

Centralized
Control System
CZ-256ESMC2
Operation Manual



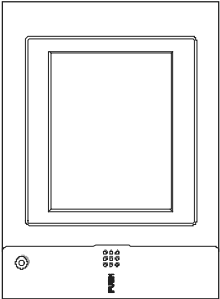
INTELLIGENT CONTROLLER

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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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.	

1 Important Safety Instructions

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 1 m 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.	

1 Important Safety Instructions

Precautions for Use

⚠ Warning	
Do not touch switches with wet hands Electric shock and damage to the system can result.  Prohibited	Protect the Intelligent Controller from water Damage to the system can result.  Prohibited
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  Turn off the power.	

⚠ Caution	
Do not drop the system or subject it to strong shocks Damage to the system can result.  Prohibited	Use only fuses with the correct capacity Use of pins or copper wire can result in fire and damage to the system.  Prohibited
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. 	

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1 Important Safety Instructions

⚠ Caution
Use the special supplied touch pen Touching the touch panel with any pen other than the supplied touch pen can damage the system.  Prohibited

Moving and Repair Precautions

⚠ Warning	
Do not disassemble or repair the system yourself 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.  Prohibited	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 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.  Prohibited	

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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 (m³, 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.

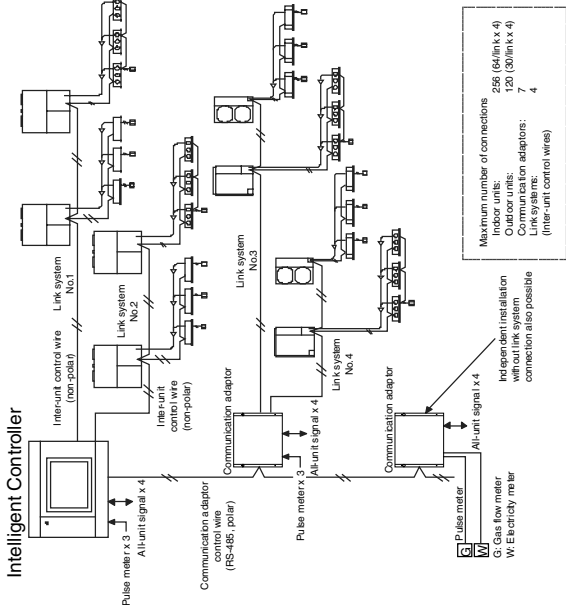
Terms and abbreviations used in this manual and in the system software

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 "9 Terms".

3 System Configuration

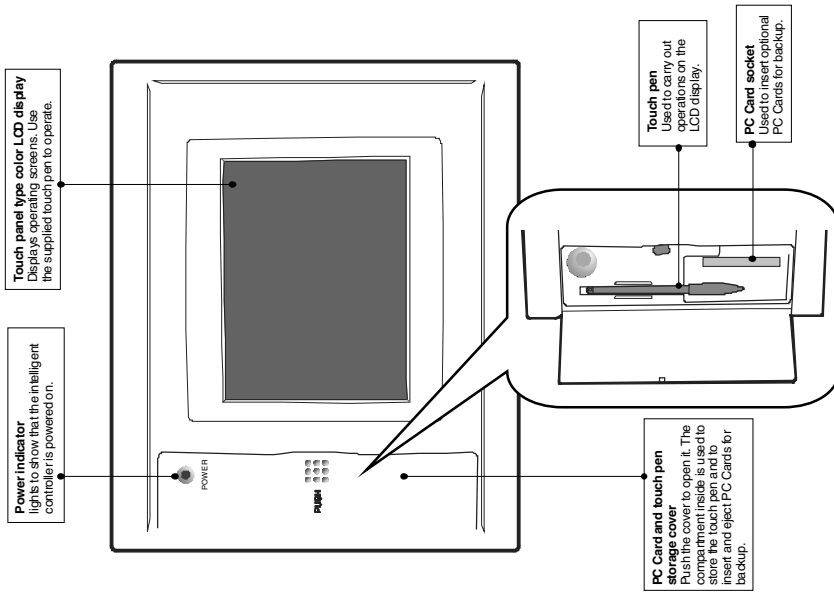
System Configuration Example



* When connecting link systems (inter-unit control wires), always connect beginning with LNK1 and LNK2 on the Intelligent Controller. Up to 4 link systems can be connected.

4 Names and Functions of Parts

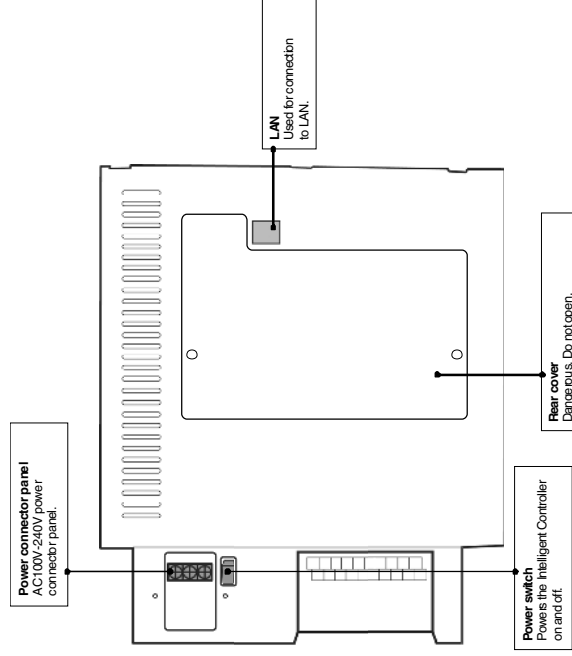
● Front Panel



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4 Names and Functions of Parts

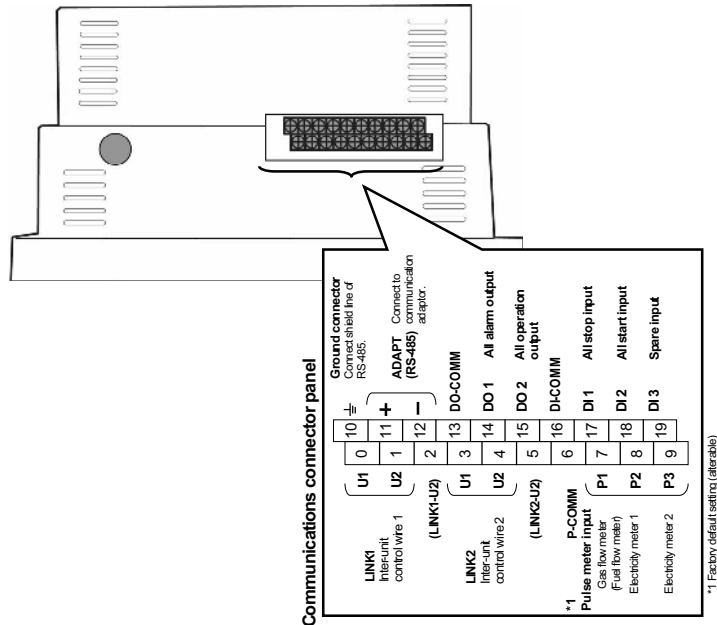
● Rear Panel



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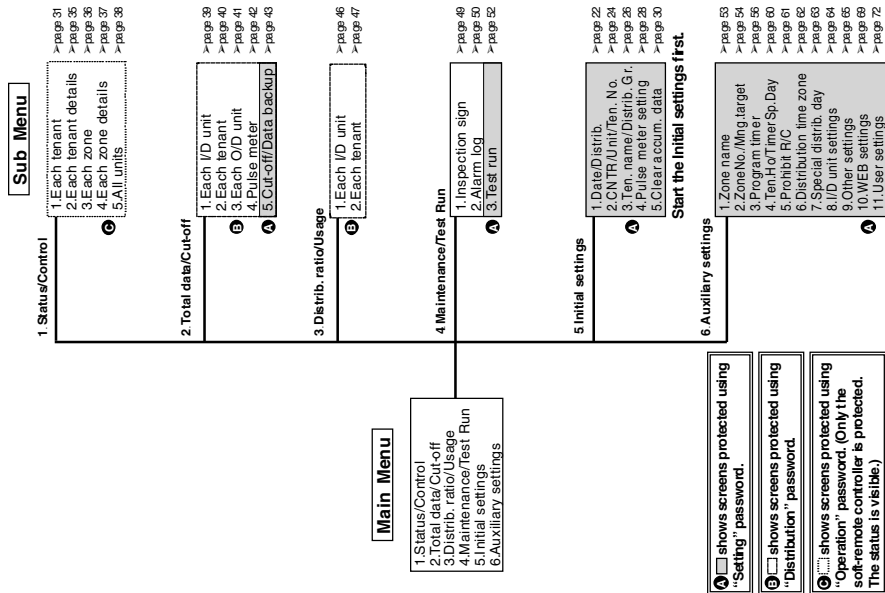
4 Names and Functions of Parts

- Right side panel



5 Quick Reference

Menu List



5 Quick Reference

Menu List

Listed are only typical functions.

How to operate air conditioners

- Operating all units collectively desired ⁶⁸ Page 34
- Operating units individually desired ⁶⁸ Page 32
- Operating units by tenant desired ⁶⁸ Page 31
- Operating units by zone desired ⁶⁸ Page 36
- Varying operation modes desired ⁶⁸ Page 32
- Varying setting temperatures desired ⁶⁸ Page 32
- Resetting filter signs desired ⁶⁸ Page 32
- Varying fan direction and speed ⁶⁸ Page 32
- Prohibiting remote controlling desired ⁶⁸ Page 32

Monitoring status of air conditioner operation

- Monitoring status of inspection signs desired ⁶⁸ Page 49
- Monitoring operation status collectively desired ⁶⁸ Page 38
- Checking the alarm history desired ⁶⁸ Page 50
- Checking current and past total calculation times desired ⁶⁸ Page 39
- Checking current and past distribution ratios and energy consumption desired ⁶⁸ Page 46

Setting the system

- Changing the unit names desired ⁶⁸ Page 24
- Changing tenant names desired ⁶⁸ Page 26
- Changing zone names desired ⁶⁸ Page 53
- Adjusting dates and times desired ⁶⁸ Page 22
- Changing type of pulse meter (power meter or gas meter) ⁶⁸ Page 28
- Setting timer operation desired ⁶⁸ Page 56
- Setting security displayed on the screen desired ⁶⁸ Page 66
- Stopping or sounding the buzzer ⁶⁸ Page 66

Others

- Backing up PC cards desired ⁶⁸ Page 45
- Powering off Intelligent Controllers desired ⁶⁸ Page 68
- Outputting distribution in progress desired ⁶⁸ Page 44
- Calibrating touch panel deviations ⁶⁸ 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 (Menu Settings), select the last item, **Power off**.

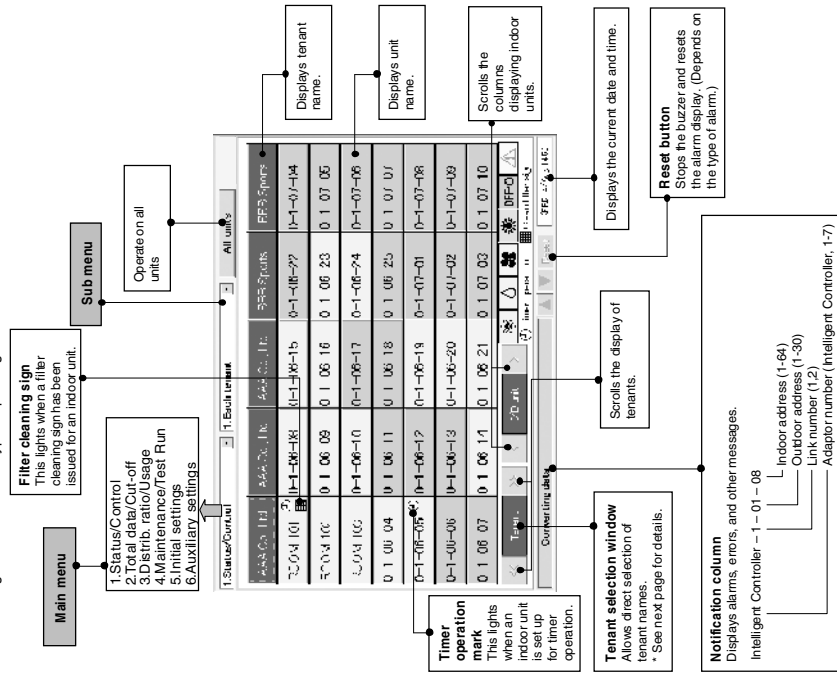
The message "Exit this program?" appears. Press the **OK** button.

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 Using the System

6.2.2 Operating screen example

The figure below shows a typical operating screen.

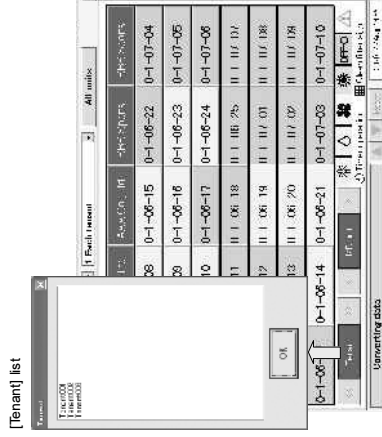


Filter cleaning signs are issued only as approximate guides. We recommend that filters be cleaned regularly, even if no sign has been issued.

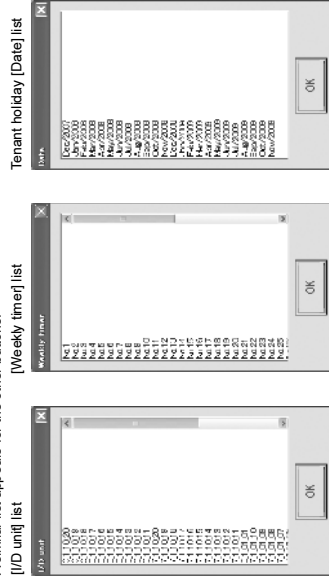
6 Using the System

* 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.



A similar list appears for the other buttons.



6 Using the System

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 Menu 5.1)
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 Menu 5.1)
Display items : Time zones in (Main Menu 5.1) and (Main Menu 5.2)
Menus : (Main Menu 5.1) and (Main Menu 5.2) (Main Menu 5.1) and (Main Menu 5.2)

- (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 Using the System

6.3.1 System setting flow

- : Settings are necessary.
- ▲: Settings are necessary depending on circumstances.
- X: 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.

START

↓
(Main Menu 5.1) Date/Distrib.

- (1) Setting the current date
- (2) Setting the cut-off date
- (3) Calculation target of power distribution
- (4) Setting the energy saving distribution
- (5) Language

↓

(Main Menu 5.2) CNTR/Unit/Ten.No.

- (1) Central addresses
- (2) Unit name
- (3) Tenant No.

↓

(Main Menu 5.3) Ten name/Distrib Gr.

- (1) Tenant name
- (2) Distribution group
- Product type
- Distribution "Loaded" or "Simple"

↓
(Main Menu 5.4) Pulse meter setting

- (1) Pulse meter type
- (2) Distribution group
- (3) Pulse unit value
- (4) Ice heat accumulation night power / system selection

Air conditioner operation only	Displaying distribution ratios (sample distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
○	○	○	○	○
▲ Note 1	○	○	○	○
X	○	○	○	○
X	X	▲ Note 2	X	▲ Note 2
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
▲ Note 3	○	○	○	○
▲ Note 3	○	○	○	○
X	○	○	○	○
X	▲ Note 4	▲ Note 5	▲ Note 4	▲ Note 5
X	X	○	X	○
X	X	X	▲	▲
X	X	X	○	○
X	X	X	○	○
X	X	X	X	○

6 Using the System

Air conditioner operation only	Displaying distribution ratios (simple distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
▲ <i>Note 1</i>	○	○	○	○
↓ Main Menu 1 Clear accum. data <i>Note 6</i>				
↓ Main Menu 1 Zone name <i>Note 7</i>	▲	▲	▲	▲
↓ Main Menu 1 ZoneNo./Mng.target <i>Note 7</i>				
(1) Zone No.	▲	▲	▲	▲
(2) Management target	▲	▲	▲	▲
↓ Main Menu 1 Program timer				
(1) Daily timer	▲	▲	▲	▲
(2) Weekly timer	▲	▲	▲	▲
↓ Main Menu 1 Ten.HoTimerSp.Day	▲	▲	▲	▲
↓ Main Menu 1 Prohibit R/C	▲	▲	▲	▲
↓ Main Menu 1 Distribution time zone	▲	▲	▲	▲
↓ Main Menu 1 Special distrib. day	▲	▲	▲	▲
↓ Main Menu 1 ID unit setting <i>Note 9</i>	▲	▲	▲	▲
(1) Indoor unit capacity	▲	▲	▲	▲
(2) Electric heater capacity <i>Note 10</i>	▲	▲	▲	▲
↓ Main Menu 1 Other settings	▲	▲	▲	▲
(1) Checking system configuration				
(2) Set/Clear password				
(3) No-communications mode <i>Note 11</i>				
(4) Buzzer				
(5) Initialization <i>Note 12</i>				
(6) Auto display off				
(7) Touch panel calibration <i>Note 15</i>				
(8) Power off				

6 Using the System

Air conditioner operation only	Displaying distribution ratios (simple distribution)	Displaying distribution ratios (loaded distribution)	Displaying energy usage (simple distribution)	Displaying energy usage (loaded distribution)
▲ <i>Note 1</i>	○	○	○	○
↓ Main Menu 1 WEB settings <i>Note 17</i>	▲	▲	▲	▲
↓ Main Menu 1 User settings <i>Note 17</i>	▲	▲	▲	▲
↓ Main Menu 1 Cut-off/Data backup <i>Note 6</i>				
(1) Manual cut-off	○	○	○	○
(2) Data backup <i>Note 13</i>	▲	▲	▲	▲
(3) Restore <i>Note 13 and 16</i>	▲	▲	▲	▲
↓ 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 (Manual/Save)" 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 controllers-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 necessary 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.

6 Using the System

MAIN SUB

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.

6 Using the System

MAIN SUB

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 Using the System

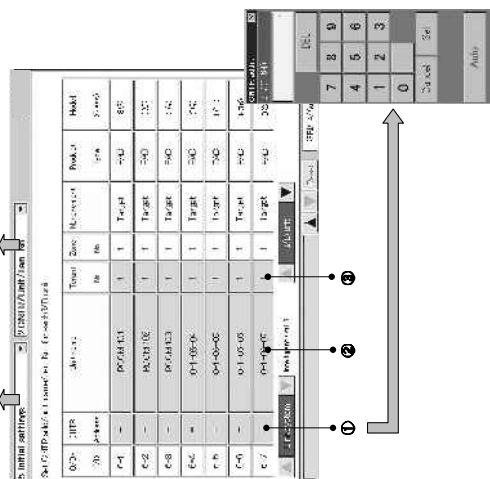
6.3.3 Setting central addresses, unit names and tenant numbers

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. Status/Control	1.Date/Distrib.
2.Total data/Cut-off	2.CNTR/Unit/ten. No.
3.Distrib. ratio/Usage	3.Ten. name/Distrib. Gr.
4.Maintenance/Test Run	4.Pulse meter setting
5.Initial settings	5.Clear accum. data
6.Auxiliary settings	

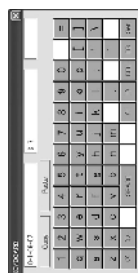


- ① When you touch a central address column, a screen will be displayed as shown on the right. Input a number 1 to 64 to set central address.
- When you touch [Auto], the central address will be automatically set.

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.

6 Using the System

- 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 "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 Using the System

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. Status Control
2. Manual cut-off
3. Distrib. ratio usage
4. Maintenance/Test Run
5. Initial settings
6. Auxiliary settings

1. Data/Distrib.
2. CONTR Unit/Ten. No.
3. Ten. name/Distrib. Gr.
4. Pulse meter setting
5. Clear accum. data

5. Initial settings

3. Ten. name/Distrib. Gr.

Set: tenant name and distribution Gr.

No.	Tenant name	Distrib. Gr.	Ten. name	Ten. no.
1	Adia	100ACD	Tenant00E	1
2	BLU	200ACD	Tenant00B	2
3	PRC	300ACD	Tenant01A	3
4	Tenant00A	-	Tenant01A	4
5	100ACD	-	Tenant01A	5
6	Tenant00E	-	Tenant01A	6
7	Tenant007	-	Tenant01A	7

Load type: 100 - 200

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.

6 Using the System

- 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 [Manual 5.1](#))

* 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.

- 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.

- Specify which distribution method, "Simple" or "Load," to apply to the selected distribution group.
- 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 product 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.

6 Using the System

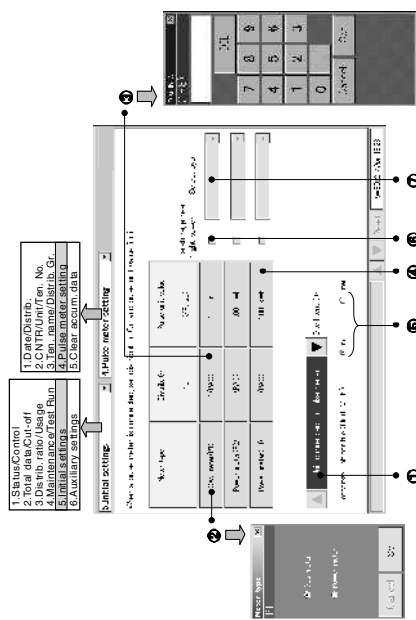
Menu Sub Menu

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 [Menu Sub Menu](#)).
- ④ Touch the pulse unit amount column and enter the amount of electricity (kWh) or gas (m³) per pulse.
- ⑤ If the product type is HOT Multi, select the unit for fuel metering.

6 Using the System

Menu Sub Menu

- 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 Using the System

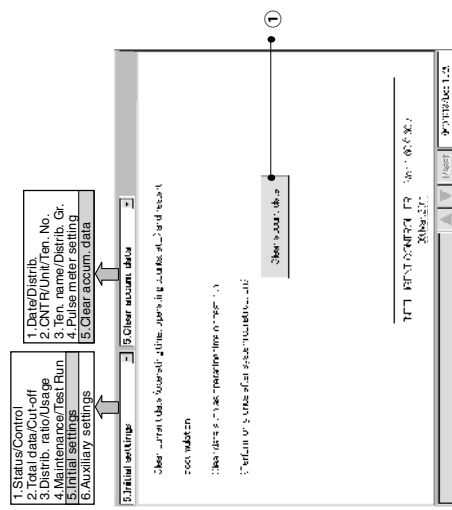
Main Menu

6.3.6 Clear accumulation data

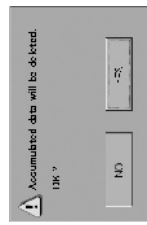
Use this screen to erase total data after test runs, and to restart total calculations for operating time, operating counts, and so on.

Procedure

Select [Initial settings] in the main menu and [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.

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6 Using the System

Main Menu

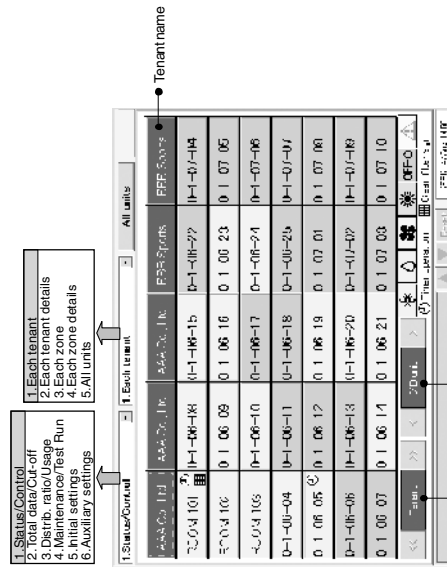
6.4 Status Monitoring and Operation Screens

6.4.1 Displaying general information by tenant

Use this screen to display information about all connected indoor units by tenant.

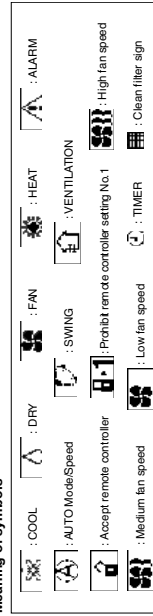
Procedure

Select [Status/Control] in the main menu and [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 InterfaceAdaptor is used, the color becomes light purple during the ON operation.

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6 Using the System

Menu / SUB

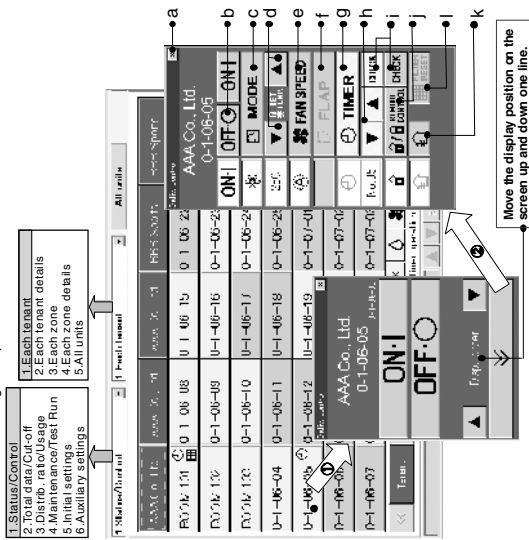
6.4.1.1 Operating units individually

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.

- When you touch the unit that you want to set, a remote control window for individual on/off operations appears.
- When you touch  a remote control window appears. This window allows you to make detailed settings for operations on individual units.



- Closes the remote control window.
- Sets to either Start or Stop.
- Sets the operating mode.
- Set the temperature.
- Sets the fan speed.
- Sets the fan direction. This setting is applied to the entire group. You cannot change the sub unit setting independently.
- Sets and cancels timer operation.
- Sets timer number from No. 1 to No. 50.
- 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.

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EN

6 Using the System

Menu / SUB

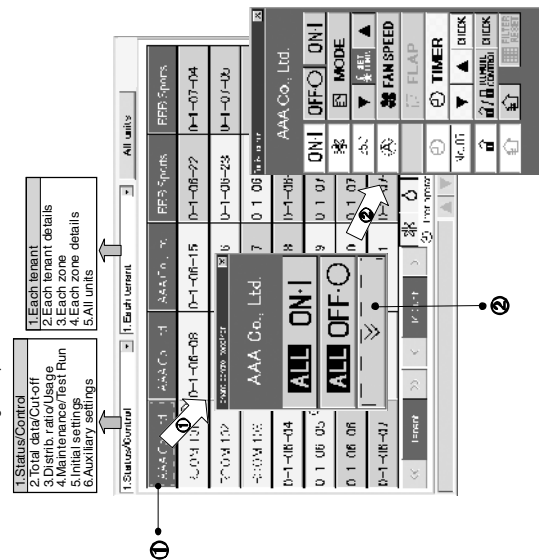
6.4.1.2 Operating all units by tenant

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.

- 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.
- When you touch  a remote control window appears. This window allows you to make detailed settings for operations on all units of the tenant.



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6 Using the System

Menu / SUB 1

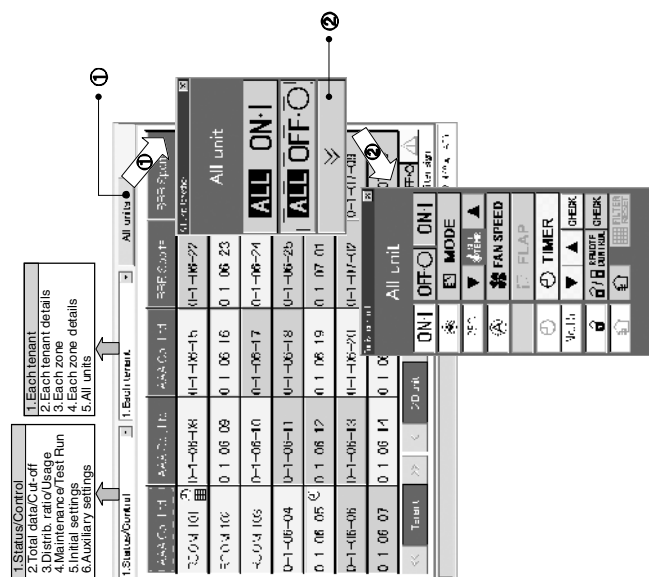
6.4.1.3 Operating all connected units

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.



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6 Using the System

Menu / SUB 2

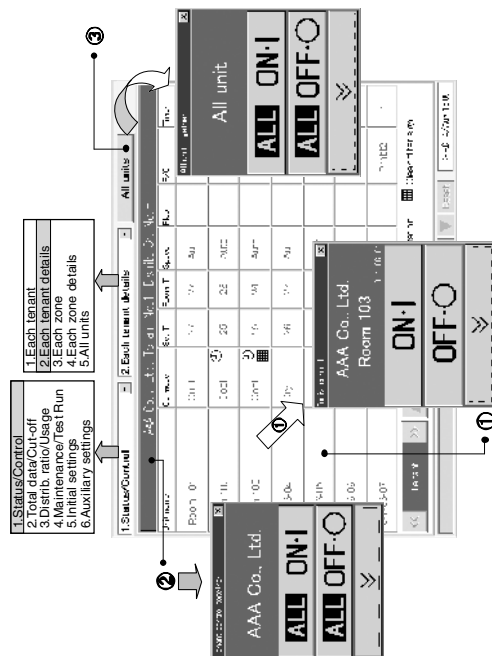
6.4.2 Displaying detailed information by tenant

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.



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6 Using the System



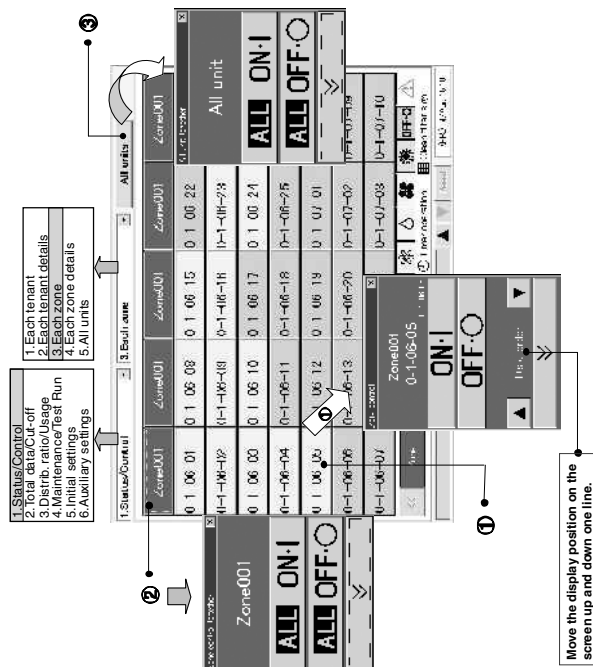
6.4.3 Displaying general information by zone

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.



Move the display position on the screen up and down one line.

The first twelve characters are displayed for zone names and unit names.

6 Using the System



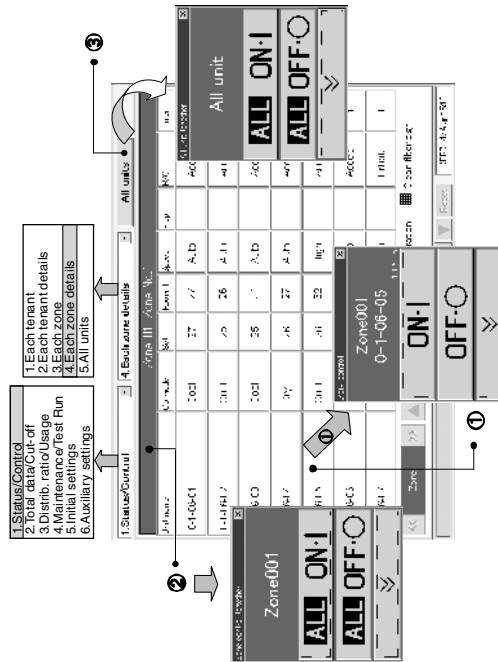
6.4.4 Displaying detailed information by zone

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 Using the System

6.4.5 Displaying and operating all indoor units

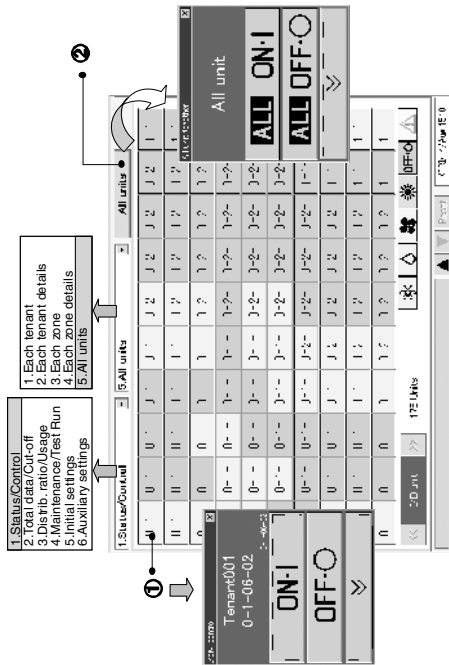
Use this screen to display information about the state of all indoor units and to operate all indoor units at once.

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 Using the System

6.5 Total Data and Manual Cut-Off Processing

6.5.1 Displaying total data by indoor unit

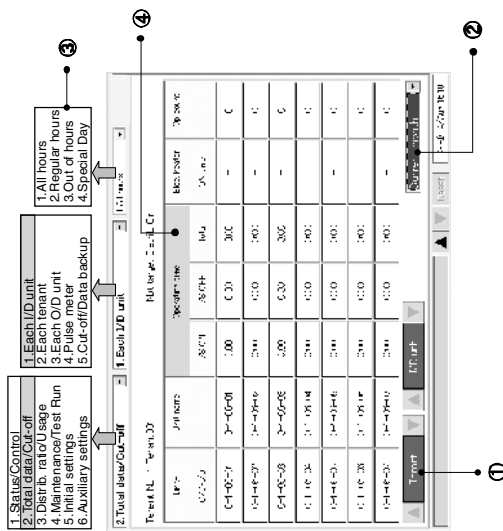
Use this screen to check total data such as the operating time and the number of operations for each indoor unit.

Procedure

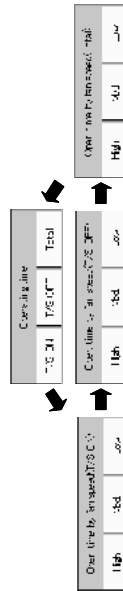
Select [2>Total data/Cut-off] in the main menu and [1:Each I/D unit] in the sub menu.

- 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 Using the System

MANUAL 2

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.
- Select the distribution group to display.
- Select the time zone to display.

* This button will be invalid when setting the mode at "No Distrib.": (see [MAN 5 Sub 1])

- If you want to display operating time by fan speed, touch [Operating time]. The display changes as shown below.

6 Using the System

MANUAL 2

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.
- Select either the current or the past (maximum 24 months) cut-off data.
- Select the connection destination link system to display.

* This button will be invalid when setting the mode at "No Distrib.": (see [MAN 5 Sub 1])

- 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.
- When the number 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 for "Running time after oil exchange (Hour)" and "Power output (kWh)". (The values do not reset to "0" even after cut-off processing.)

6 Using the System

Manual Setup

6.5.4 Displaying pulse meter total data

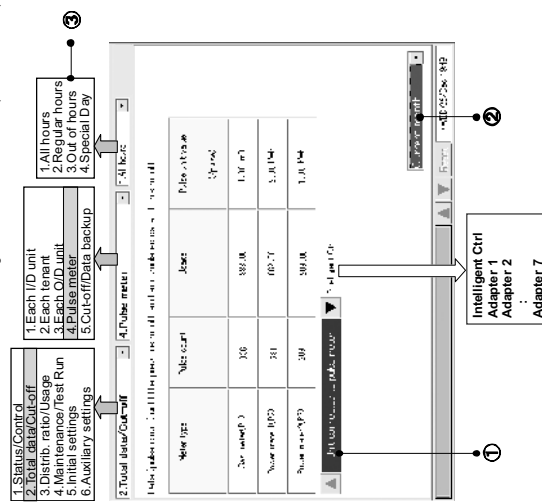
Use this screen to check the pulse count and other such cumulative data for pulse meters.

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 [\[Man 5.5.1\]](#))



If the product type is HOT Multi, unit amount will be displayed in m³ or liters. The meter type will be "fuel metering".

6 Using the System

Manual Setup

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.

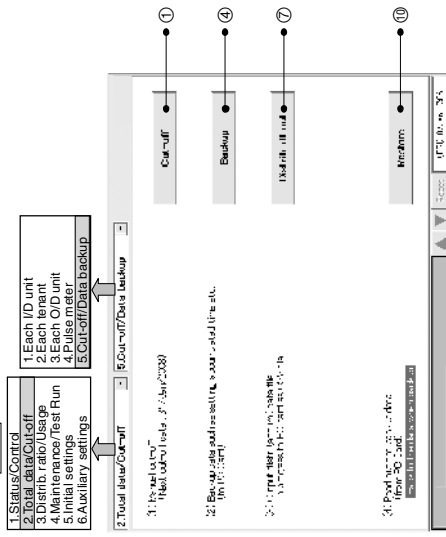
6.5.5.1 Manual cut-off processing

Proceed as follows to manually perform cut-off processing.

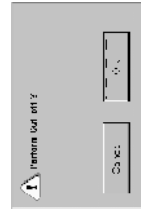
Procedure

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 Using the System



6.5.5.2 Saving data

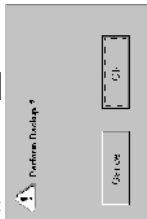
Proceed as follows to back up setting data and totals data to optional PC Cards.

Procedure

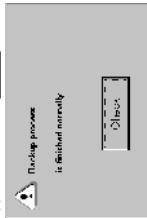
Complete the cut-off processing described in "6.5.5.1 Manual cut-off processing" and then execute the following backup procedure.

- ③ Insert a PC card and touch the **[Backup]** button.

- ④ When a window like the one shown below appears, touch the **[OK]** button.



- ⑤ 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).

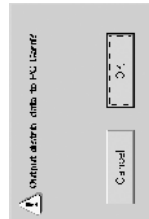
6.5.5.3 Outputting distribution data in progress

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. data out]** button.

- ⑧ When a screen like the one shown below appears, touch the **[OK]** button.

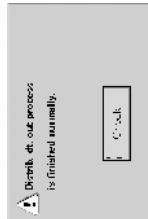


As data output by pressing the **[Distrib. data out]** button are strictly in progress, it is impossible to apply these data for cut-off processing for the tenant who leaves halfway. (Manual cut-off processing is necessary).

6 Using the System



- ⑥ 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.

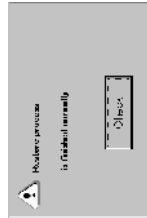
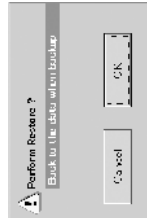
6.5.5.4 Restoring data

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.



* 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 takes 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 Using the System

Main Menu

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 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.
- 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.

Tenant	Unit	Unit name	I/D type	I/D area	I/D volume	I/D ratio	I/D usage
1-1	1-1-01-01	101	1240	11737	15.14	1.77	2.08
	1-1-01-02	102	1240	11737	15.14	1.77	2.08
	1-1-01-03	103	1240	11737	15.14	1.77	2.08
	1-1-01-04	104	1240	11737	15.14	1.77	2.08
1-2	1-2-01-01	201	1240	11737	15.14	1.77	2.08
	1-2-01-02	202	1240	11737	15.14	1.77	2.08
	1-2-01-03	203	1240	11737	15.14	1.77	2.08
	1-2-01-04	204	1240	11737	15.14	1.77	2.08
1-3	1-3-01-01	301	1240	11737	15.14	1.77	2.08
	1-3-01-02	302	1240	11737	15.14	1.77	2.08
	1-3-01-03	303	1240	11737	15.14	1.77	2.08
	1-3-01-04	304	1240	11737	15.14	1.77	2.08
1-4	1-4-01-01	401	1240	11737	15.14	1.77	2.08
	1-4-01-02	402	1240	11737	15.14	1.77	2.08
	1-4-01-03	403	1240	11737	15.14	1.77	2.08
	1-4-01-04	404	1240	11737	15.14	1.77	2.08

- If the product type is HOT Multi, unit amount will be displayed in m³ 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 Using the System

Main Menu

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 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.
- 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.

Tenant	Unit	Unit name	I/D type	I/D area	I/D volume	I/D ratio	I/D usage
1	1-1-01-01	101	1240	11737	15.14	1.77	2.08
	1-1-01-02	102	1240	11737	15.14	1.77	2.08
	1-1-01-03	103	1240	11737	15.14	1.77	2.08
	1-1-01-04	104	1240	11737	15.14	1.77	2.08
2	2-1-01-01	201	1240	11737	15.14	1.77	2.08
	2-1-01-02	202	1240	11737	15.14	1.77	2.08
	2-1-01-03	203	1240	11737	15.14	1.77	2.08
	2-1-01-04	204	1240	11737	15.14	1.77	2.08
3	3-1-01-01	301	1240	11737	15.14	1.77	2.08
	3-1-01-02	302	1240	11737	15.14	1.77	2.08
	3-1-01-03	303	1240	11737	15.14	1.77	2.08
	3-1-01-04	304	1240	11737	15.14	1.77	2.08
4	4-1-01-01	401	1240	11737	15.14	1.77	2.08
	4-1-01-02	402	1240	11737	15.14	1.77	2.08
	4-1-01-03	403	1240	11737	15.14	1.77	2.08
	4-1-01-04	404	1240	11737	15.14	1.77	2.08

- If the product type is HOT Multi, unit amount will be displayed in m³ 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 Using the System

Manual Sub 1

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".

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6 Using the System

Manual Sub 1

6.7 Maintenance and Test Runs

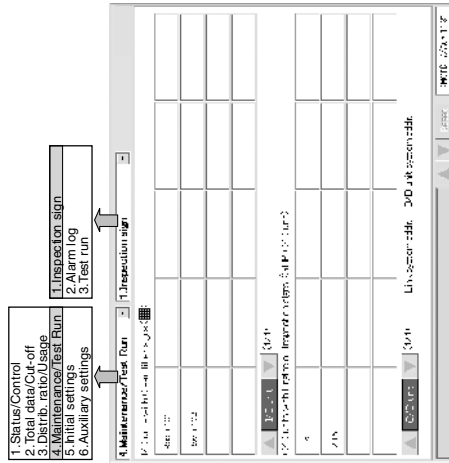
6.7.1 Checking inspection signs

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.

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Main 4 Sub 2

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6 Using the System

Manual Setup

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 Status/Control

2 Total data/Out.off

3 Distrib. ratio/Usage

4 Maintenance/Test Run

5 Initial settings

6 Auxiliary settings

6 Auxiliary settings

2 ZoneNo./Mng.target

Unit No.	Unit Name	Zone No.	Management Target	Zone No.	Management Target
1	Unit 1	1	Target	1	Target
2	Unit 2	2	Target	2	Target
3	Unit 3	3	Target	3	Target
4	Unit 4	4	Target	4	Target
5	Unit 5	5	Target	5	Target
6	Unit 6	6	Target	6	Target
7	Unit 7	7	Target	7	Target
8	Unit 8	8	Target	8	Target
9	Unit 9	9	Target	9	Target
10	Unit 10	10	Target	10	Target
11	Unit 11	11	Target	11	Target
12	Unit 12	12	Target	12	Target

6 Using the System

Manual Setup

- Awindrow 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.



- Awindrow 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 Manual Setup and Manual Setup), totals calculation, and distribution.

6 Using the System



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. Zone name

2. Zone No./Mtg target

3. Program timer

4. Ten Hx7 Time/Sp. Day

5. Distribution time zone

6. Distribution time zone

7. Special distrib. day

8. I/D unit settings

9. Other settings

10. Web settings

11. User settings

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.

6 Using the System



- 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.

Programs the timer to start the unit.

Confirms the setting.

⑦ Touch the Op mode column and set in the following window.

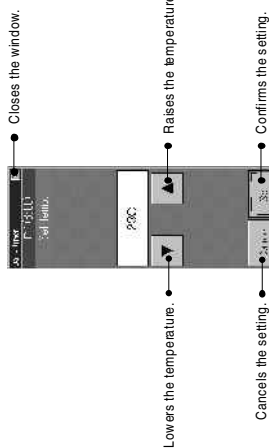
Confirms the setting.

Sets the operating mode.
Select from among Heat, Cool, Fan, Dry, and Auto.

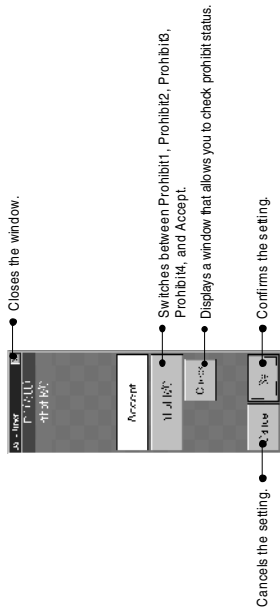
Confirms the setting.

6 Using the System

⑧ Touch the Set temp. column and set in the following window.



⑨ Touch the Pribit 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 limit is set are ignored.

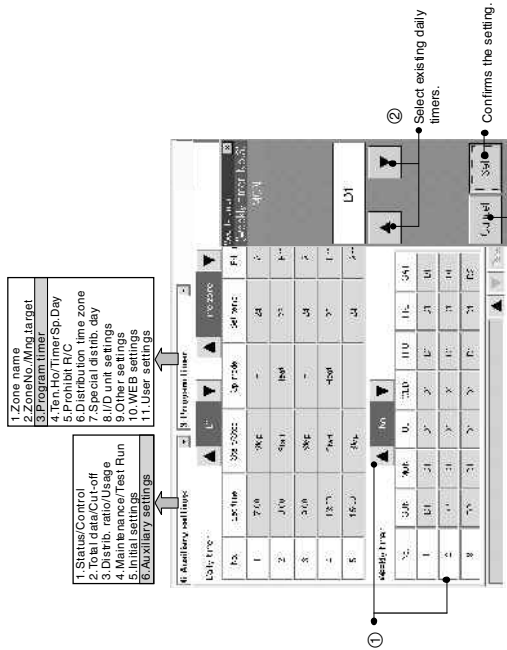
6 Using the System

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 [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 Using the System

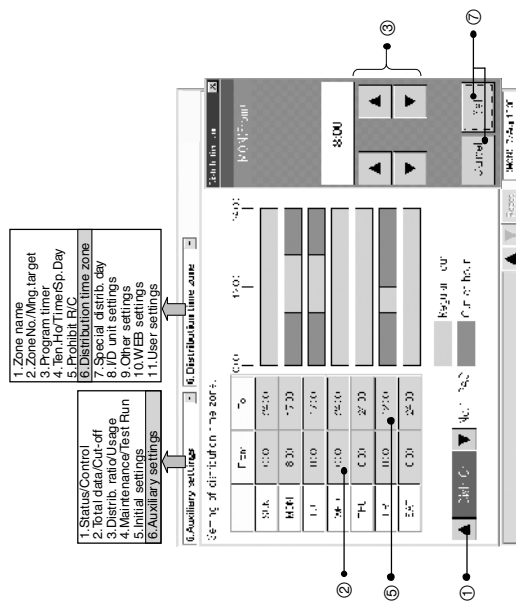
6.8.6 Setting distribution time zones

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 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 Using the System

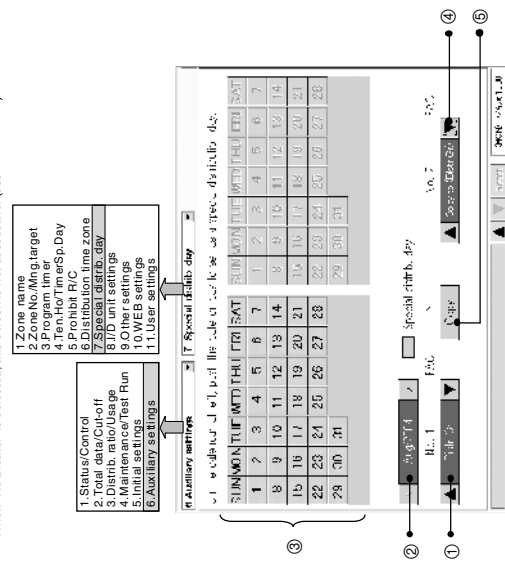
6.8.7 Setting special distribution days

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 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.

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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 Sub 1](#))"

- ① Select the link system to display.

Unit No.	Unit Name	Capacity	Capacity
1	1st	1.0	1.0
2	2nd	1.0	1.0
3	3rd	1.0	1.0
4	4th	1.0	1.0
5	5th	1.0	1.0
6	6th	1.0	1.0
7	7th	1.0	1.0
8	8th	1.0	1.0

- 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.
- ④ 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.
- ⑤ 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.

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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.

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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

- ③ 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

- ③ Initialization erases all system data, including setting data and totals data. A window like the following appears when you touch the [Initialization] button.



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 Using the System

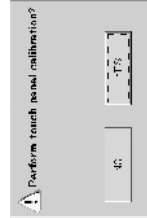
6.8.9.6 LCD auto off settings

- ③ 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

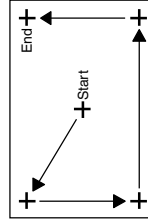
Humidity and temperature around the Intelligent Controller and its secular change may affect the point on the touch panel screen to deviate after use over a long period of time. In such a case, Calibrate the position.

- 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 disappears 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.

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- ① Input the IP address of the primary and secondary DNS servers as necessary.
- ② Input the IP address of the primary and secondary WINS servers as necessary.
- ③ 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.)
- ④ 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 ② to ④, the "Network settings have changed. Restart the unit." message appears and the Intelligent Controller restarts automatically.
 - * If you change the settings for items ① and ③, 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 (Manual icon), 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: Port number (25)
2: Encryption type (None)
3: Authenticate when sending mail checkbox
4: SMTP authentication checkbox
5: Auth. method (LOGIN)
6: Host name
7: Password
8: Receive server settings button

- 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 ③ to ⑥ below are valid only when you have selected this check box.

6 Using the System



- 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.
- 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: User ID
2: Password
3: Port number (110)
4: Use SSL protected connection checkbox

- 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.

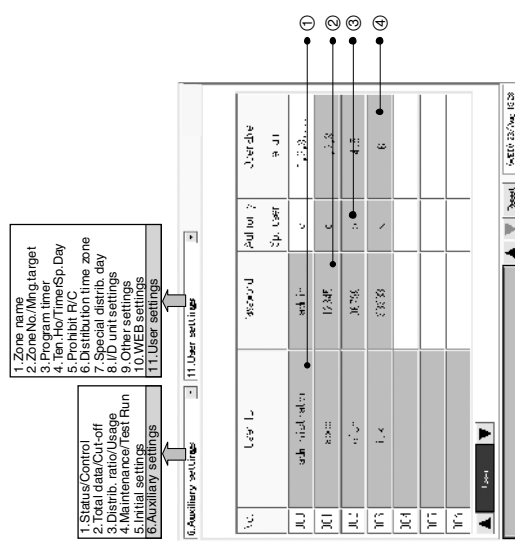
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6.8.11 User settings

The user ID, password, authority, and operatable tenant can be set.

Procedure

Select **[6.Auxiliary settings]** in the main menu and **[11.User settings]** in the sub menu.



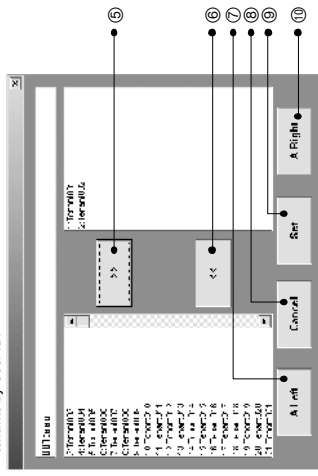
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For items ① and ②, touch each input box and a soft keyboard will appear.

- 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 ①, and "General user" if authority is set to X. Depending on the user, the functions available from the Web differ as follows.

Tenants affected	Administrator	Special user	General user
Prohibit remote control settings	○	○	○
Screen 3-3 Download	○	○	○
Screen 4-2 Alarm log	○	○	○
Screen 4-4 Sent mail log	○	○	○
Screen 6-3 Program timer	○	○	○
Screen 6-4 Ten./Ho/TimeSp./Day	○	○	○
Screen 6-5 Prohibit R/C	○	○	○
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 Using the System

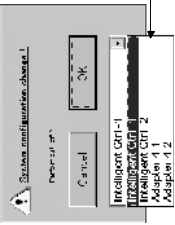
6.9 System Configuration Changes

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.



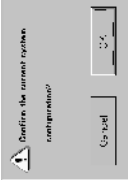
- ① "Check system Configuration" was made after removing the outdoor and indoor units.
- ② "Check system Configuration" was made after starting the unit and found that it was different from the previous one in configuration.
* "Configuration" includes not only the number of units and address but also indoor unit capacity, main/sub unit setting, and presence/absence of an electric heater.

Here you can see the link system where the configuration has been changed.

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**.

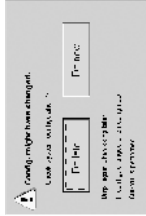
If the system has changed because of a mistake, return the system to its former state and then touch **Cancel**. You should also touch **Cancel** here if you mistakenly selected **Cancel** in the previous message, even though the system cut-off processing should have been done. This returns you to the 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**.

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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/absence 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.

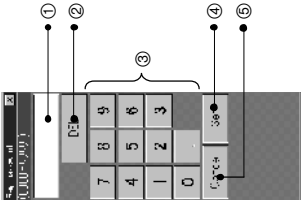
Caution
Imprudent cut-off processing and configuration fixing or neglecting them when necessary may cause a significant inconvenience in control.
When this alarm message is displayed, do not operate the system and contact the store where you purchased it or its service agency.
This message may be displayed 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.



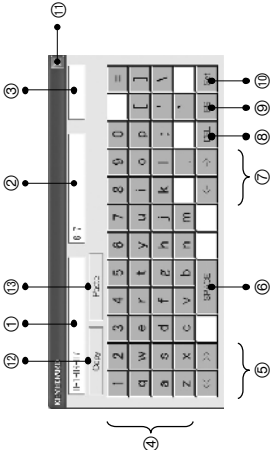
- ① Input field
Displays the number being entered.
- ② DEL button
Deletes digits in the number, from the right.
- ③ Numeric keys
Add the digit shown on the key face to the number in the input field.
- ④ Set button
Confirms the number in the input field.
- ⑤ Cancel button
Clears the numbers entered.

7 Entering Text and Numbers

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

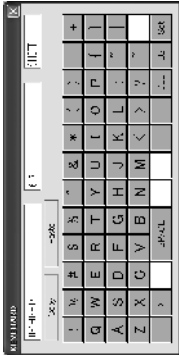


- ① Input field
Displays the text being entered.
- ② Information field
Displays information about the target of the operation (for example, the tenant number when a tenant name is being entered).
- ③ Input mode
Displays the current input mode (type of characters).
- ④ Character input buttons
Input characters.
- 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

- Ⓢ DEL button
Deletes the character to the right of the input cursor.
- Ⓢ BS button
Deletes the character to the left of the input cursor.
- Ⓢ Set button
Enables the entered character string.
- Ⓢ Cbse button
Closes the keyboard window.
- Ⓢ 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.
- Ⓢ 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 connect or 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 (m³, kWh, liters) must be defined by Menu 8.5.4.4 Pulse meter setting".
See "6.3.5 Making pulse meter settings".

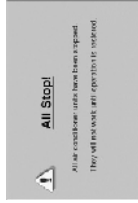
8 Connection of External Signals

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 Connection of External Signals

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 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's 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.

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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 **SHH**: T/S ON accumulated time for indoor unit i (High fan speed)
- ⑤ **SH**: T/S ON accumulated time for indoor unit i (Medium fan speed)
- ⑥ **SL**: T/S ON accumulated time for indoor unit i (Low fan speed)
- ⑦ **Pt**: 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:

$$TEI = (RHHI \times aHH + RHI \times aH + RLI \times aL) \times Pt \quad \text{Formula 1}$$

$$TGI = (SHHI \times aHH + SHI \times aH + SLI \times aL) \times Pt \quad \text{Formula 2}$$

• For PAC:

$$TEI = \{ (RHHI \times aHH + RHI \times aH + RLI \times aL) / k + (SHHI \times aHH + SHI \times aH + SLI \times aL) \} \times Pt \quad \text{Formula 3}$$

$$TGI = 0$$

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:

$$TEI = (SHHI \times aHH + SHI \times aH + SLI \times aL) \times Pt$$

$$TGI = (SHHI \times aHH + SHI \times aH + SLI \times aL) \times Pt$$

• For PAC:

$$TEI = (SHHI \times aHH + SHI \times aH + SLI \times aL) \times Pt$$

$$TGI = 0$$



- 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 "6.32 Setting the date, cut-off date, and distribution ratio calculation method")

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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.

$$\text{TOTALe} = \text{TE1} + \text{TE2} + \dots + \text{TEm}$$
$$\text{TOTALg} = \text{TG1} + \text{TG2} + \dots + \text{TGm}$$

Calculate **electricity/gas usage distribution ratio of indoor units**

Let "REj" be the electricity usage distribution ratio,
and let "RGj" be the gas usage distribution ratio.

$$\text{REj} (\%) = \text{TEj} / \text{TOTALe} \times 100$$
$$\text{RGj} (\%) = \text{TGj} / \text{TOTALg} \times 100$$

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.

$$\text{NEj} (\%) = \text{RE1} + \text{RE2} + \dots + \text{REn}$$
$$\text{NGj} (\%) = \text{RG1} + \text{RG2} + \dots + \text{RGn}$$

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	
	Electricity	Gas	①	②
GHP	Electricity	Gas	②	②
PAC	Electricity	Gas	③	②
HOT	Electricity	Gas	—	—
	Electricity	Gas	③	②

See "About distribution ratios in 12 Supplementary Information-2".

10 Calculating air conditioner distribution

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 (m³)

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-2".

12 Supplementary Information-2

- **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 (화면-설정).
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 vary 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.

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EN

12 Supplementary Information-2

- **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.

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12 Supplementary Information-2

- 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 [Unit Setup 1](#) to [Unit Setup 9](#), 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.)
 - ③ 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 [Unit Setup 9](#))
 - ③ 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.

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. Timer operation does not work.	- Is the power cord connected? - Is the power switch set to on? - Is timer operation set to the target unit? Operation of a selected timer does not start if the setting is not set to 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. Backing up to a PC Card does not work.	- 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. - 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. (- 6.8.3.7. 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 Unit Setup 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

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

3 Wiring

Always shut off the power supply (be safer) before installing or uninstalling.

Connection terminals

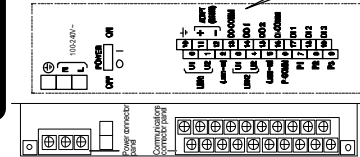
(1) Power supply connection

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 (see figure 1).
Connect an earth ground line to the ⓓ power supply terminal.

Firmly secure the power lines using the supplied cable tie.

(2) Signal connection

- Connect indoor and outdoor signal lines using 0.5 - 2.0 mm² shielded 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 lines.
- When connecting the power supply lines, the minimum distance between the power supply lines and the signal lines should be 30 cm (separate them, if cable is 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).

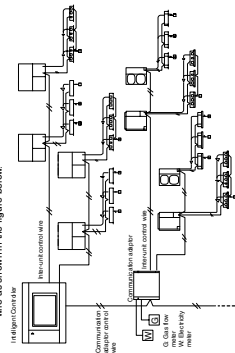


Terminal names and uses

- 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)
- D1 : All start input
- D2 : reserved
- DO1 : AI alarm output
- DO2 : AI operation output

Basic wiring diagram

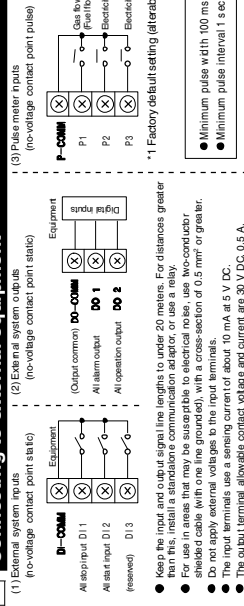
Wire up the communication adaptor control wire and inter-unit control wire as shown in the figure below.



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

16 Installation (Electric) and Service Instructions

4 Connecting to external equipment

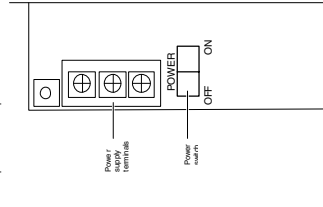


*1 Factory default setting (alterable)

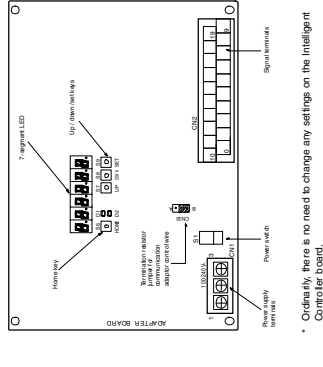
- Minimum pulse width 100 msec
- Minimum pulse interval 1 sec

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



- * Originally, there is no need to change any settings on the Intelligent Controller board.

7 Verify the system configuration, make necessary settings

- Turn on power to all air conditioner units.
- Turn on power to the Intelligent Controller.
- Set the date and time on the Intelligent Controller and verify the system configuration.
- Following the display on the Intelligent Controller, verify the number of units connected.
- Perform the necessary settings. **Be sure to set the 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, showing the explanations given in the Operation Manual.