① When a month for your desired tenant No. is selected in the tree, the current timer settings are displayed.
Settings for the next 2 years are possible.

② Select the type of days to be set (regular days, holiday, special days 1–5).

③ Click on a day or a day of the week. That day or day of the week will be set as a holiday or timer special day that has been selected in Step ②. Programmed timer operation set on the "Ten.Ho/TimerSp.Day" screen will be executed on that day or day of the week.
If you click on an individual day, the selected timer is set for that day; if you click on a day of the week, the selected timer is set for that day of the week.
To cancel a holiday or timer special day setting, select "Rg day" in Step ② and select the day or day of the week.

④ For disabling input/changed data and returning to the original settings.

⑤ Clicking on this button will enable the input settings and send them to the Web Interface. The input data will only be enabled after being sent.

9 Auxiliary Settings

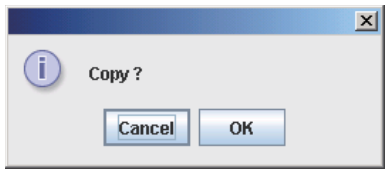
Main 4 Sub 2

The tenant holiday and timer special days settings must be performed for individual tenants.
If you attempt to move to Tenant 002 setting while you are setting Tenant 001,
for example, the error message "Send for each tenant." will be displayed, as shown below.



If this message is displayed, click on the "Send" button to enable the setting, or click on the "Cancel" button to disable the setting then perform the setting for another tenant.

⑥ Select a tenant to whom you wish to copy data of holiday/timer special days setting.
⑦ If you click on "Copy –> Send", the following message will be displayed:



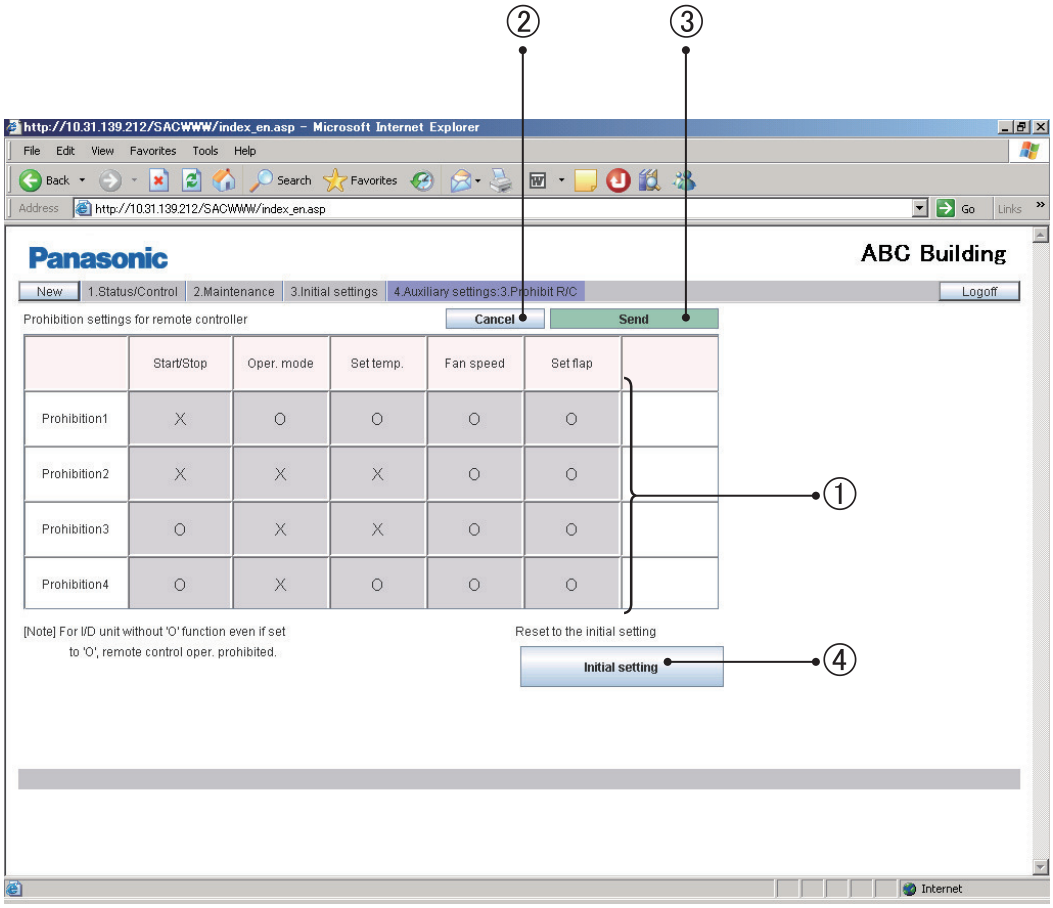
If you click on "OK", the setting data for the next 2 years will be copied from the upper (source) tenant to the lower (destination) tenant.
If the setting for the upper (source) tenant is not valid, the "Copy –> Send" button is not available.
First click on the "Send" button to make the setting valid then click on the "Copy –> Send" button.

9 Auxiliary Settings

Main 4 Sub 3

9.3 Prohibiting remote control use

If you log in using the administrator user account, when "4. Auxiliary settings: 3.Prohibit R/C" is selected from the menu, the screen shown below is displayed.
Setting of the items for which operations with the remote controller for an air conditioner are prohibited can be made. (For a special user, only checking of the settings is possible.)



① Each time you click on a setting item, "○" and "×" will appear alternately.
② For disabling input/changed data and returning to the original settings.
③ Clicking on this button will enable the input settings and send them to the Web Interface. The input data will only be enabled after being sent.
④ To return the setting to the initial setting, click on "Initial setting". When the following message is displayed, click on "YES". The factory default setting (the setting as shown in the above figure) will be restored, and the data are also sent to the Web Interface.



9 Auxiliary Settings

Main 4 Sub 3

Setting all the setting items to ○ (allowed) is not possible, because this has the same meaning that remote controller operations are permitted.
The following error message will be displayed.

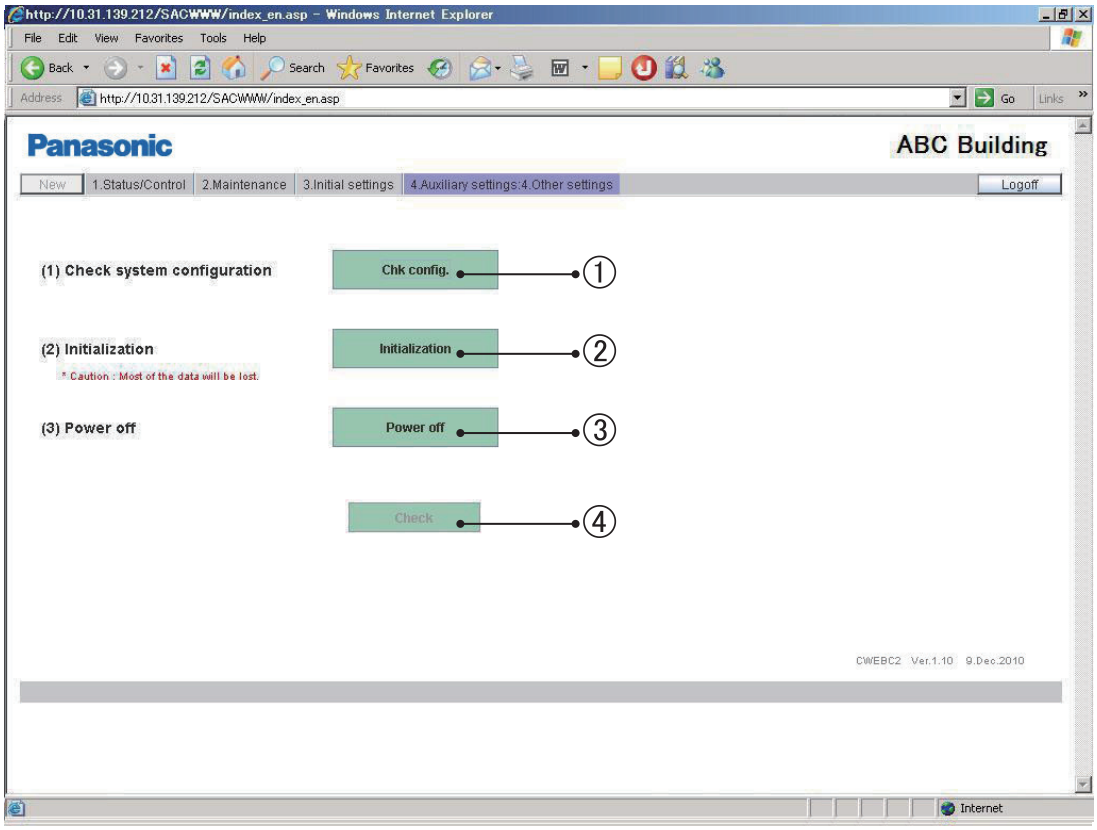


9 Auxiliary Settings

Main 4 Sub 4

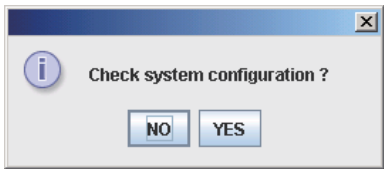
9.4 Other settings

If you log in using the administrator user account, when “4. Auxiliary settings: 4.Other settings” is selected from the menu, the screen shown below is displayed.



(1) Configuration check

① If you click on “Chk config.”, a system configuration check can be performed.
Perform a configuration check after addition/deletion of units or address change is performed on the air conditioner side.
When the following message is displayed, click on “YES” to perform a system configuration check.



9 Auxiliary Settings

Main 4 Sub 4

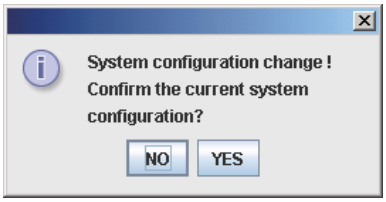
The following message will be displayed while checking the system configuration. While this message is displayed, no Web operation is possible. Wait until the check is completed.



If the checking result shows that the system configuration has not been changed, the following message will be displayed.



If the checking result shows that the system configuration has been changed, the following message will be displayed.



Note that if you leave the screen in this state for 1 hour or more, the current system configuration confirmation process will be automatically performed and registered.

If you click on "YES", registration of the system configuration and data storage will be performed.
During this process, the following message is displayed, and no Web operation is possible. Wait until the process is completed.



After registration of the system configuration and data storage are completed, the following message will be displayed.



9 Auxiliary Settings

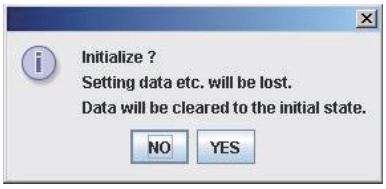
Main 4 Sub 4

[Notes on system configuration check]

- Never perform a system configuration check unless you have actually changed the system configuration.
  System configuration changes include addition, moving, and removal of units, and address change.
- Never perform a system configuration check when a power outage occurs on the air conditioner side or when temporary communication failure is generated.
  If a system configuration registration is performed in such situations, the air conditioners that should be recognized may not be recognized.
- If "System configuration change!" is displayed as a result of your accidentally performing a system configuration check, never proceed to the current system configuration registration process. First take correction measures against the causal erroneous status, then click on "NO".
  If the system configuration is confirmed to be as it originally was, "No configuration change" will be displayed.
- Note that if you leave the screen with the message "System configuration change!" displayed for 1 hour or more, the current system configuration confirmation process will be automatically performed and registered.

(2) Initialization

② If you click on the "Initialization" button, the message shown below will be displayed:
If you click on "YES", system configuration data and setting data will be deleted.
All alarm logs and alarm e-mail delivery logs will be also deleted.

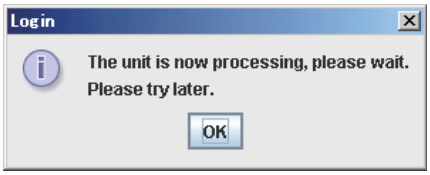


!! Do not make imprudent initialization.

The following data will not be deleted:

- Network settings ("WEB settings" screen)
  IP addresses, subnet mask, default gateway, DNS, WINS, and device name
- All user settings ("User settings" screen)

(3) If you attempt to log in using a special/general user account while the Web Interface is in the process of a system configuration check, current system configuration registration, or initialization, the message shown below will be displayed, and you cannot log in. Wait then try to log in again.



(The administrator user can log in, but Web operations will not be available. The above message will be displayed) The same message will be also displayed when an already logged in user attempts to perform any operation while the Web Interface is in the process of the above procedures.

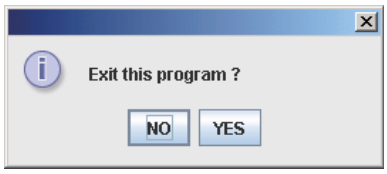
9 Auxiliary Settings

Main 4 Sub 4

(4) To close the dialog box displayed in the process of a system configuration check, current system configuration registration, or initialization, click on "×" on the upper right corner. As the process continues after the dialog box is closed, if you attempt to perform other operation, the same message will be displayed again. The message is also displayed again if you click on ④ "Check" in the screen example.

(5) Power off

③ If you click on "Power off", the message shown below will be displayed.



If you click on "YES", the system is preparing for safely shutting down the Web Interface main unit. Never turn off the Web Interface main unit while the following message is displayed:



Make sure that the following message is displayed then set the Power switch of the Web Interface to OFF.



After this message is displayed, to log in again, the Power switch of the Web Interface must be set to ON again.

(6) Check button

④ When you click on the "Check" button while this button is valid, the current process of the Web Interface will be displayed.

3

10 Supplementary Information

■ Note on powering the system down
Always use the following procedure to power the Web Interface off:
Click on Power off on the "Other settings" screen.
⇩
When "Exit this program ?" is displayed, click on OK,
⇩
Wait until a message appears to inform you that "It is now safe to turn off the unit."* then power the system down.
(*It may take several minutes until this message appears.)

■ Only an alarm code is displayed to notify of alarm content of air conditioners.
The content of an alarm can vary for different models, even if the alarm code is the same. Refer to the documentation of the various models to determine the content of the alarm.

■ If errors occurred because of lightning or electromagnetic interference
Turn the Web Interface off then back on again.
(See "Note on powering the system down" above.)
As a rule, the Web Interface should be powered down only in cases such as the above. Correct management of air conditioners is not possible when the Web Interface is powered down.

■ Note on setting the current date and time
The current date and time should be set on a regular basis, since the system clock can gain or lose up to about two minutes per month (at 25℃).

■ You cannot perform Web operations from the PC while the Web Interface is undergoing the processes described below. Wait until that process is completed, following the instructions displayed on the screen.
- During startup (after turning the Web Interface on)
- During a system configuration check
- During initialization
- During the power-down process
- 23:30–0:05 daily

■ When only one centralized control unit is installed in a system without a remote controller, if the centralized control unit is damaged, the air conditioner(s) may become inoperable, or other troubles may occur.
To avoid this problem, we recommend that you use remote controller(s) or install multiple centralized control units.

■ About passwords
Login passwords should be recorded and saved in a safe place. They should never be disclosed to third parties.
If you forget your login password, contact your dealer or service provider.
We will not be liable for any disadvantage caused by disclosure of login passwords to third parties.

10 Supplementary Information

■ About interface adaptors (optional)

You can use interface adaptors to connect equipment that can be turned on and off (fans, room air conditioners, and so on) to the Web Interface.
However, note that the following limitations apply.
For details, refer to the documentation of the equipment or contact your dealer or service provider.

▶Central control is supported for the following operations only:

- Start/stop
- Remote control prohibition (start/stop only)

Timer settings are supported, but settings other than "Start/Stop" and "Prohibit R/C" are ignored.
Remote control prohibition is possible only if reception of a prohibition signal output from the local adaptor is enabled through connection to the equipment. Even in such a case, the only operations that can be prohibited are start and stop.

▶Alarm display

Alarm details are not shown.
The "C12" code is displayed (meaning the alarm for any of the air conditioners connected with the local adaptors).
However, this is possible only when connection with a local adaptor enables transmission of the alarm signal.

▶As long as it conforms to the contact specifications of the on/off local adaptors, any type of equipment can be connected to the Web Interface. However, you should avoid connecting equipment whose operations can have grave consequences for life or property.

10 Supplementary Information

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- We shall not be liable for any loss, lost profits, or any incidental damages due to use of this product or the supplied software. We shall not be liable to any claim based on a third-party claim.
  We shall not be liable for any disadvantage caused by malfunction of the equipment or software.

- The software supplied with this product may not be used on any other equipment.

- This product and the supplied software are subject to change without notice.
  The contents of this manual are subject to change without notice.

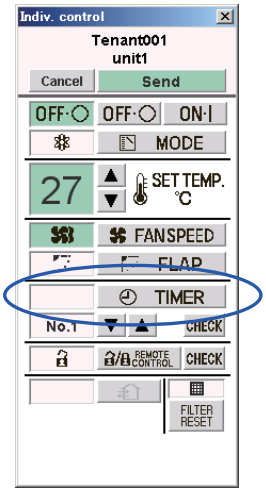
- We shall not be liable for any violation of the patent rights of any third party stemming from use of information in this manual, or for violation of other rights.

11 Troubleshooting

Before requesting service, check the following items.
Do not attempt to service the Web Interface by yourself. Doing so can be dangerous.

Symptom	Cause
The Web Interface cannot detect a single indoor unit. Or it can find not all of them.	• Click on the "Chk config." button in the "Other settings" screen.
"Page not found" or "Page not displayed" is displayed and you cannot log in. "Communication error" is displayed during Web operation.	Is the Web Interface On? Is the LAN cable connected?
Timer operation does not work.	• Is timer operation set to "Set"? If timer operation is set to "Cancel", timer operation will not work even if a timer is selected. (*) • Are the current date and time correctly set? If the current date and time are not correctly set, operation can start at an unexpected time. (See "Date and time setting" screen.)
A screen display is not automatically updated.	The factory default for "Auto update intv." is "Invalid". (Check the "WEB settings" screen.)
When local remote control operation is prohibited on the Web Interface, start/ stop operation of air conditioners is disabled because of failure in the Web Interface.	• Emergency operations until our service person arrives: Power down the Web Interface and power the indoor units down then back up again. Operation with the local remote controllers will become possible. This cannot be done in a remote control-free system.
After the recovery from a power outage, the equipment did not come on automatically according to program timer settings.	• The Web Interface does not power up equipment automatically by program timer after a power outage. The setting for the next programmed time will be executed when the time arrives.

(*) When timer operation is set to "Set" or "Cancel", the timer operation indication on the remote controller screen will be as shown below. Each time you click on "TIMER", the setting will change from "Set" to "Cancel" or vice versa.



When timer is set to "Set"

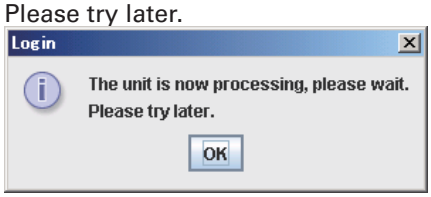


When timer is set to "Cancel"



11 Troubleshooting

- When the Internet is used for connection of the Web Interface to the PC, take security measures, such as installing an optional firewall.
- The warning messages to be displayed during Web operations, their causes, and corrective measures are shown in the table below.

Warning message	Meaning and cause	Corrective measures
The unit is now processing, please wait. Please try later. 	The Web Interface is in the process of setting. The access from the Web is busy.	While the Web Interface is undergoing the following processes, Web operations are not possible: • During startup (after turning the Web Interface on) • During system configuration check • During initialization • During power-off process • 23:30-0:05 daily Wait until the process is completed then try again.
Communication error 	The Web Interface is not activated. (power-down, etc.) Failure in the LAN cable or LAN	Try again. Check that the Web Interface is activated. Check the LAN cable and LAN.
Invalid user ID 	You have specified an invalid user ID for login.	Retry login using a proper user ID that has been registered in the Web Interface.
Wrong password 	You have specified an invalid password for login.	Retry login using a proper password that has been registered in the Web Interface.
That user is logged in already. 	An administrator user attempted to log in while another administrator user was already logged in.	Log off the administrator user who has already logged in first.

12 Care

■ **Unplug the power cord before cleaning the Web Interface.**
The system has high-voltage connectors and other dangerous components. Always power the system down and unplug the power cord before cleaning it.

■ **Use a neutral solvent.**
To clean the main unit, use a soft cloth slightly moistened with lukewarm water or a neutral solvent.
Do not use volatile agents, such as benzine and thinner, abrasives, or pesticides. Doing so can damage painted surfaces.

■ **Avoid direct contact with water.**
Do not allow water to contact the product directly.
Insulation will be impaired, which may result in damage or electrical shorts.

■ **Do not disassemble.**
Do not disassemble the Web Interface.
Doing so may damage the unit or cause electrical shock and is very dangerous.

■ **Check the mounting of components.**
Several times a year, check to make sure that the mounting of components has not been weakened by rust or corrosion.

13 Specifications

Model name		CZ-CWEBC2
External dimensions		(H)248 × (W)185 × (D)80 mm
Method of installation		Inside the control panel
Maximum number of connectable units		64 air conditioners (indoor units)
Timer precision		± Approx. 2 minutes/month (normal temperature: 25℃)
Timer	Setting unit	1 minute
	Operation	50 times/day 50 types of daily timer / 50 types of weekly timer
	Program cycle	1 week
Temperature/humidity ranges for use		5℃–40℃ / 20%–80%
Power requirements		Single-phase, 100–240 V ~, 50/60 Hz
Power consumption		Max. 17 W
Weight		2.2 kg

15. Web Interface (CZ-CWEBC2)

■ **Installation (Electric) and Service Instructions**

Safety Precautions

■ Before conducting installation or electrical work, be sure to carefully read these “Safety Precautions” and follow them carefully.

■ The precautions given in this manual consist of specific “Warnings” and “Cautions”. Be sure to follow these precautions, as they provide important safety related information. The labels and their meanings are as described below.

⚠ **Warning**	This refers to a hazard or unsafe procedure or practice which can result in severe personal injury or death.
⚠ **Caution**	This refers to a hazard or unsafe procedure or practice which can result in personal injury or product or property damage.

⚠ Warning

- Be sure to arrange installation at the dealer where the system was purchased or use a professional installer. Electric shock or fire may result if an inexperienced person performs any installation or wiring procedures incorrectly.
- Carefully follow these Installation (Electric) and Service Instructions when installing the unit. Electric shock or fire may result if the unit is not installed correctly.
- Electrical installation should be performed by qualified electrician, in accordance with the provisions of the Technical Standards for Electrical Installations, local regulations for indoor wiring, and these Installation (Electric) and Service Instructions. Be sure to use a dedicated electrical circuit. Insufficient electrical circuit capacity may result in electric shock or fire.
- Use the specified cables for the electrical connections, and connect the cables securely. Fasten the cables securely so that the cables will not exert force on the connection terminals. Insecure connections or fastening may result in overheating or fire.
- The installation location may require the use of a circuit breaker. Failure to use a circuit breaker may result in electric shock or fire.
- Install this unit to the location where general users cannot easily access (such as inside the control box).

⚠ Caution

- When performing electrical installation, discharge any accumulated static electricity to ground before touching the unit.
- Always use the system together with a remote controller or a system controller.

Supplied parts

Part number	Part name	Quantity
①	Small pan head bolt (M4 x 10) 	4
③	Flat washer 	4
⑤	Operation Manual 	1
⑦	Ferrite core 	1

Part number	Part name	Quantity
②	Nut(M4) 	4
④	Cable tie 	2
⑥	This leaflet 	1
⑧	Cable tie (for fixing a ferrite core) 	1

Specifications

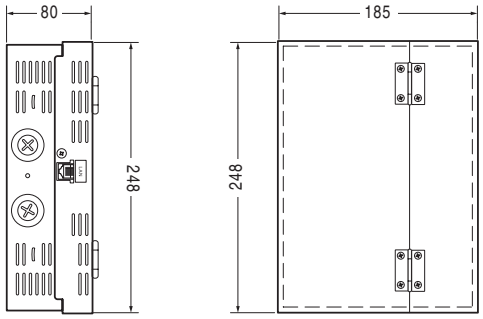
Rated voltage·····100 - 240 V～, single phase
Rated frequency ····· 50/60 Hz
Power consumption ·····17 W max.
Operating temperature ····5 to 40° C
Operating humidity ·····20 to 80%
(non-condensing)

3

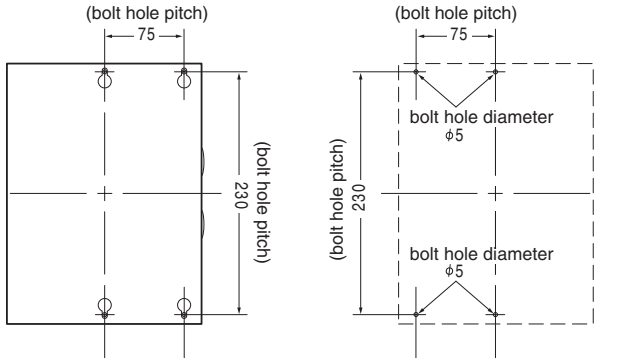
15. Web Interface (CZ-CWEBC2)

1 Cautions regarding the design of the control box

External dimensions



Control box machining diagram



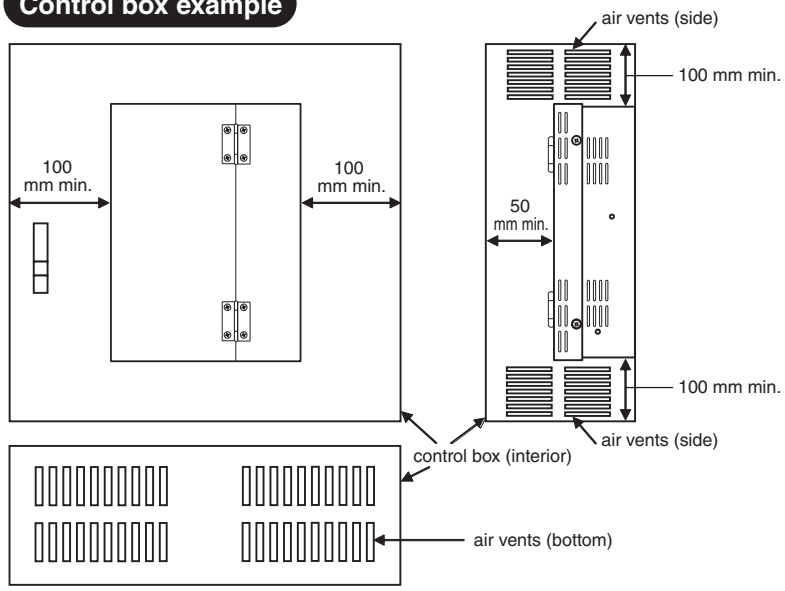
* It is possible to install the unit upside down.

Take the following into consideration when designing the control box:

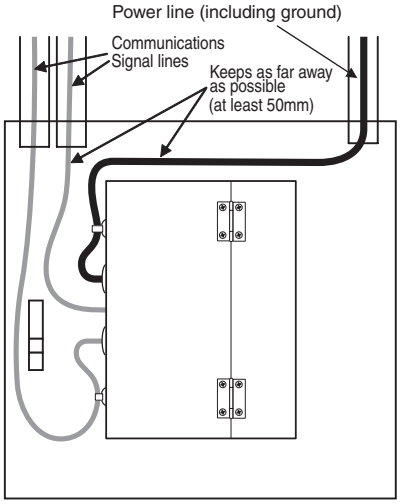
(1) To ensure sufficient airflow for cooling, provide air vents (holes, slots, etc.) on the upper, lower, left and right sides of the box, as shown in the figure below. (Be sure not to clog the ventilation hole when setting.)Ensure that the temperature inside the control box does not exceed 40℃.

(2) Keep the power and communications signal lines as far apart as possible (at least 50 mm, if cabled inside the control box) to reduce the effects of electrical noise.

Control box example



Wiring example



2 Mounting

Caution

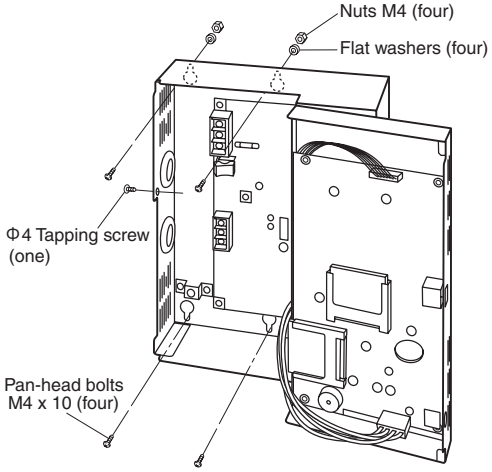
- Mount the unit far away from potential noise sources.
- Do not mount the unit where it could get wet, or in areas of high humidity.
- Do not mount the unit where it could be subject to excessive vibration or shocks.
- Mount the unit inside a control box.

(1) Remove the tapping screw at the side of the LAN connector and open the lid.

(2) Mount the controller unit to the control box using the four supplied bolts, washers, and nuts.

(3) Replace the lid, and secure it with the tapping screw.

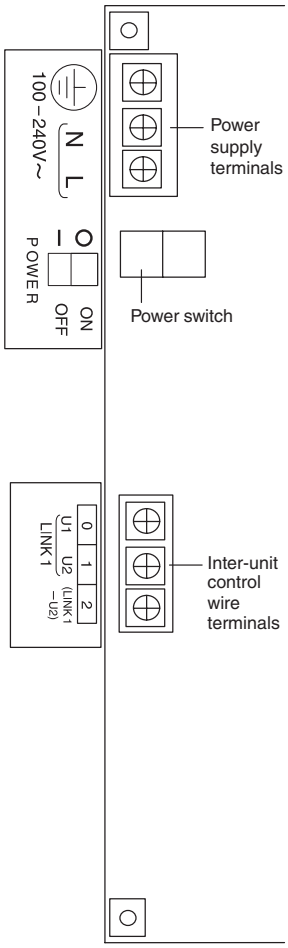
Mounting diagram



3 Wiring

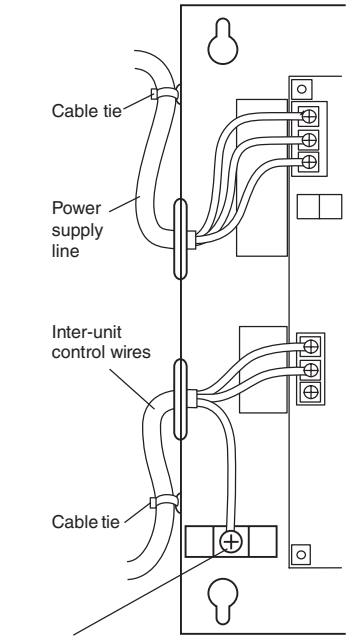
Always shut off the power supply (breaker) before installing or uninstalling.

Connection terminals



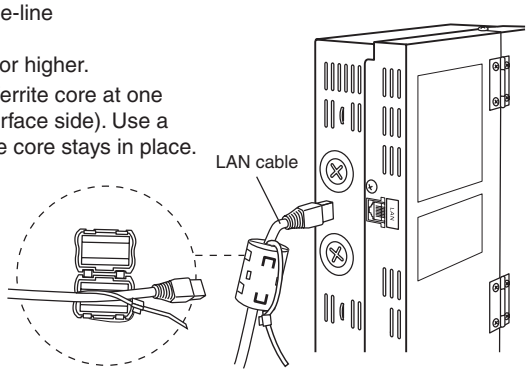
(1) Power supply connection

Connect the power supply to the commercial power mains (100 to 240 V AC), using a dedicated circuit. Connect the power supply lines to the L and N power supply terminals (the power supply neutral to the N terminal).
Connect an earth ground line to the power supply terminal.
Firmly secure the power lines using the supplied cable tie.



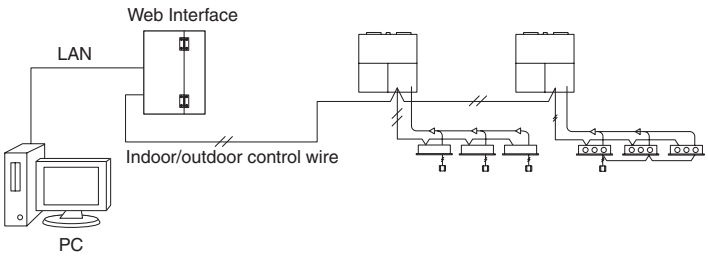
(2) Signal connection

- Do not run signal lines through the same conduit as power supply lines, use the same cable as the power supply, or run close to the power supply lines (maintain at least 30 cm separation, if cabled outside the control box).
- Do not run the LINK1 and LAN signal lines through the same conduit, or run the signal lines close together.
- Connect indoor and outdoor signals using 0.5 - 2.0 mm² two-conductor cable.
  Overall length of each signal line should be 1 km or less.
  Secure the shielded cable to the metal plate with a screw, as illustrated (apply one-line grounding).
- Use LAN cables of Category 5 or higher.
- Be sure to attach the supplied ferrite core at one end of the LAN cable (Web Interface side). Use a cable tie to make sure the ferrite core stays in place.



Basic wiring diagram

Wire up the Indoor/outdoor control wire as shown in the figure below.



Wiring procedure

- Indoor/outdoor control wire (no polarity)
  Use the shielded wire for inter-unit control wiring.
  Connect signal terminals 0 and 1 (LINK1) to the Indoor/outdoor control wire terminals of an indoor or outdoor unit.
  Make sure that power lines are not connected to the Indoor/outdoor control wire terminals.

* If the power voltage is accidentally applied to the Indoor/outdoor control wire terminals, the fuse will go out to protect the board, but not in some cases.Ifthis happens, disconnect the power line, and connect the Indoor/outdoor control wire to the spare U2 terminal. (The other signal line can stay connected to the U1 terminal.) The spare U2 terminals are right next to the main U2 terminals.
  Use terminal 2 (LINK1-U2) instead of terminal 1

- LAN cable
  Connect the LAN cable directly to the PC or to the network hub.

4 System power off procedure

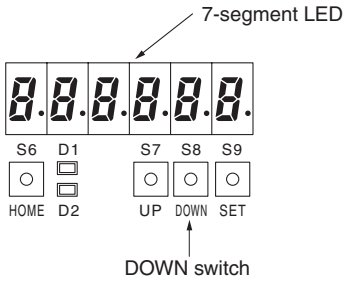
(1) Press and hold DOWN swich for more than 4 seconds.
The 7-segment LED indication appears as below.

d - SAVE

Wait several minutes.
The 7-segment LED indication appears as below.

P - oFF

(2) Turn the power switch off.



5 Verify the system configuration, make necessary settings

(1) Turn on power to all air conditioner units.
(2) Turn on power to the unit.
(3) Set the date and time on the unit and verify the system configuration.
(4) Verify the number of units connected.
(5) Perform the necessary settings.**Be sure to set the central control address.**
* See the Operation Manual for details.

6 Educating the customer

- Give the Operation Manual to the customer.
- Explain the operation to the customer, following the explanations given in the Operation Manual.