LG
Life's Good

ENGLISH

INSTALL/OWNER'S MANUAL

POWER INDICATOR

Please read this manual carefully before operating your set and retain it for future reference.

P/NO : 3828A20467L

www.lg.com

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them on a label on the side of each unit.

Dealer's name :

Date of purchase :

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product

⚠ WARNING

It can result in serious injury or death when the directions are ignored

⚠ CAUTION

It can result in minor injury or product damage when the directions are ignored

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

⚠ WARNING

Installation

- Be sure to request to the service center or installation specialty store when installing products. It will cause fire or electric shock or explosion or injury.
- Request to the service center or installation specialty store when reinstalling the installed product. It will cause fire or electric shock or explosion or injury.
- Do not disassemble, fix, and modify products randomly. It will cause fire or electric shock.

In-use

- Do not place flammable stuffs close to the product. It will cause fire.
- Do not allow water to run into the product. It will cause electric shock or breakdown.
- Do not give the shock to the product. It will cause breakdown when giving the shock to the product.
- Request to the service center or installation specialty store when the product becomes wet. It will cause fire or electric shock.
- Do not give the shock using sharp and pointed objects. It will cause breakdown by damaging parts.

⚠ CAUTION

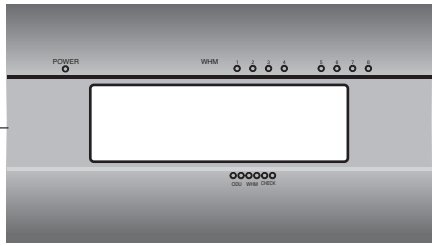
In-use

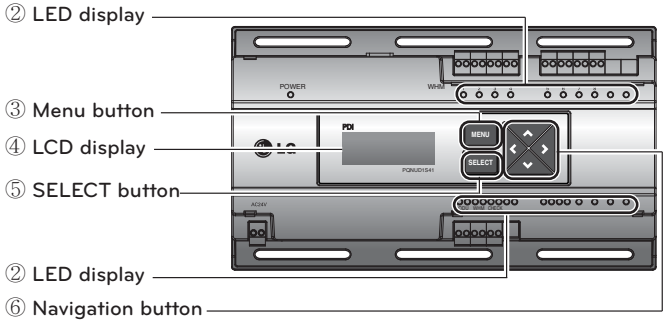
- Do not clean using the powerful detergent like solvent but use soft cloths.
  It will cause fire or product deformation.
- Do not press the screen using powerful pressure or select two buttons.
  It will cause product breakdown or malfunction.
- Do not touch or pull the lead wire with wet hands.
  It will cause product breakdown or electric shock.

TABLE OF CONTENTS

NAME OF EACH PART

Name of each part





① Front cover

② **LED display** Displays current status of power indicator

③ **Menu button** Use for checking initial setting and electric power

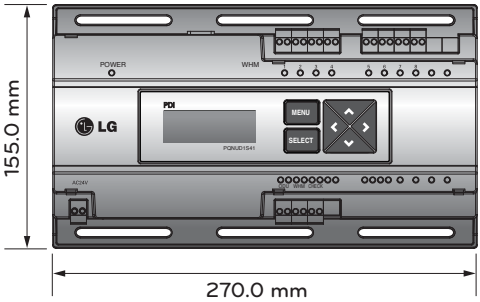
④ **LCD display** Displays setting information and power usage

⑤ **SELECT button** Use for initial setting

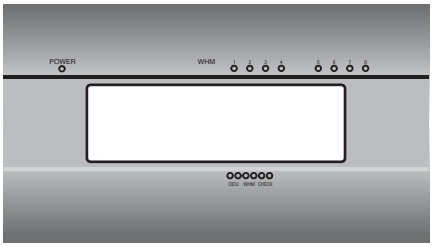
⑥ **Navigation button** Use for checking initial setting and electric power

COMPONENTS

Components

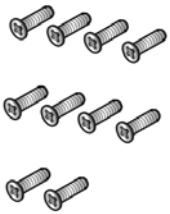


Power indicator



Front cover

Manual



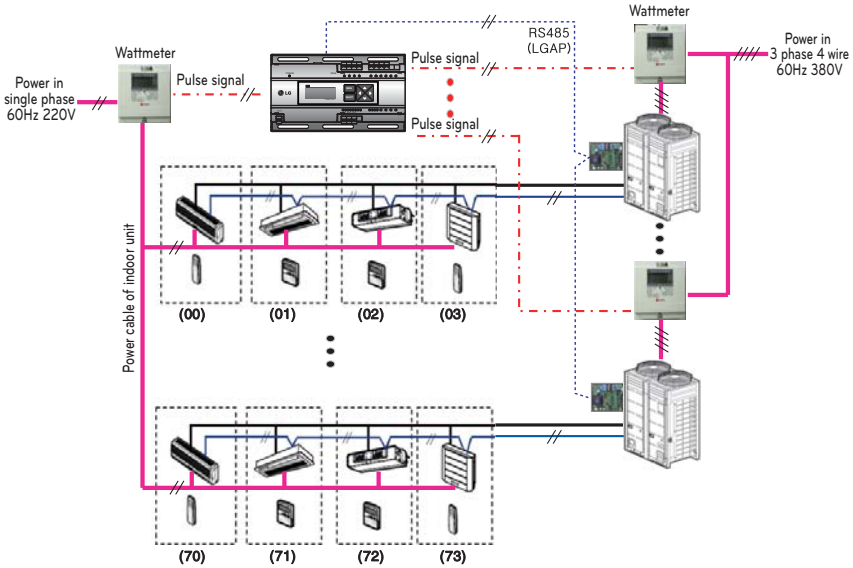
10 screws (M4X12mm)

INSTALLATION METHOD

Diagram of overall product configuration

When interlocked to pulse type wattmeter

• Independent operation of power indicator



: Power cable for 3 phase 4 wire

: Power cable for single phase

: Communication cable (2 wire shielded cable): Between outdoor unit and central controller

: Communication cable (2 wire shielded cable): Between indoor unit and outdoor unit

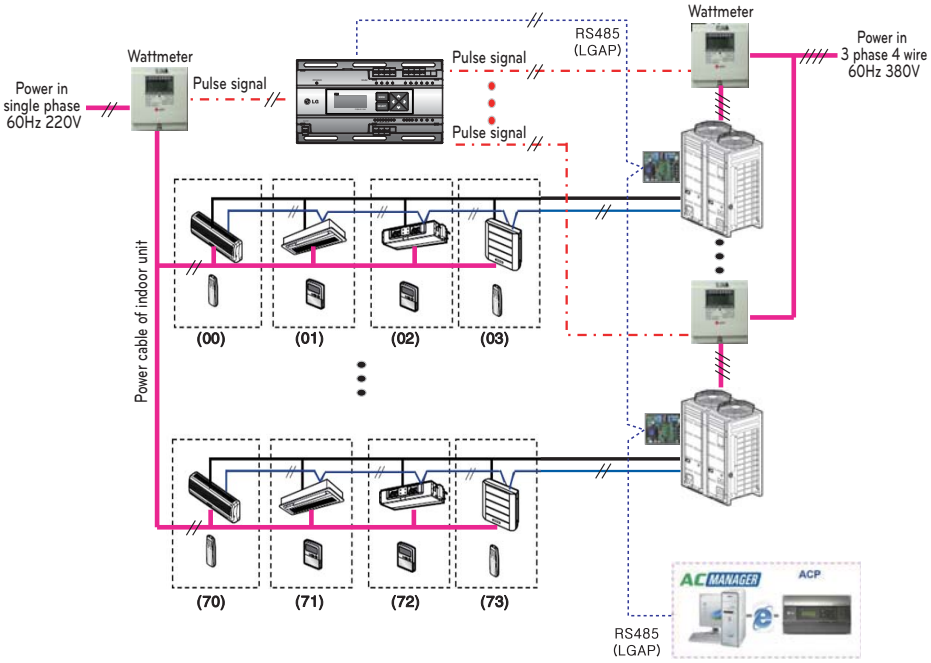
: Pulse signal wire

: Refrigerant pipe

CAUTION

- Depending on the electric power, use the wattmeter for remote reading by sending the pulse signal.
- Wattmeter requirement
  - Pulse width : 50~400msec
  - Minimum sink current capability from Power indicator : 3mA
- Use the wattmeter of 1W/pulse, 2W/pulse, 4W/pulse, 6W/pulse, 8W/pulse, 10W/pulse and PT/CT (1-50,000).
- When setting the wattmeter, set it to Master Mode.
- Maximum of 8 wattmeters can be installed.
- The distance between power indicator and wattmeter should be shorter than 10m in normal circumstance.
- When electrical or mechanical noise is expected, more shorter wiring is needed.

• Interlocked operation with central controller



//////	: Power cable for 3 phase 4 wire
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- Wattmeter requirement
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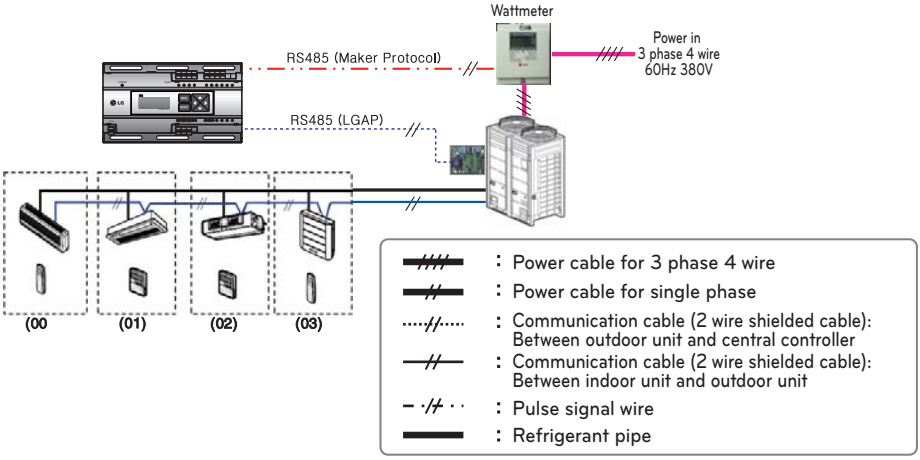
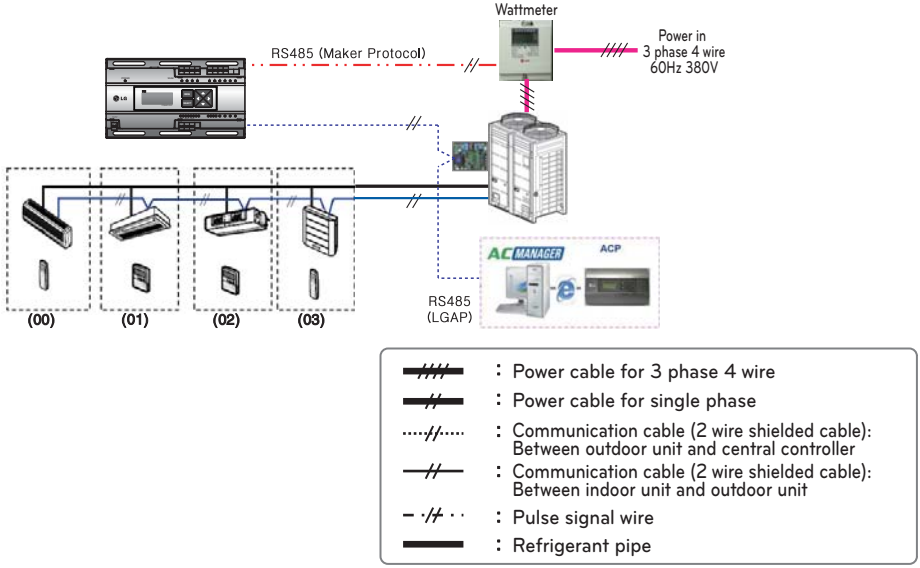
- Use the wattmeter of 1W/pulse, 2W/pulse, 4W/pulse, 6W/pulse, 8W/pulse, 10W/pulse and PT/CT (1-50,000).
- When setting the wattmeter, set it to Slave Mode.
- Maximum of 8 wattmeters can be installed.
- The distance between power indicator and wattmeter should be shorter than 10m in normal circumstance.
- When electrical or mechanical noise is expected, more shorter wiring is needed.

When interlocked to RS-485 type wattmeter

• Independent operation of power indicator



• Interlocked operation with central controller

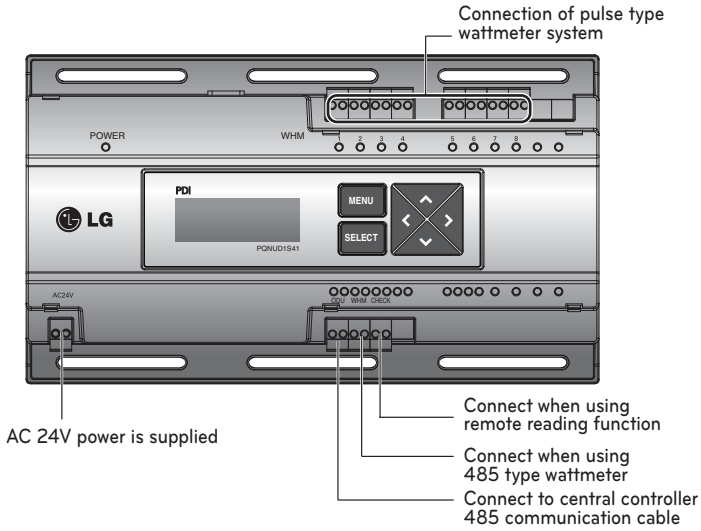


CAUTION

- Use the wattmeter (Interlock function with Omni System) that sends the electric energy through 485 communications.
- When setting the wattmeter, set to Master Mode for independent operation and Slave Mode for interlocked operation.
- When using the 485 wattmeter, maximum of 1 unit can be installed.

How to wire the product

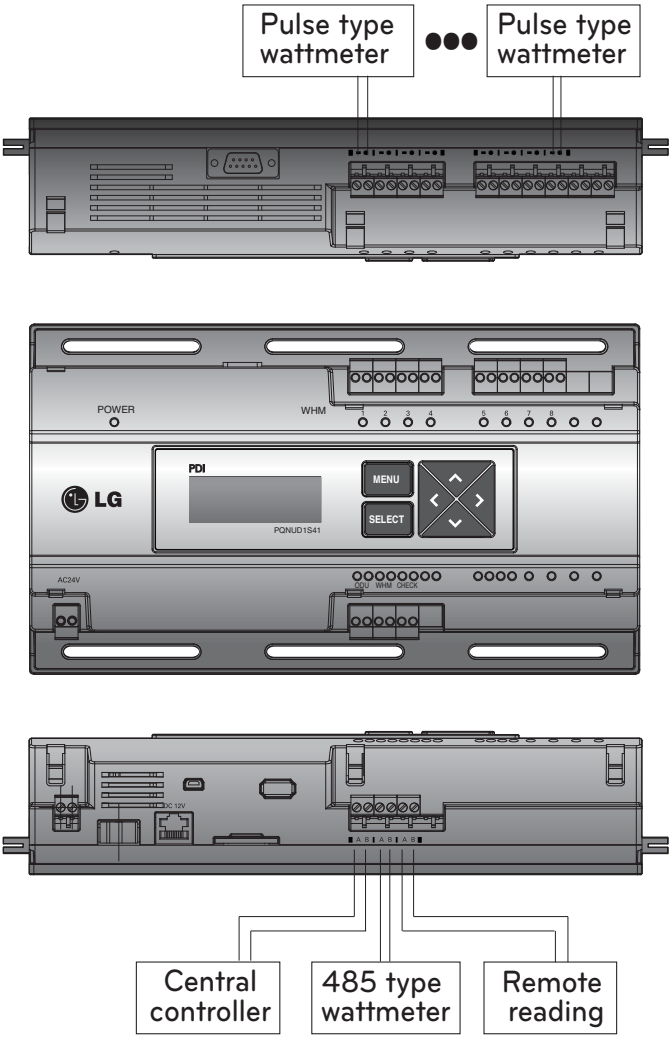
Wiring power indicator



CAUTION

- Power must be turned on after the product is wired completely.

Wattmeter and communication cable connection



CAUTION

- The color and polarity of the signal wire may be different from the details indicated on the case depending on the manufacturer of wattmeter. [Black: (-), white: (+)]
- When connecting the 485 communication cable, make sure to check the A, B polarity.
- After connecting the wattmeter, check whether the signal is connected through the LED.
- Power indicator and Pulse Type wattmeter must be installed in same panel.

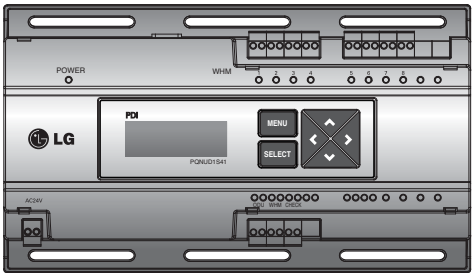
SETTING AND USING METHOD

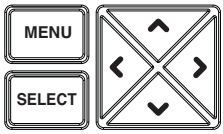
Setting

Description of button function

- Menu button: Move to standby screen after setting is completed.
  Use for reading wattmeter
- Direction button: Move to item to set
- SELECT button: Enter applicable setting window and set changed information

Enter function setting mode





- After power is turned on, press the Menu button and the SELECT button to enter the setting screen.

ELECTRIC POWER DISTRIBUTOR

<Main standby screen>

CONNECTION : MASTER WHM TYPE : PULSE REMOTE COM : NOT USE STANDBY P : AUTO

<Function setting screen>

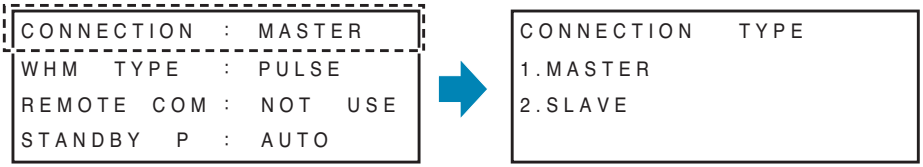
- Item with flashing letter is the current setting location in the function setting screen.

CAUTION

- Power indicator setting can only be set during the 20 minutes after turning on the power.

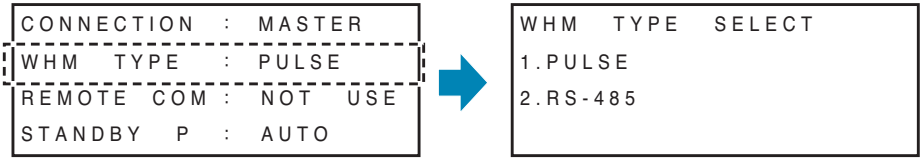
Setting function

*** Connection type setting: Setting based on system configuration**
- When power indicator is configured independently: Master
- When using central controller: Slave



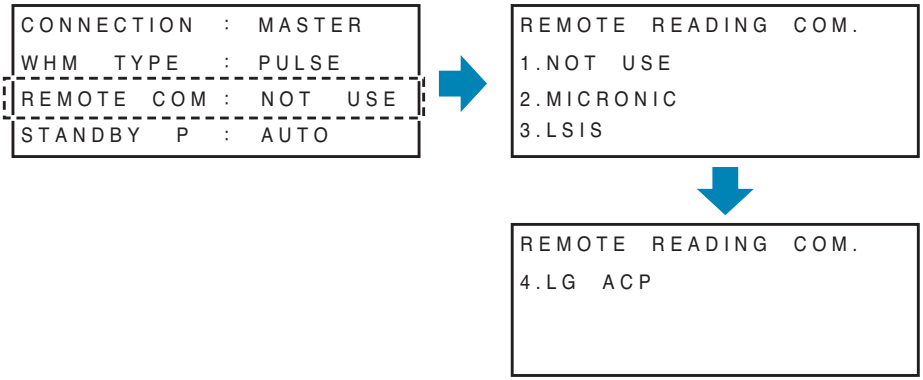
➔ When the CONNECTION item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting screen.

*** Wattmeter type setting: Setting based on connected wattmeter**
- Pulse: When using wattmeter that sends electric energy as pulse signal
- RS-485: When using wattmeter that sends electric energy via RS-485 communication



➔ When the WHM TYPE item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting screen.

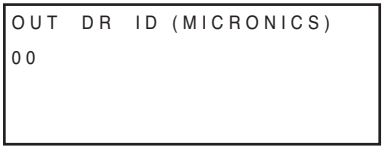
*** Whether to use remote reading and set the reading company**
- NOT USE: Not use the remote reading function
- Set the remote reading company to use



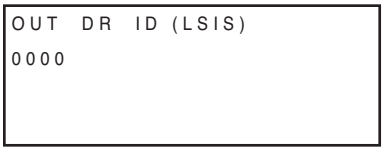
➔ When the REMOTE COM item flashes, press the SELECT button to enter the setting window. When the name of the applicable remote reading company flashes, press the SELECT button to set the remote reading company and move to the address input window.

- Address setting based on remote reading company setting

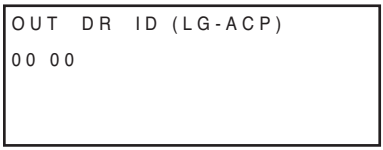
* When setting Micronics: 00,06,12,18…(Increase by 6 units)



* When setting LS Industrial Systems: Can be changed to 0000-9999 (Increase by 2 units)



* When setting to ACP: Can be changed to 00-99



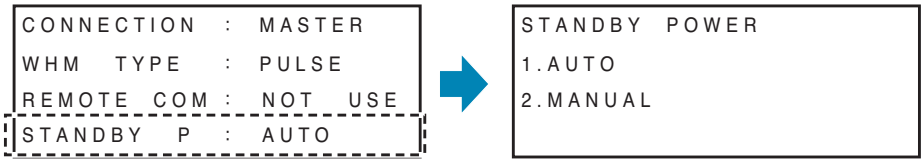
➔ After entering the remote reading ID, press the SELECT button to save the setting and return to the initial setting screen.

⚠ CAUTION

- When setting the remote reading ID, enter the ID assigned by the remote reading company.

*** Standby power distribution method setting**

Standby power: Power consumed by outdoor unit when all indoor units are turned off
- AUTO: Automatically distributes the standby power to all connected indoor units
- Manual: Does not distribute the standby power and saves separately



➔ When the STANDBY P item flashes, press the SELECT button to enter the setting window. Press the SELECT button at the item to set to save the setting and return to the initial setting window.

CAUTION

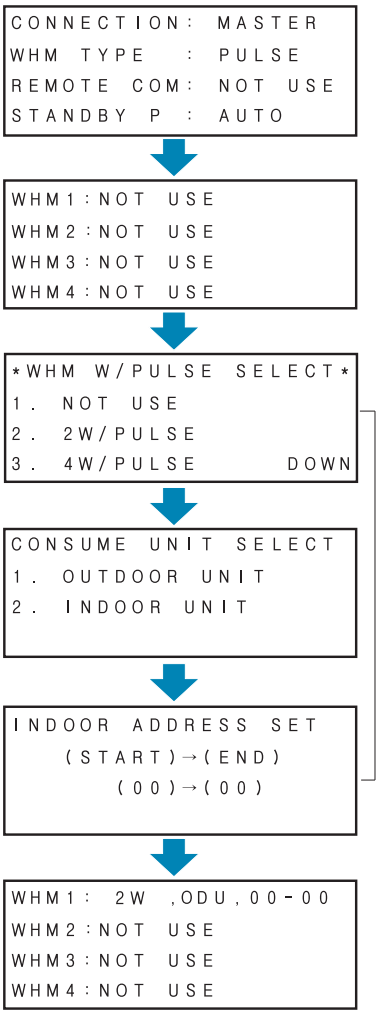
- Factor default is MASTER, PULSE, NOT USE and AUTO.

Setting detail property

*** Wattmeter property setting: Based on the wattmeter type setting, it automatically switches to property setting screen.**

- Pulse type: Set power consumption by pulse, set attached location (Indoor/Outdoor unit classification), set indoor unit address
- CT type: Set CT and device constant value, set attached location (Indoor/Outdoor unit classification), set indoor unit address
- RS-485 communication type: Set wattmeter address, set attached location (Indoor/Outdoor unit classification), set indoor unit address

*** When setting pulse type**



Press the (▼) key at the initial setting screen to enter the wattmeter property setting screen.

When the wattmeter item to set flashes, press the SELECT button to change to detail setting window.

It proceeds in the order of Set power consumption by pulse → Set power consumption device → Set connected indoor address.

- Set power consumption by pulse (WHM W/PULSE SELECT)

: Enter the value displayed on the wattmeter as power consumption per pulse

- Set power consumption device (CONSUME UNIT SELECT)

: Check and set whether the product on which the wattmeter is installed is a indoor or outdoor unit.

- Set connected indoor address (INDOOR ADDRESS SET)

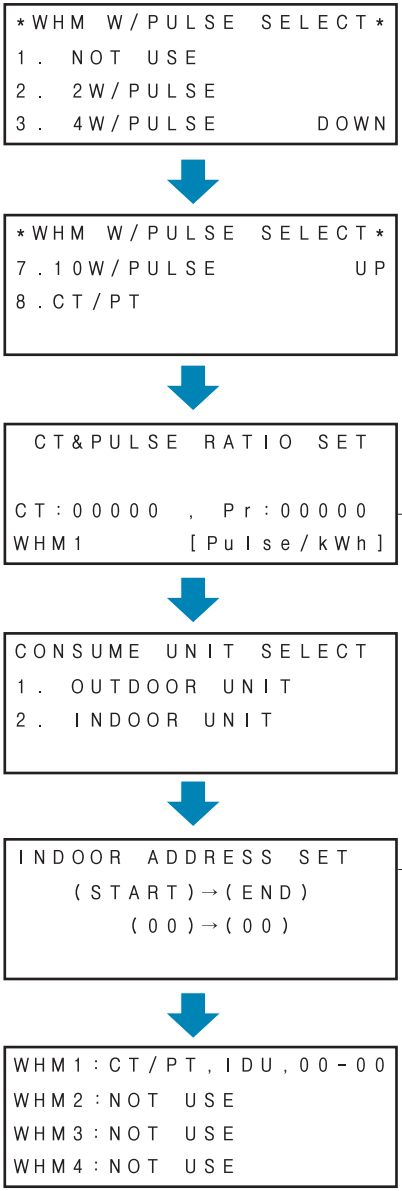
: Enter the indoor address connected to applicable wattmeter.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

*** When setting CT type**



Press the (▼) button to set CT/PT from the power consumption setting screen per pulse.

When 8. CT/PT item flashes, press the SELECT button to enter CT, Pr input window.

It proceeds in the order of Set CT, device constant → Set power consumption device → Set connected indoor address.

- CT: As the device to reduce the current so that the measuring device can take the measurement, enter the rate indicated on the product to the CT item.

Ex) when using 100:1 CT, enter 100 to the CT item.

- Pr: As the device constant value, it is displayed as ratio of output pulse per power consumption of wattmeter.

For the device constant value, enter the value displayed on wattmeter [Pulse/kWh]

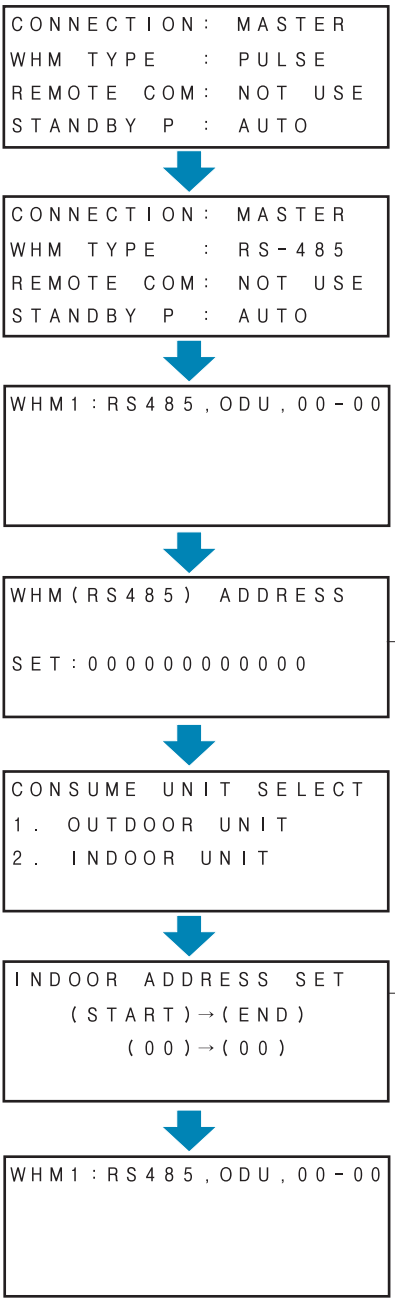
Ex) when using 2500 [Pulse/kWh] wattmeter, enter 2500 to Pr item.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

*** When setting RS-485 communication type**



In the setting screen, change the wattmeter type to RS-485.

Press the (▼) key at the initial setting screen to enter the wattmeter property setting screen.

When the wattmeter item to set flashes, press the SELECT button to change to detail setting window.

It proceeds in the order of Set wattmeter address → Set power consumption device → Set connected indoor address.

- Set wattmeter address (WHM ADDRESS)

: For the 485 wattmeter address, enter the 12 digits displayed on the side barcode of 485 wattmeter.

- Set power consumption device (CONSUME UNIT SELECT)

: Check and set whether the product on which the wattmeter is installed is a indoor or outdoor unit.

- Set connected indoor address (INDOOR ADDRESS SET)

: Enter the indoor address connected to applicable wattmeter.

After setting the applicable item, press the SELECT button to save the setting and to move to the next stage.

Setting information is reflected to the detail setting window.

After setting all wattmeters, press the MENU button to save the setting and move to the initial screen.

How to use power indicator

Description of power indicator function

The power indicator is the product that provides the function of displaying the power consumed in the LG Electronics System Air Conditioner by distributing by each connected indoor unit.

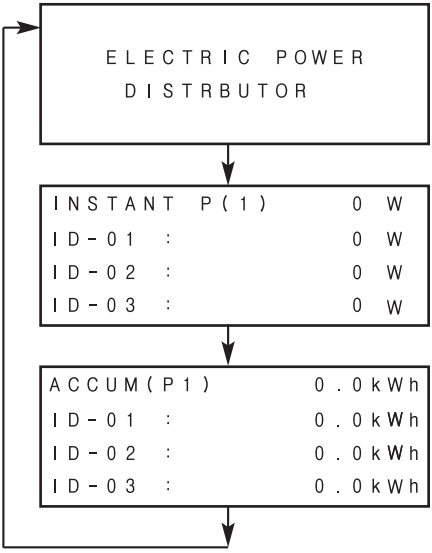
- Wattmeter that can be interlocked: As the cumulative wattmeter, it can interlock with pulse output or RS-485 communication product.
- Number of units that can be interlocked: Maximum of 128 rooms (127 rooms if standby power is displayed)
- LCD power display function: Instant power, cumulative power and error are displayed through the LCD.
- Data save function during power outage: This function saves the data in an event of unexpected power outage.
- LED display function: When power, communication or pulse is connected, the applicable LED flashes so that the operation can be checked.

How to distribute electric energy

- Power consumption of 1 room indoor unit = Total power consumption of outdoor unit x (Weight of indoor unit / Weight of all indoor units)
- Weight of the indoor unit can be calculated based on the information including whether the product operates, product capacity and whether the compressor operates and indoor fan level etc.

Checking electric energy display

The electric energy can be checked by pressing the MENU button from the default screen to check in the order of instantaneous power and accumulative power.



Basic

Instant power

Accumulative power

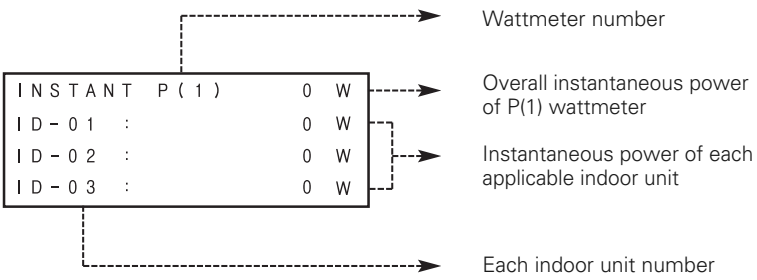
CAUTION

- This measuring system uses a proprietary method unique to LG Electronics and has not legal basis.

*** Checking instantaneous power**

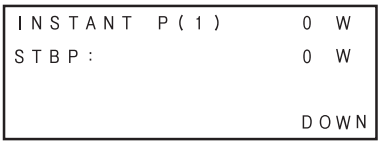
Instantaneous power: As the power consumption per minute, it is refreshed every 1 minute.

- Screen description



- Press the LEFT/RIGHT (◀, ▶)button to increase/decrease the wattmeter number.
- Press the UP/DOWN (▲, ▼)button to check the electric energy of all indoor units connected.

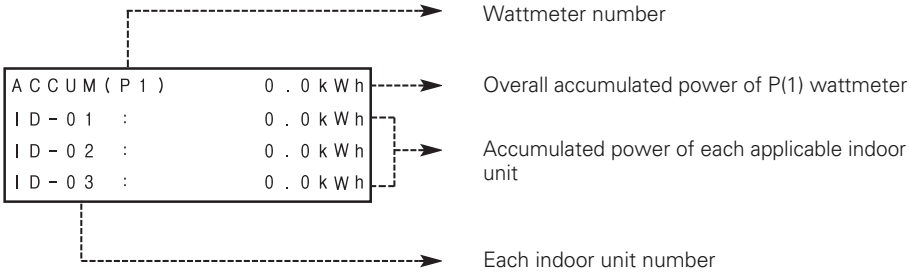
- If the standby power is set to Manual, the last page is displayed as follows.



*** Checking accumulative power**

Accumulative power: After the power is initially connected to the power indicator, the values are accumulated.

If the displayed electric energy is 999,999 or above, it will return to 0.



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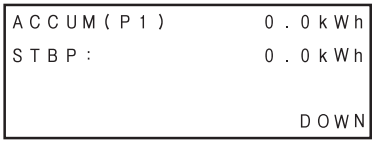


Error display

If the communication with the air conditioner is not smooth or if the pulse signal is not detected from the wattmeter, the error will be displayed on the LCD.

*** Communication error display**

- If there is no communication with the indoor unit product for 3 minutes, it displays an error.
- Power consumption used during the communication error is reflected to the accumulated power.
- Power distribution to each indoor unit is not done and when the communication resumes, the accumulated power will be distributed each indoor unit.

```
        ERROR-01
NO COMMUNICATION
WITH AIRCONDITIONER
IDU ADDRESS [00-07]
```

*** Wattmeter no signal error**

- If there is no power detection signal from the wattmeter set by option, error is displayed. (When no pulse is detected even when 1 or more unit doors are operating)

```
        ERROR-02

NO SIGNAL FROM WHM1
```

⚠ CAUTION

- The case of no signal error can be displayed when there is not even one pulse connected during a certain period of time due to the low power consumption in the outdoor unit, and when the pulse is connected, the error will disappear simultaneously.

Operating condition display

LED condition display

- Power LED (Red): When on, it shows that the product is in operation.
- Communication LED (Green, Red)

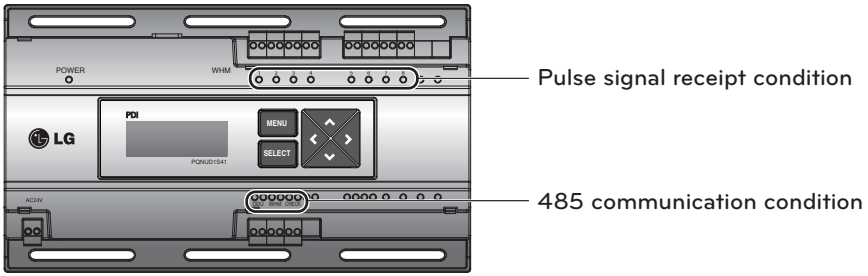
: Central controller, 485 wattmeter, remote reading device and 485 communication condition are displayed.

Green LED ON: Signal sent

Yellow LED ON: Signal received

- Wattmeter pulse receipt (Yellow)

: Pulse signal receipt condition is displayed on the connected wattmeter.
When entering the pulse signal input, yellow LED flashes. (1 time per pulse)



- When the power is connected initially, all LEDs are turned on.
- If the pulse signal receipt condition display LED is continuously ON, it could mean that there is a short circuit between the two terminals. Please check.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