

# Panasonic®


## Installation Instructions Cloud adaptor


Model No. **CZ-CFUSCC1**

### Safety Precautions

#### Please Read Before Starting


This controller must be installed by the sales dealer or installer. These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

 **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.


- We assume no responsibility for accidents or damages resulting from methods other than those described in the installation instructions or methods without using specified parts. Malfunctions that occurred due to the unauthorised installation methods are not covered by the product warranty.
- This controller shall be installed in accordance with National Wiring Regulations.
- After the installation is complete, perform test operation to confirm that no abnormality is present.
- Read the installation instructions of devices to be connected as well.
- When relocating or repairing this controller, provide the Installation Instructions to the servicing personnel.

#### **WARNING**

 **ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.**

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- This controller is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown. Earth Leakage Circuit Breaker (ELCB) must be incorporated in the fixed wiring in accordance with the wiring regulations. The Earth Leakage

Circuit Breaker (ELCB) must be an approved 10 A, having a contact separation by 3 mm in all poles.

- Provide a power outlet to be used exclusively for this controller.
- Turn off the circuit breaker of the controllers before installation.
- Do not supply power to the controller until all wiring is completed or reconnected and checked.
- Fix the power supply wiring securely with the clammer so that the power supply terminal board is free of tension (external force) when pulled. Loose connection of the terminal board may occur fire.
- To prevent possible hazards from insulation failure, the controller must be grounded. 
- Select an installation location which is rigid and strong enough to support or hold the controller, and select a location for easy maintenance.
- This product must not be modified or disassembled under any circumstances. Modified or disassembled controller may cause fire, electric shock or injury.
- Do not clean inside the controller by users. Engage authorized dealer or specialist for cleaning.
- Do not operate with wet hands.

#### **CAUTION**

- Ground yourself to discharge static electricity before performing any wiring.
- Do not use the controller at the following locations.
  - Areas where leakage of flammable gas may be expected
  - Places where large amounts of oil mist exist
  - Locations where external air may enter the room directly (This may cause "condensation".)
  - Locations where high-frequency emissions are generated
  - Locations where voltage fluctuation frequently occurs
- Do not wash with water.



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
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## Specifications

Model No.	CZ-CFUSCC1
Dimensions (mm)	<H> 255 × <W> 275 × <D> 80
Weight	1.9 kg
Temperature/ Humidity range	0 °C to 40 °C / 20 % to 80 % (no condensation)
Rated voltage/ Rated frequency	Single phase 100-240 V ~ 50/60 Hz
Power consumption	Max. 15 W
Number of connectable units	Indoor unit - Up to 64 units per link* Outdoor unit - Up to 30 units per link

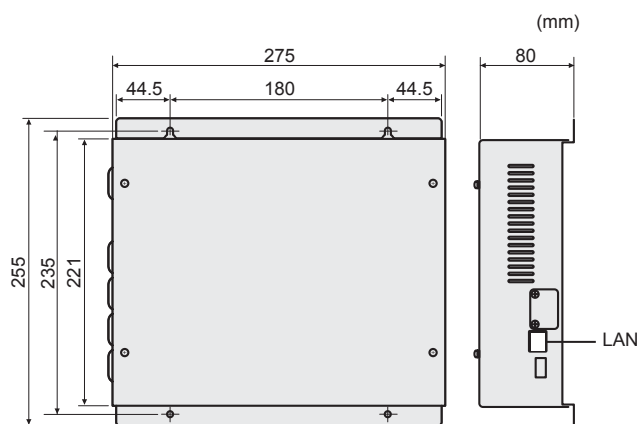
\*: The number of indoor units includes the Interface Adaptor.

## Supplied accessories

Installation Instructions (1)		License List Disc (1)	
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\* Wiring are not included (field supplied item).

## Dimensions (Part Names)



## Caution for Network Connection

When connecting to Internet, implement security measures against illegal access from outside. For detailed connection and setup method, consult the network administrator.

## Installation Precautions



### ■ Installation Location



- Avoid the following locations for installation.
  - Under direct sunlight
  - Location near heat source
  - Location where the controller will be splashed with water or affected by dampness or humidity
  - Uneven surface
  - Location that is subject to excessive vibration or physical impacts. (Fixing screws may come off, and the controller may drop.)
- Install the controller away from any sources of electrical noise.
- Install the controller to the locations where is suitable to the temperature for using or environment.

### ■ General Precautions on Wiring

- Regulations on wire diameters differ from locality to locality. For field wiring rules, please refer to your LOCAL ELECTRICAL CODES before beginning. You must ensure that installation complies with all relevant rules and regulations.
- Use the field supplied wiring with at least 1 mm in thickness of insulation part including the sheath.
- Connect all wiring tightly to prevent the terminal board from loosening when the wiring connection part is pulled by an external force. (Otherwise, fire or overheating may occur.)
- Do not bury the inter-unit control wiring in the ground.
- Do not store the power supply wiring and other wiring in the same metal tube or bundle them together. (An operational error from noise may occur.)

### Symbols on the controller

-  This symbol refers to "Protective earth".
-  This symbol refers to "Caution of Electrostatic".

-  | This symbol refers to "ON (power)".
-  This symbol refers to "OFF (power)".

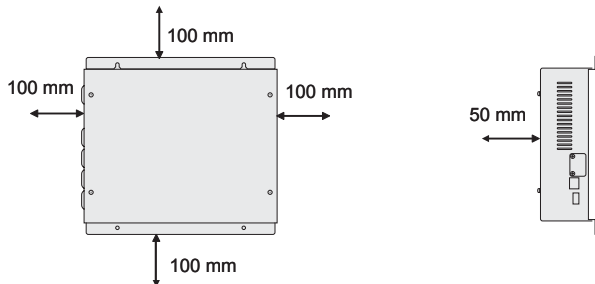
# Mounting

## ■ Mounting Position

Secure space as shown below when mounting 2 or more of this controller or mounting other devices side by side.

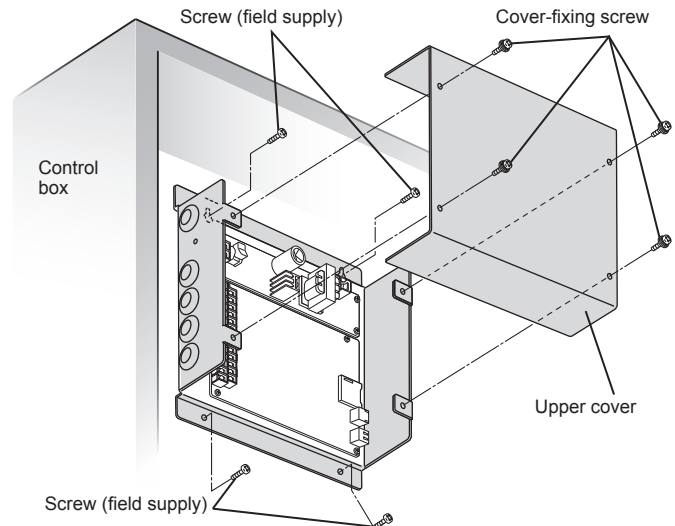
Up, down, left and right direction:  
100 mm or more

Front: 50 mm or more



## ■ How to Mount (Control Box)

1. Attach the controller to the control box so that the wiring can be taken out from the left side. (See the illustration below.) (Screws (field supply): 4)
  - Tighten the screw securely.
2. Remove the upper cover. (Cover-fixing screws: 4)
  - After the connection and setting (pages 4 to back cover) are complete, attach the upper cover. (Cover-fixing screws: 4)



# Wiring

## ■ Power Supply Wiring

- Be sure to use a dedicated line for power source.
- Be sure to earth this controller.
- Do not connect the earth wiring to those of gas pipe, water pipe, lighting rod, telephone, etc.
- Type of wiring
  - Use a flexible wiring of 2 mm<sup>2</sup> (Recommended).
  - Use the standard power supply wiring for Europe (such as H05RN-F or H07RN-F which conform to CENELEC (HAR) rating specifications) or use the wiring based on IEC standard (60245 IEC57, 60245 IEC66).
- Total Wire Length  
30 m or less

## ■ Inter-Unit Control Wiring

- Type of wiring
  - Use a flexible shield wiring of 0.5 to 2 mm<sup>2</sup>.
- Total Wire Length  
1000 m or less
- Number of connectable units and devices  
(Up to total of 100 units and devices can be connected.)

Indoor unit	Up to 64 units per link *
Outdoor unit	Up to 30 units per link
Central control device	Up to 10 units

\*: The number of indoor units includes the Interface Adaptor.

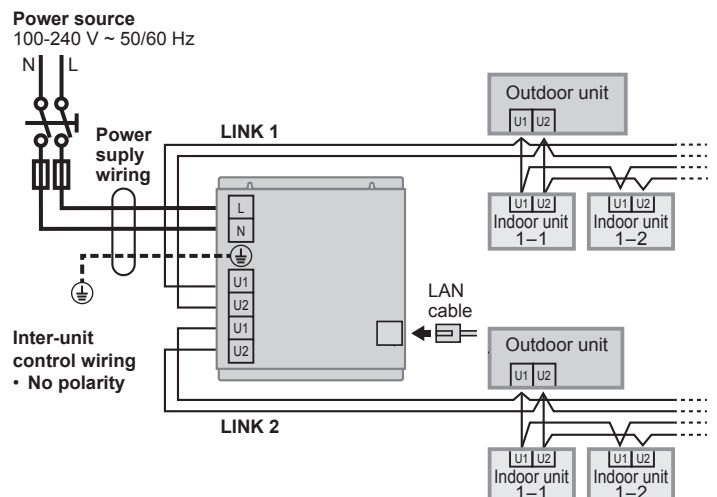
## ■ External I/O Wiring

- Type of wiring
  - Use a flexible wiring of 0.5 to 2 mm<sup>2</sup>.
- Attention**
  - When using the controller at a location susceptible to noise, use a shield wiring.
- Total Wire Length  
20 m or less

## ■ LAN Cable

- Type of wiring
  - Category 5 or above straight cable
- Total Wire Length  
100 m or less

## ■ Basic Wiring Diagram

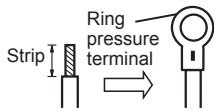


# Wiring (continued)

Before connecting the wiring, be sure to turn the circuit breaker off. After all wiring arrangements are complete, turn the circuit breaker on. If the power supply wiring is mistakenly connected to a terminal board other than the power supply terminal board, the devices to be connected to this controller or this controller will malfunction. After connecting the wiring, confirm that the power supply wiring is properly connected.

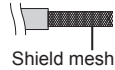
## How to Attach the Ring Pressure Terminal

- For power supply wiring
  - Process the end of each wiring, and attach the ring pressure terminal (field supplied item).

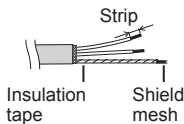


- For shield wiring
  - Process the end of the each wiring, and attach the ring pressure terminal (field supplied item).

① Remove wiring coat.



② Cover with the tape.

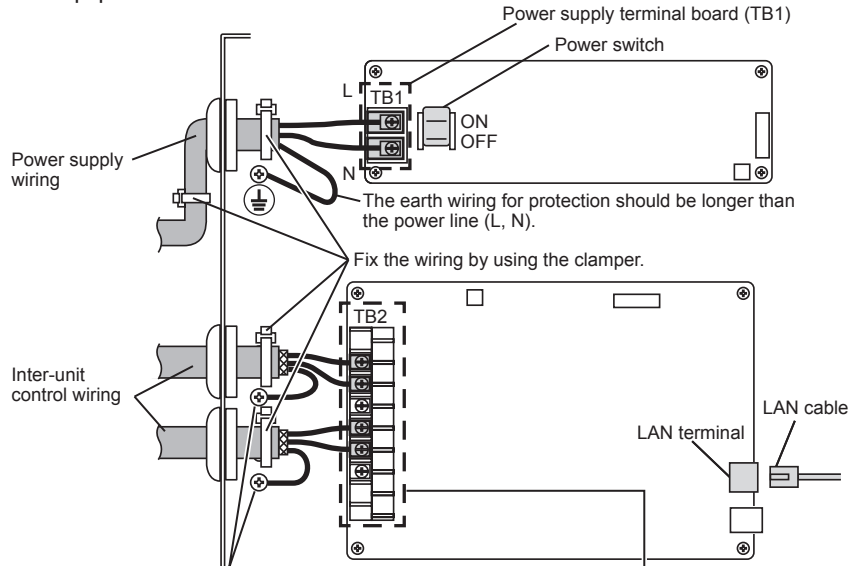


③ Attach ring pressure terminal.

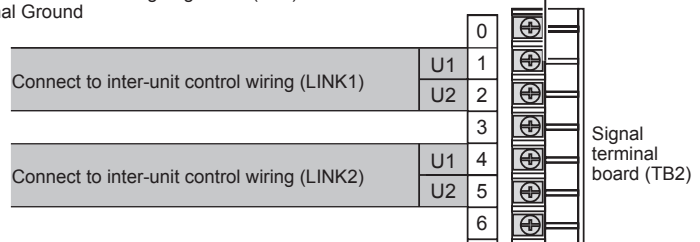


## Connecting Wiring

- When connecting external equipment, refer to the "Connecting to external equipment" section below.

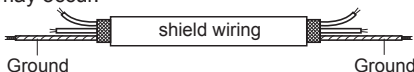


Use this screw when connecting the shield for the inter-unit control wiring to ground. (FG\*)  
\*: Functional Ground



### Attention

- Ground the shield on both sides of shield wiring, otherwise an operation error from noise may occur.



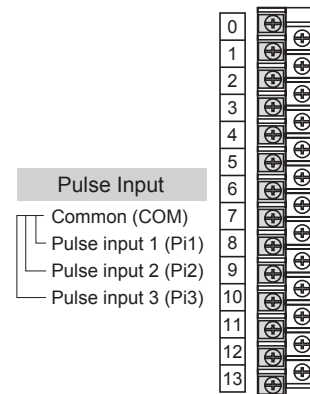
- Do not run the inter-unit control wiring through the same conduit as the power supply wiring, or run close to the power supply wiring (maintain at least 30 cm separation).
- Use different inter-unit control wiring and power supply wiring so they can be differentiated visually.

# Connecting to External Equipment

- Outputs of Pulse meter (Gas meter, Power meter and Heat meter) can be input to signal terminal board.
- Keep the external I/O wiring lengths of 20 meters or less. If a longer length is needed, use a relay.

Controller side		External equipment side		
Condition	Terminal name	Terminal	Circuit example	Condition
Non-voltage contact "a" Pulse • Contact allowable voltage : DC5 V±10 % • Contact allowable current : Max. 10 mA	Common (COM)	7	COM	• Pulse width : 30 msec or more / 100 msec or more • Pulse interval : 1 sec or more
	Pulse input 1 (Pi1)	8		
	Pulse input 2 (Pi2)	9		
	Pulse input 3 (Pi3)	10		

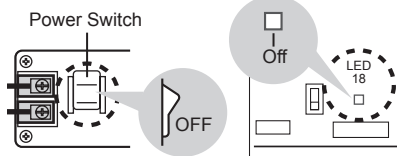
Signal terminal board (TB2)



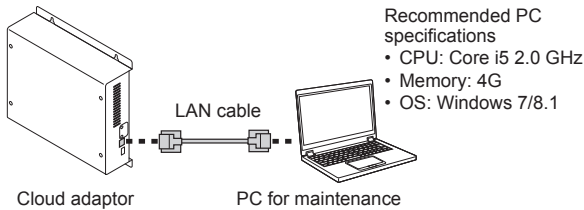
# Setting

## Preparation before Setting

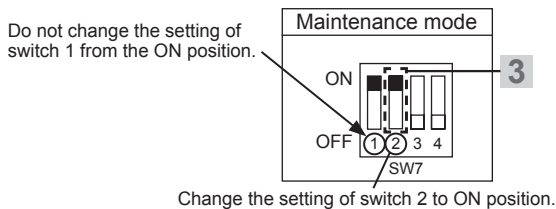
### 1 Confirm the power is turned off.



### 2 Using the LAN cable, connect the PC for maintenance directly to the cloud adaptor.

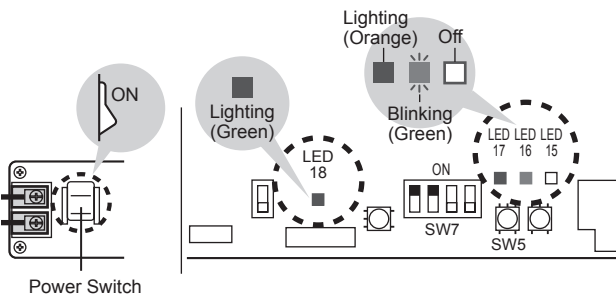


### 3 Using the DIP switch, set the mode of the cloud adaptor to the maintenance mode.



### 4 Turn the power on.

- Confirm that the Orange LED (LED 17) is lighting, Green LED (LED 16) is blinking at a slow speed, and the Green LED (LED 18) is lighting.



- If the Orange LED (LED 17) does not light and the Green LED (LED 16) does not blink at a slow speed. Refer to the "Test Operation" section (back cover page).

### 5 Start up the PC, and set if the network settings as follows.

IP address	192. 168. 1. 100
Subnet mask	255. 255. 255. 0
Default gateway	192. 168. 1. 254

### 6 Enter the following URL in the Web browser, and access the cloud adaptor. <https://192.168.1.1/>

- Recommended Web browser specifications
- Internet Explorer (IE) 11

- The login screen appears.



#### ■ If the login screen does not appear

Check if the LAN port LED on the PC is blinking.

#### Not blinking

→Connect the LAN cable correctly.

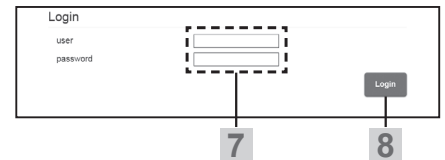
#### Blinking

→Check the settings in step 5.

### 7 Enter the user name and password shown below.

- user : ca\_user
- password : KYJN2015ca

### 8 Press .

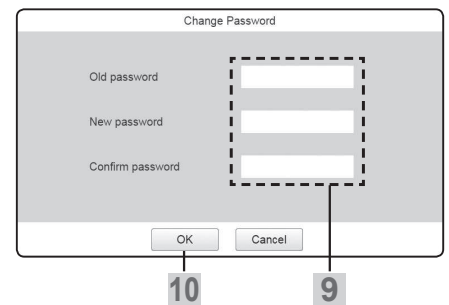


#### Note

- If you fail to login 10 consecutive times, login operation will be disabled for 30 minutes.
- If no operation is performed for a certain period of time, the login screen will appear at the next operation.

### 9 Enter the current (old) password and new password (twice).

- Change the password to the one actually used.



### 10 Press .

#### ■ To cancel

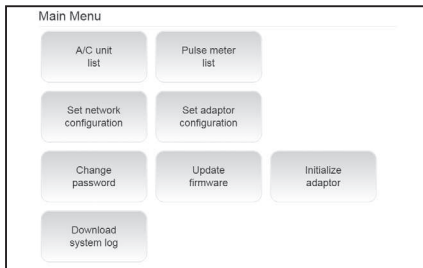
Press .



# Setting (continued)

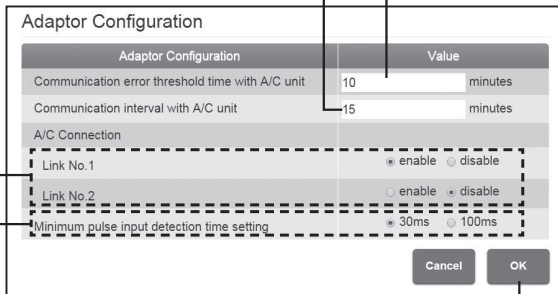
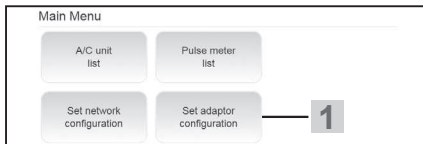
Indoor unit (I/D) and Outdoor (O/D) unit are included in Air conditioner (A/C unit).

The setting contents described on pages 6 to 7 can be set on the main menu.



## Adaptor Setting

1 Press



2 Enter the time for the cloud adaptor to determine the communication with the air conditioner has failed. (Possible input range: 5 to 99 minutes)

3 Enter [Communication interval with A/C unit]. (Possible input range: 5 to 99 minutes)

4 Select either [enable] or [disable] for [Link No.1] and [Link No.2] respectively.

5 Select [Minimum pulse input detection time setting]. (30ms, 100ms)

6 Press **OK**.

• Dialogue will be shown to confirm restart.

■ To cancel

Press **Cancel**.

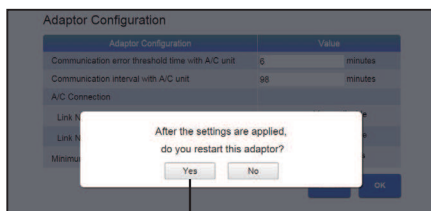
• The input screen will be discarded, and go to the main menu.

**Note**

• Please take note of the input contents displayed when the OK button is pressed.

7 Press **Yes**.

• The settings are applied, and the cloud adaptor restarts.



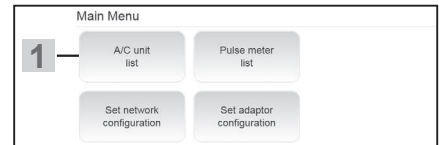
**Attention**

• After a certain period of time, a login screen is displayed in the web browser. Enter the user name and password again, and go to the main menu.

## Air Conditioner Setting

1 Press **A/C unit list**.

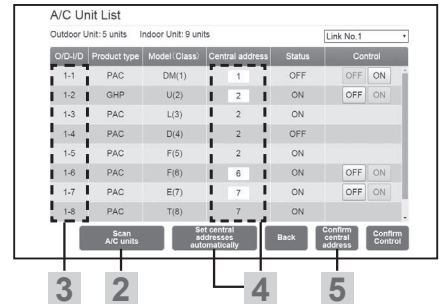
2 Press **Scan A/C units**.



• Air conditioners connected to the cloud adaptor are detected, and the A/C unit list is updated.

■ To change the link no. to display  
Select the link no. for

Link No.1



3 Check if the connected indoor units are all displayed, and confirm that the number of the connected outdoor units and the number of detected units correspond with each other.

■ If some of the indoor units are not displayed/ unexpected indoor units are displayed.

Check if wiring is properly done, or the address setting for air conditioners is correct.

→After correction, redo from step 2.

4 Enter the central address.

■ To assign manually

Select the central address text box of the indoor unit on the [A/C Unit List] screen, and enter it.

■ To assign automatically

Press **Set central addresses automatically**.

• Values that have been unused within the same link no. are input in the blank field in ascending order.

5 Press **Confirm central address**.

• The input central address is applied to all the indoor units.

**Attention**

• Be sure to set the central address for the indoor unit to control and monitor using the cloud adaptor.

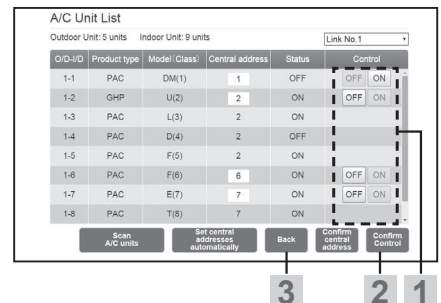
**Note**

• If the text box is blank or any duplication is present between main indoor units, an alarm is displayed.

## Air Conditioner Test Operation

1 Check if **ON** and **OFF** properly work.

2 Press **Confirm Control**.



• Check if pressing the button switches the ON/OFF display in the control field of the corresponding indoor units and the ON/OFF operation of the actual indoor units.

• Check all the indoor units for proper operation.

• Check the status while communicating over a radio device with the PC operator.

3 Press **Back**.

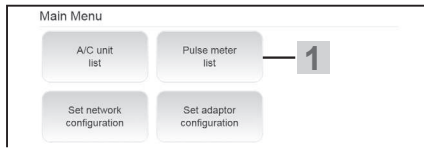
• The main menu is displayed.

• If [Confirm central address] button is not pressed after changing the central address, a confirmation screen is displayed. →Selecting [YES] discards the changed contents.

## Pulse Meter Setting

### 1 Press **Pulse meter list**.

- The ports that can be set are displayed.



Port No.	Meter type	Pulse unit value (/Pulse)	Pulse count
P1	Power meter	1 kWh	100
P2	Power meter	0.1 kWh	200
P3	Gas meter	10 m3	300

### 2 Set [Meter type].

### 3 Set [Pulse unit value (/Pulse)].

### 4 Repeat steps 2 to 3 for all of the ports.

### 5 Press **Confirm**.

- The changed settings are enabled. (Setting complete)
- If **Confirm** is not pressed after changing the pulse meter a confirmation screen is displayed.  
→Selecting [YES] discards the changed contents.

#### Attention

- Please take note of the input contents displayed when the confirm button is pressed.

## Pulse Meter Test Operation

### 1 Remove one end of the wiring connected to the pulse meter.

(Do not remove the other end connected to the cloud adaptor.)

Port No.	Meter type	Pulse unit value (/Pulse)	Pulse count
P1	Power meter	1 kWh	100
P2	Power meter	0.1 kWh	200
P3	Gas meter	10 m3	300

### 2 Short-circuit at the pulse meter side using wire, etc, and check if the number of pulses of the corresponding port increases each time it is short-circuited.

#### Note

- While short-circuiting, communicate over a radio device with the PC operator.

### 3 Press **Back**.

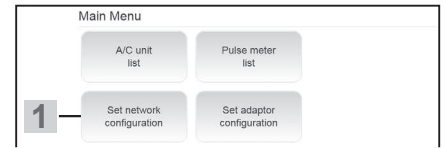
- The main menu is displayed.

### 4 Restore one end of the wiring connected to the pulse meter.

## Network Setting

### 1 Press **Set network configuration**.

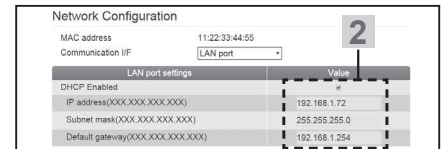
- Make the setting according to the cloud adaptor setting instructions.



### 2 ■ When DHCP is used in the network environment Add a check mark for [DHCP Enabled].

#### ■ When other than the above

Remove the check mark for [DHCP Enabled], and enter IP address, Subnet mask and Default gateway of the cloud adaptor.

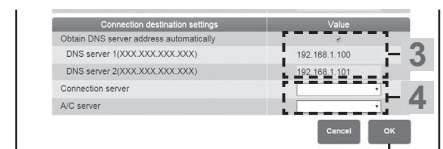


### 3 ■ When the DNS server information can be automatically obtained in the current environment Add a check mark for [Obtain DNS server address automatically].

#### ■ When other than the above

Remove the check mark for [Obtain DNS server address automatically], and enter the IP address of DNS server 1 and DNS server 2.

### 4 Select [Connection server] and [A/C server].



#### ■ To cancel

Press **Cancel**.

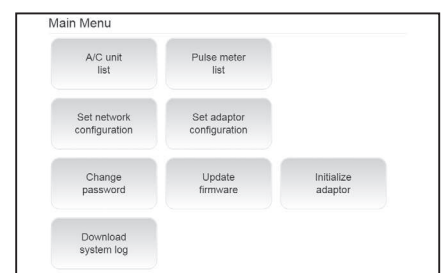
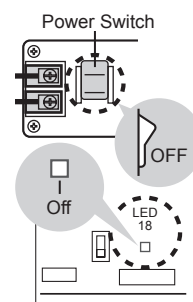
- The input screen will be discarded, and go to the main menu.

### 5 Press **OK**.

- The main menu is displayed.

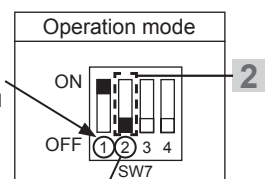
## Preparation before Operation

### 1 Turn off the power switch while the main menu is displayed.



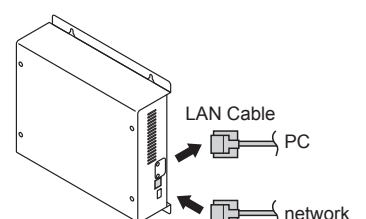
### 2 Using the DIP switch, set the mode of the cloud adaptor to the operation mode.

Do not change the setting of switch 1 from the ON position.



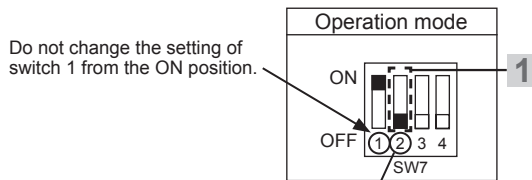
Change the setting of switch 2 to OFF position.

### 3 Remove the LAN cable from the cloud adaptor, and connect the other to the network.



# Test Operation

## 1 Confirm that the DIP switch is in the operation mode.

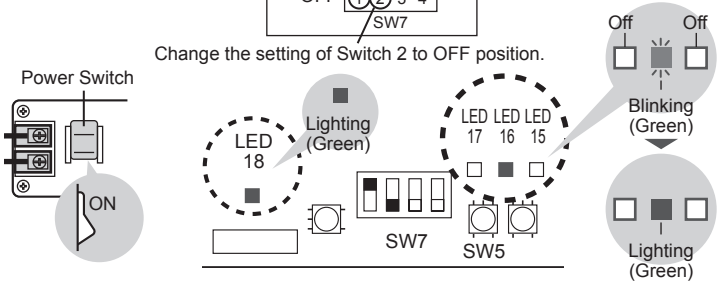


## 2 Turn the power on.

- Make sure at least 30 seconds have passed after power-off. Then, turn the power on.

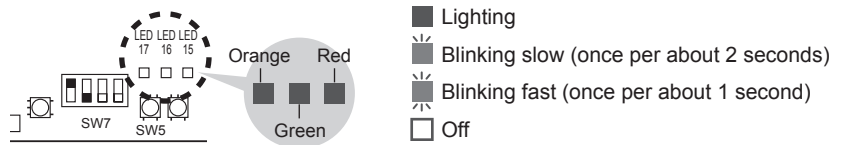


When the green LED (LED16) changes from blinking to lighting, the set up procedures are complete.



## Self-diagnostics table and detected contents

- Blinking or lighting pattern table (LED 15 to 17)
- Check the table below and Service Manual.



LED	Status and Solution	LED	Status and Solution
	<b>The cloud adaptor is in the maintenance mode.</b> (page 7) →After maintenance, change it to the operation mode.		<b>Memory card failure</b> →Turn the cloud adaptor off, and contact our sales/service outlet or your certified dealer for additional instructions.
	<b>Communication failure (Both Link 1 and 2)</b> →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Both Link 1 and 2)		<b>Updating the firmware.</b> →Wait until the firmware is completely updated.
	<b>Communication failure (Link 1 only)</b> →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Link 1 only)		<b>Initializing.</b> →Wait until the initialization is complete.
	<b>Communication failure (Link 2 only)</b> →Check if the inter-unit control wiring between the air conditioners and the cloud adaptor is correct. (Link 2 only)		<b>Communication is prohibited.</b> →When the maintenance work is done for air conditioners, press the communication prohibition button (SW5).
	<b>Network connection failure</b> →Restart the cloud adaptor in the maintenance mode, and check if the network settings are correct. (page 7)		<b>The authentication information cannot be updated.</b> →Contact our sales/service outlet or your certified dealer for additional instructions., and check if the authentication information has been registered.
	<b>Internal failure has occurred.</b> →Turn the cloud adaptor off, and contact our sales/service outlet or your certified dealer for additional instructions.		<b>The service has not started yet.</b> →If this blinking pattern is observed even after the scheduled service start date, contact our sales/service outlet or your certified dealer for additional instructions.

## 3 Attach the upper cover to the cloud adaptor. (page 3)

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