



OWNER'S MANUAL

AIR-TO-WATER HEAT PUMP

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

THERMA V™

Original instruction



MFL68026705
Rev.09_070126

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INTRODUCTION

What is AWHP(Air to Water Heat Pump)?

- Air to Water Heat Pump system can be used as various heating solution from floor heating to hot water supply with multiple heat sources. It is 4 times more energy efficient than conventional system.
- High efficiency with conventional boiler functions.

Why is AWHP(Air to Water Heat Pump)?

- Various regulations are implemented in Europe to reduce energy use of building heating.
- Also, AWHP-related subsidy programs are implemented by country.

Read this manual

Inside you will find many helpful hints on how to use and maintain your AWHP properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your product.

You'll find many answers to common problems in the chart of troubleshooting tips. If you review our chart of Troubleshooting Tips first, you may not need to call for service at all.

How to find additional model information

Energy Labels and Product Fiches for all possible combinations can be found at <https://www.lg.com/global/support/cedoc/cedoc>.
Search for outdoor unit name in cedoc page.

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 :

TABLE OF CONTENTS

This manual may contain images or content that may be different from the model you purchased.

2 INTRODUCTION

5 SAFETY INSTRUCTIONS

11 PRODUCT INTRODUCTION

- 11 Name and function of parts
- 12 Remote controller

13 DESCRIPTION OF THE OPERATION

- 13 Main screen
- 13 Menu screen
- 14 Setting screen
- 14 Popup screen
- 15 Monitoring (For 3 Series)
- 15 Returning to the screen
- 16 Monitoring (For 4 Series)
- 16 Returning to the screen

17 OPERATION SETTING

- 17 On / Off
- 17 Operation mode
- 18 Cooling operation
- 19 Heating operation
- 20 AI / Auto operation

21 TEMPERATURE SETTING

- 21 Controlling desired temperature
- 22 Select Temperature Sensor
- 23 DHW heating operation
- 23 Quick DHW tank heating
- 24 View temperature

26 LOCK SETTING

- 26 How to enter Lock setting
- 26 Lock setting – all, on/off, mode, DHW lock

27 TIMER SETTING

- 27 Timer entrance and setting method
- 28 Simple Timer
- 29 Turn-On Reservation
- 30 Turn-Off Reservation

31 SCHEDULE SETTING

- 31 How to enter schedule
- 32 Daily schedule
- 33 Schedules & Edit
- 34 Schedules & Edit – Add schedule
- 35 Exception Day
- 36 DHW Recirculation Schedule (For 4 Series)

38 ENERGY MONITORING SETTING

- 38 Energy Monitoring Setting
- 39 Information of Energy Monitoring

40 METER INTERFACE SETTING

- 40 Connection path of meter interface
- 41 Information of meter interface

42 FUNCTION SETTING

- 42 How to enter function setting
- 43 Function setting
- 44 Low Noise Mode Time
- 45 Wi-Fi Pairing
- 46 Water Temperature Setting
- 47 3rd Party Boiler

48 USER SETTING

- 48 How to enter user setting
- 48 User Setting
- 49 Language
- 50 Temperature Unit
- 51 Screen Saver Timer
- 51 LCD Brightness In Idle
- 52 Date
- 53 Time
- 54 Summer Time
- 55 Password
- 56 Schedule Initialization / Schedule Reset
- 57 Theme
- 57 Auto return to main screen
- 57 System Reboot

58 OVERVIEW OWNER'S SETTINGS

- 58 Menu structure

60 USING THERMOSTAT

- 60 How to use thermostat

61 SERVICE SETTING

- 61 How to enter service setting
- 61 Open source license

62 EMERGENCY OPERATION

64 MAINTENANCE AND SERVICE

- 64 Maintenance activities
- 64 When the unit is not going....
- 65 How to drain remaining water in the product
- 66 Call the service immediately in the following situations

SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USE

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance.

Safety Messages



This symbol is displayed to indicate matters and operations that can cause risk.

Read the part with this symbol carefully and follow the instructions in order to avoid risk.



WARNING

This indicates that the failure to follow the instructions can cause serious injury or death.



CAUTION

This indicates that the failure to follow the instructions can cause the minor injury or damage to the product.

Notes for Flammable Refrigerant

The following symbols are displayed on units.



A3

This symbol indicates that this appliance uses a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.



This symbol indicates that the Installation Manual should be read carefully.



This symbol indicates that service personnel should be handling this equipment with reference to the Installation Manual.



This symbol indicates that information is available in the Owner's Manual or Installation Manual.

WARNING INSTRUCTIONS



WARNING

- To reduce the risk of explosion, fire, death, electric shock, injury or scalding to persons when using this product, follow basic precautions, including the following:

Installation

- Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.
 - There is risk of fire or electric shock.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.
 - There is risk of fire or electric shock.

- Always ground the unit.
 - There is risk of fire or electric shock.
- Install the panel and the cover of control box securely.
 - There is risk of fire or electric shock.
- Always install a dedicated circuit and breaker.
 - Improper wiring or installation may cause fire or electric shock.
- Use the correctly rated breaker or fuse.
 - There is risk of fire or electric.
- Do not modify or extend the power cable.
 - There is risk of fire or electric shock.
- Do not install, remove, change, inspection and maintenance, repair or reinstall the unit by yourself (customer).
 - There is risk of fire, electric shock, explosion, or injury.
- Do not change, remove the safety devices.
 - There is risk of death, injury.
- For antifreeze, always contact the dealer or an authorized service center.
 - Almost the antifreeze is a toxic product.
- For installation, always contact the dealer or an authorized Service Center.
 - There is risk of fire, electric shock, explosion, or injury.
- Do not install the unit on a defective installation stand.
 - It may cause injury, accident, or damage to the unit.
- Be sure the installation area does not deteriorate with age.
 - If the base collapses, the unit could fall with it, causing property damage, unit failure, and personal injury.
- Do not install the water pipe system as Open loop type.
 - It may cause failure of unit.
- Use a vacuum pump or inert (nitrogen) gas when doing leakage test or purging air. Do not compress air or oxygen and do not use flammable gases.
 - There is the risk of death, injury, fire or explosion.

- Make sure the connected condition of connector in product after maintenance.
 - Otherwise, it may cause product damage.
- Do not touch leaked refrigerant directly.
 - There is risk of frostbite.
- Copper in contact with refrigerants shall be oxygen-free or deoxidized, for example Cu-DHP as specified in EN 12735-1 and EN 12735-2.
- Compliance with national gas regulations shall be observed.
- Refrigerant tubing shall be protected or enclosed to avoid damage.
- The installation of pipe-work shall be kept to a minimum.
- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.
- A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part.
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification. (Include the corresponding tools and required personal protective equipment)
- Any person who is involved with working on or breaking into a refrigerant circuit wear appropriate protective equipment and have a fire extinguisher available.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Do not pierce or burn.
- Be aware that refrigerants might not contain an odour.

- Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.
- Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that can be displaced during normal operation shall be protected against mechanical damage.
- Pipe-work shall be securely mounted and guarded from physical damage.
- Mechanical connections (mechanical connectors or flared joints) shall be accessible for maintenance purposes.
- Connect the water for filling or refilling the heating system as specified by EN 1717/EN 61770 to avoid contamination of drinking water by return flow.
- The appliance shall be installed in accordance with the national wiring regulation.
- Make sure installation necessary safety devices.
- Do not let refrigerant enter the sewage system.
- Always check for gas (refrigerant) leakage before installation or repair of unit by using the gas sniffer (Gas sniffer must be suitable for R290).
 - There is risk of explosion or fire and failure of unit.

Operation

- Take care to ensure that power cable could not be pulled out or damaged during operation.
 - There is risk of fire or electric shock.
- Do not place anything on the power cable.
 - There is risk of fire or electric shock.
- Do not plug or unplug the power supply plug during operation.
 - There is risk of fire or electric shock.

- Do not touch (operate) the unit with wet hands.
 - There is risk of fire or electric shock.
- Do not place a heater or other appliances near the power cable.
 - There is risk of fire or electric shock.
- Do not allow water to run into electric parts.
 - There is risk of fire, failure of the unit, or electric shock.
- Do not store or use flammable gas or combustibles near the unit.
 - There is risk of fire or failure of unit.
- Do not use the unit in a tightly closed space for a long time.
 - It may cause damage to the unit.
- When flammable gas leaks, turn off the gas and open a window for ventilation before turning the unit on.
 - There is risk of explosion or fire.
- If strange sounds, or smell or smoke comes from unit, turn the breaker off or disconnect the power supply cable.
 - There is risk of electric shock or fire.
- Stop operation and close the window in storm or hurricane. If possible, remove the unit from the window before the hurricane arrives.
 - There is risk of property damage, failure of unit, or electric shock.
- Take care so that children may not step on the outdoor unit.
 - Otherwise, children may be seriously injured due to falling down.
- Do not open the front cover of the unit while operation. (Do not touch the electrostatic filter, if the unit is so equipped.)
 - There is risk of physical injury, electric shock, or unit failure.
- Do not touch any electric part with wet hands. you should be power off before touching electric part.
 - There is risk of electric shock or fire.
- Do not touch refrigerant pipe and water pipe or any internal parts while the unit is operating or immediately after operation.
 - There is risk of burns or frostbite, personal injury.

- If you touch the pipe or internal parts, you should be wear protection or wait time to return to normal temperature.
 - Otherwise , it may cause burns or frostbite, personal injury.
- Turn the main power on 6 hours ago before the product starting operation.
 - Otherwise, it may cause compressor damage.
- Do not touch electric parts for 10 minutes after main power off.
 - There is risk of physical injury, electric shock.
- The inside heater of product may operate during stop mode. It is intended to protect the product.
- Be careful that some part of the control box are hot.
 - There is risk of physical injury or burns.
- When the unit is soaked (flooded or submerged), contact an Authorized Service Center.
 - There is risk of fire or electric shock.
- Be cautious that water could not be poured to the unit directly.
 - There is risk of fire, electric shock, or unit damage.
- Ventilate the unit from time to time when operating it together with a stove, etc.
 - There is risk of fire or electric shock.
- Turn the main power off when cleaning or maintaining the unit.
 - There is risk of electric shock.
- Take care to ensure that nobody could step on or fall onto the unit.
 - This could result in personal injury and unit damage.
- Do not install the product where the noise or hot air from the outdoor unit could damage or disturb the neighborhoods. It may cause a problem for your neighbors and hence dispute.
- If the unit is not used for long time, we strongly recommend not to switch off the power supply to the unit.
 - There is risk of water freezing.

- If the unit is not used and switch off the power supply to the unit for long time, we strongly recommend to drain off all water in the unit by certificated person.
 - There is risk of water freezing.
- The appliance shall be stored in an area where the room size corresponds to the room area as specified for operation.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- The appliance shall be stored in a room without continuously operating open flames (for example an operating gas appliance) or other potential ignition sources (for example an operating electric heater, hot surfaces).
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
- Servicing shall be performed only as recommended by the manufacturer.
- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.
- Periodic(more than once/year) cleaning of the dust or salt particles stuck on the heat exchangers by using water.
- Keep any required ventilation openings clear of obstruction.
- Electrical components shall only be replaced with parts specified by the appliance manufacturer.
- Replacement with other parts may result in the ignition of refrigerant in the event of a leak.

CAUTION INSTRUCTIONS

CAUTION

- To reduce the risk of minor injury to persons, malfunction, or damage to the product or property when using this product, follow basic precautions, including the following:

Installation

- Keep level even when installing the unit.
 - To avoid vibration or water leakage.
- Two or more people to lift and transport the unit. Avoid personal injury.
- If anyone other than a licensed Professional installs, repairs, or alters LG Electronics Air Conditioning Products, the warranty is voided.
 - All costs associated with repair are then the full responsibility of the owner.
- Do not insert a drain hose in drain or soil pipe.
 - Bad smells can occur and it results in a corrosion of a heat exchanger or pipe.
- Do not install the unit in potentially explosive atmospheres.
- Refrigerants are pre-charged in the factory to the outdoor unit. Additional refrigerants need to be charged depending on the length and size of pipe.
- Make the connections securely so that the outside force of the cable may not be applied to the terminals.
 - Inadequate connection and fastening may generate heat and cause a fire.

Operation

- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer AWHP, not a precision refrigeration system. There is risk of damage or loss of property.
- Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.
 - There is risk of fire, electric shock, or damage to the plastic parts of the unit.
- Do not step on or put anything on the unit.
 - There is risk of personal injury and failure of unit.
- Use a firm stool or ladder when cleaning or maintaining the unit.
 - Be careful and avoid personal injury.
- Do not turn on the breaker or power under condition that front panel cabinet, top cover, control box cover are removed or opened.
 - Otherwise it may cause fire, electric shock, explosion or death.
- The appliance shall be disconnected from its power source during service and when replacing parts.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The Installation kit supplied with the appliance are to be used and that old Installation kit should not be reused.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- The instructions for service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand.

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- Replace the all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries. There is risk of fire or product failure.
- The manufacturer should specify other potential continuously operating sources known to cause ignition of the refrigerant used.
- In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Safety Instructions for the Service

Checks to the area

- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied prior to conducting work on the system.

Work procedure

- Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

General work area

- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

Checking for presence of refrigerant

- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. nonsparking, adequately sealed or intrinsically safe.

Presence of fire extinguisher

- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

No ignition sources

- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it can lead to the risk of fire or explosion.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the refrigerating equipment

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed.
- If in doubt consult the manufacturer's technical department for assistance.
- The following checks shall be applied to installations using flammable refrigerants:
 - The refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;
 - The ventilation machinery and outlets are operating adequately and are not obstructed;
 - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
 - Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
 - Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which can corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to electrical devices

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.
- If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
- If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.
- This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
 - That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
 - That no live electrical components and wiring are exposed while charging, recovering or purging the system;
 - That there is continuity of earth bonding.

Sealed electrical components

- Sealed electrical components shall not be repaired.

Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.
- The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of flammable refrigerants

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- A halide torch (or any other detector using a naked flame) shall not be used.

- The following leak detection methods are deemed acceptable for all refrigerant systems.
 - Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity can be inadequate, or can need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)
 - Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
 - Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.
 - Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine can react with the refrigerant and corrode the copper pipe-work.

NOTE

Examples of leak detection fluids are

- Bubble method
- Fluorescent method agents

-
- If a leak is suspected, all naked flames shall be removed/extinguished.
 - If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
 - Removal of refrigerant shall be according to Refrigerant removal and circuit evacuation procedure.

Refrigerant removal and circuit evacuation

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration.

The following procedure shall be adhered to:

- Safely remove refrigerant following local and national regulations;
 - Evacuate;
 - purge the circuit with inert gas (optional for A2L);
 - evacuate (optional for A2L);
 - continuously flush with inert gas when using flame to open circuit;
 - open the circuit.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
 - The manufacturer shall specify the inert gases that can be used.
 - Compressed air or oxygen shall not be used for purging refrigerant systems.

NOTE

An example of an inert gas is dry nitrogen.

- Purging of the refrigerant circuit shall be achieved by breaking the vacuum in the system with inert gas and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.

- The system shall be vented down to atmospheric pressure to enable work to take place.
- Ensure that the outlet of the vacuum pump is not close to any potential ignition sources and that ventilation is available.

Charging procedures

- In addition to conventional charging procedures, the following requirements shall be followed.
 - Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
 - Cylinders shall be kept in an appropriate position according to the instructions.
 - Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
 - Label the system when charging is complete (if not already labelled).
 - Extreme care shall be taken not to overfill the refrigerating system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas.
- The system shall be leak-tested on completion of charging but prior to commissioning.
- A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.
- It is recommended good practice that all refrigerants are recovered safely.

- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.
- It is essential that electrical power is available before the task is commenced.
 - 1) Become familiar with the equipment and its operation.
 - 2) Isolate system electrically.
 - 3) Before attempting the procedure, ensure that:
 - a) Mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - b) All personal protective equipment is available and being used correctly;
 - c) The recovery process is supervised at all times by a competent person;
 - d) Recovery equipment and cylinders conform to the appropriate standards.
 - 4) Pump down refrigerant system, if possible.
 - 5) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
 - 6) Make sure that the cylinder is situated on the scales before recovery takes place.
 - 7) Start the recovery machine and operate in accordance with instructions.
 - 8) Do not overfill cylinders (no more than 80 % volume liquid charge).
 - 9) Do not exceed the maximum working pressure of the cylinder, even temporarily.
 - 10) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
 - 11) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

Labelling

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant.
- The label shall be dated and signed.
- For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is required to follow good practice so that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge is available.
- All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant.
- Consult manufacturer if in doubt. In addition, a set of calibrated weighing scales shall be available and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition.
- The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged.

- Do not mix refrigerants in recovery units and especially not in cylinders. If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process.
- Draining of oil from a system shall be carried out safely.

Qualification of workers

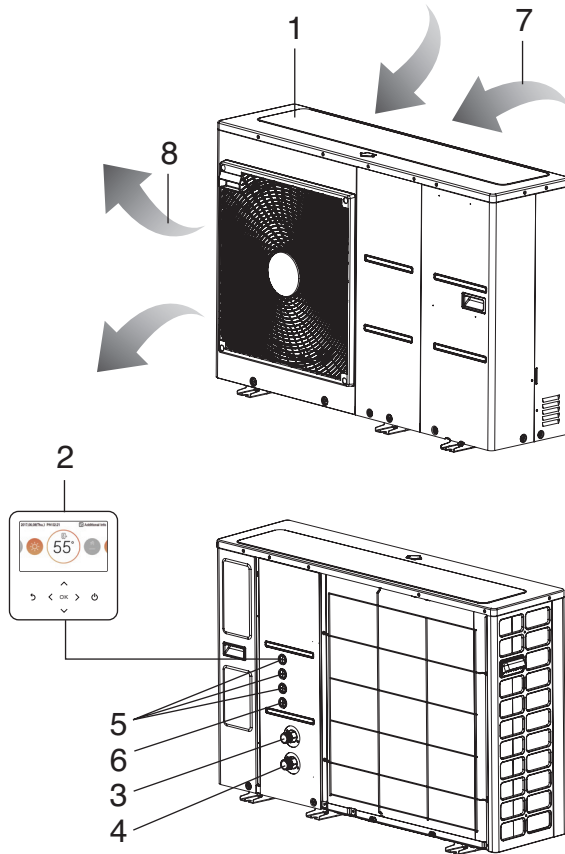
- The manual shall contain specific information about the required qualification of the working personnel for maintenance, service and repair operations. Every working procedure that affects safety means shall only be carried out by competent persons.

Examples for such working procedures are :

- Breaking into the refrigerating circuit;
- Opening of sealed components;
- Opening of ventilated enclosures.

PRODUCT INTRODUCTION

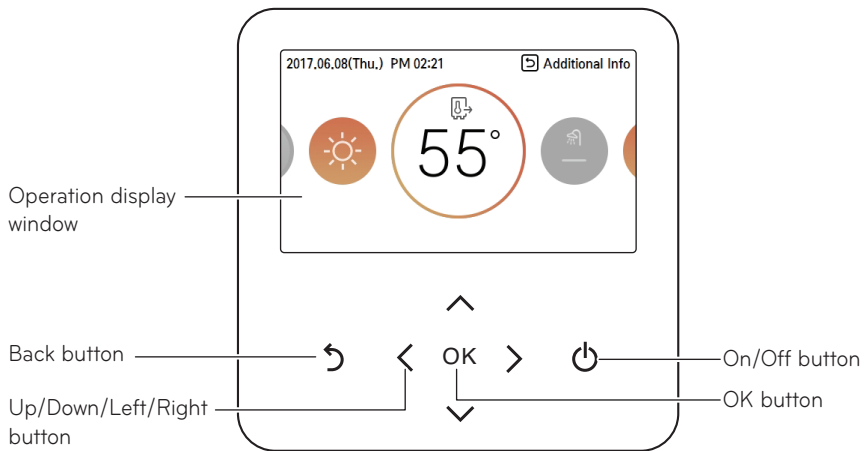
Name and function of parts



* The feature may vary according to the type of model.

- 1. Unit
- 2. Remote controller
- 3. Water out (PT 25A)
- 4. Water in (PT 25A)
- 5. Hole for communication (Ø25)
- 6. Hole for unit power supply (Ø25)
- 7. Inlet air
- 8. Outlet air

Remote controller



Operation display window	Operation and Settings status display
Back button	When you move to the previous stage from the menu's setting stage
Up/down/left/right button	When you change the menu's setting value
OK button	When you save the menu's setting value
On/Off button	When you turn ON/OFF the air conditioner

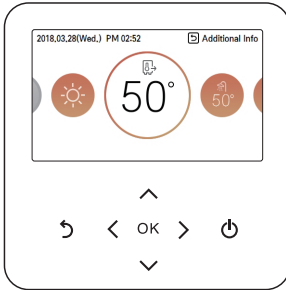
NOTE

- Some functions may not be operated and displayed depending on the product type.
- The actual product can be different from above contents depending upon model type.
- When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

DESCRIPTION OF THE OPERATION

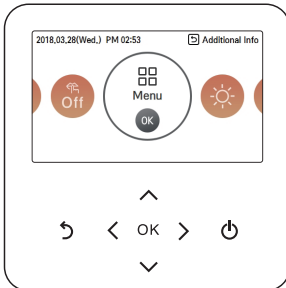
Main screen

In the main screen, press [$\leftarrow$, $\rightarrow$ (left/right)] button to select the category to set, and you can control by pressing [$\wedge$, $\vee$ (up/down)] button.

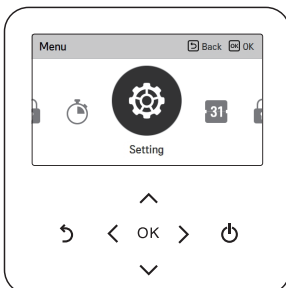


Menu screen

In the main screen, press [$\leftarrow$, $\rightarrow$ (left/right)] button to select the menu and press [OK] button to move to menu screen.

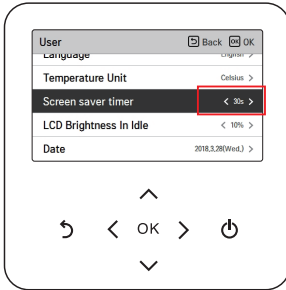


In the menu screen, press [$\leftarrow$, $\rightarrow$ (left/right)] button to select the category to set, and press [OK] button to move to the detail screen.



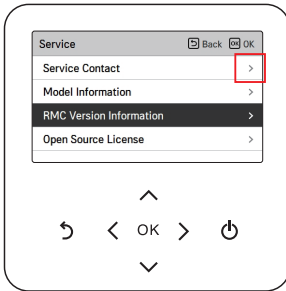
Setting screen

Select the category to set using [$\wedge$, $\vee$ (up/down)] button.



In each detail screen of the menu, as in the box in the left figure, when "<,>" icons are displayed at the same time, you can immediately apply the setting value by pressing [<, >(left/right)] button.

※ For the values that can be set in each category, refer to the detail manual for each function.



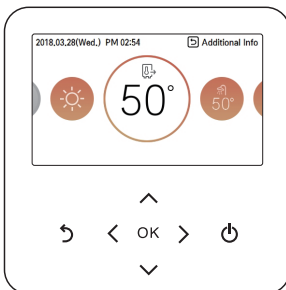
In each detail screen of the menu, as in the box in the left figure, if only ">" icon is displayed, you can move to the detail setting screen by pressing [>(right) or OK] button.

※ For the values that can be set in each category, refer to the detail manual for each function.

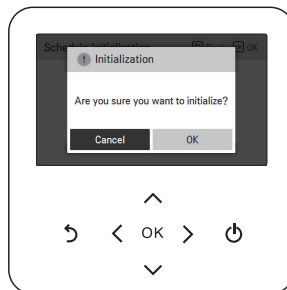
Popup screen

The toast message is the message displayed at the bottom of the screen when an operation is turned On/Off or if a function is set / cancelled.

The popup message is mainly displayed when an error occurred in the product.



< Toast message >

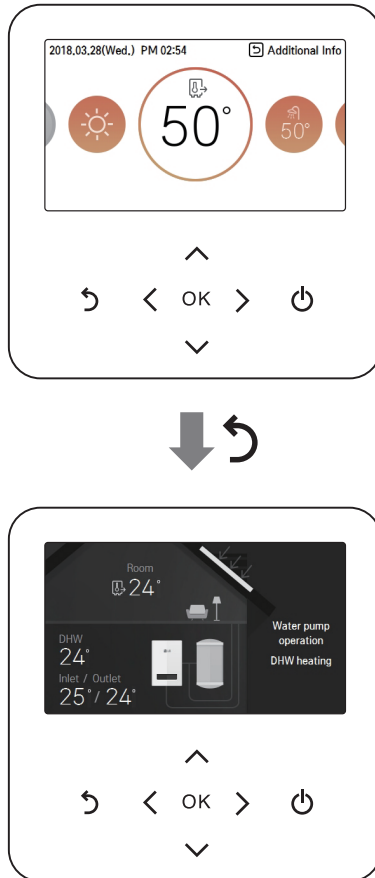


< Popup message >

Monitoring (For 3 Series)

In the main screen, you can enter the monitoring screen by pressing [Back] button
In the monitoring screen, you can check the following information,

- The room temperature
- The water inlet / outlet temperature
- The water pump operation



Returning to the screen

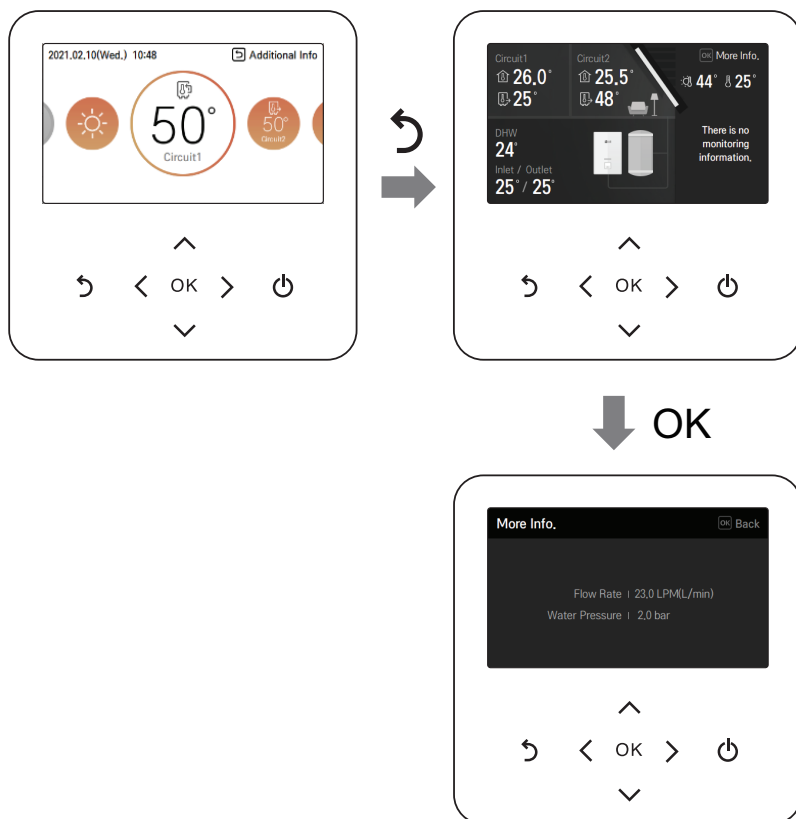
In the main screen, after moving to the category by pressing [<, >(left/right)] button, if there is no remote controller operation, after 10 seconds, it returns to the main screen basic position. (basic position: indoor temperature display part)

In the screens except the main screen, if there is no remote controller operation for 1 minute, it moves to the main screen.

Monitoring (For 4 Series)

In the main screen, you can enter the monitoring screen by pressing [Back] button
In the monitoring screen, you can check the following information,

- The room temperature
- The water inlet / outlet temperature
- The water pump operation
- The water flow rate
- The water pressure
- The solar heat temperature
- The outdoor temperature



Returning to the screen

In the main screen, after moving to the category by pressing [<, >(left/right)] button, if there is no remote controller operation, after 10 seconds, it returns to the main screen basic position. (basic position: indoor temperature display part)

In the screens except the main screen, if there is no remote controller operation for 1 minute, it moves to the main screen.

OPERATION SETTING

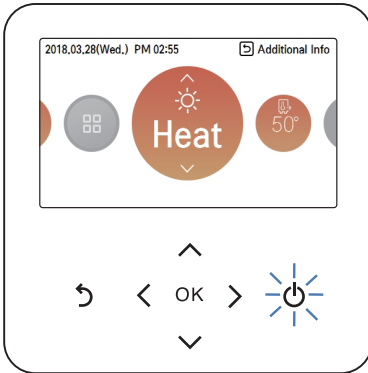
On / Off

THERMAV will be turned on or off.

Press the remote controller's  (On/Off) button.

- If the product is in operation, On/Off button will be illuminated.

If the product is in off, On/Off button backlight will be off.



Operation mode

You can easily control the desired operation mode.

In the main screen, press [$\leftarrow$, $\rightarrow$] (left/right) button to select the operation mode or home leave or hold category, and press [$\wedge$, $\vee$] (up/down) button to set the operation mode.

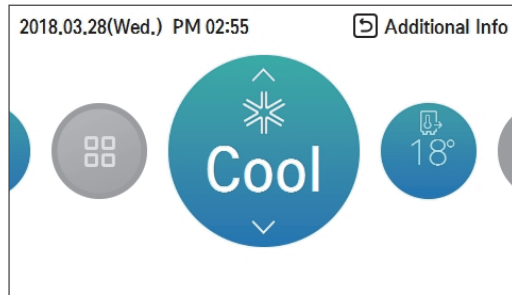
※ Some products may not support some operation modes.

Mode	Description
Cool	Cool the room to the desired temperature. Activated when No. 4 ON of indoor unit PCB DIP SW 2 (Refer to installer setting)
Heat	Heats the room to the desired room temperature.
AI / Auto	The product automatically provides the appropriate fan speed based on the temperature of the room.

Cooling operation

Cooling operation's minimum setting temperature is 5 °C.

- The desired temperature can be controlled in the units of 1 °C.
- Set the desired temperature lower than the water temperature.
- water temperature is displayed on the default screen of the remote controller.
- If the setpoint is set higher than the water temperature, then the unit will remain in the cool mode but will not begin to cool the water temperature exceeds the setpoint.
- If your unit is operating in cooling mode and you press the [On/Off] button the cooling operation will shut off.



NOTE

Activated when No. 4 ON of indoor unit PCB DIP SW 2 (Refer to installer setting)

What is 3 minute delay function?

After the cooling stops, when the product is started right away, the reason that the cold water does not come out is that it is the function to protect the compressor.

The compressor starts after 3 minutes and the cold water comes out.

NOTE

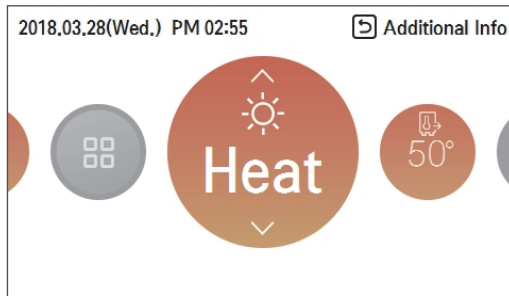
The compressor starts after 3 minutes and the cold water comes out.

In the cooling operation, you can select the desired temperature in the range of 5 °C~27 °C. The favorable temperature difference between the water inlet temperature and outlet temperature is 5 °C.

Heating operation

The heating operation's minimum setting temperature is 15 °C.

- The desired temperature can be controlled in the units of 1 °C.
- Set the desired temperature higher than the water temperature.
 - Water temperature is displayed on the default screen of the remote controller.
 - When the desired temperature is set lower than the water temperature, warm water doesn't come out.
 - If your unit is operating in heating mode and you press the [On/Off] button the heating operation will shut off.



NOTE

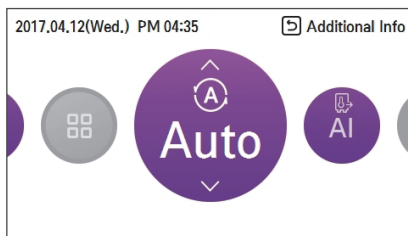
In the heating operation, you can select the desired temperature in the range of 15 °C~65 °C.

AI / Auto operation

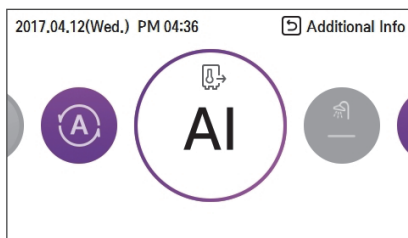
This mode is only applied to heating.

In order to save energy and to give highest comfort, setting temperature will follow outside temperature. If outdoor temperature decreases, heating capacity for the house will increase automatically in order to keep same room temperature. All parameters will be set by installer during start-up procedure and will be adapted to the site characteristic.

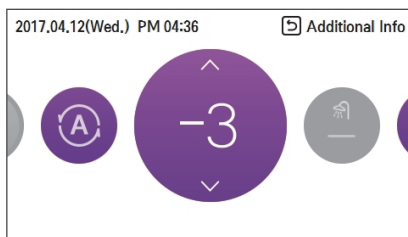
1. Select AI / Auto mode.



2. Select the desired temperature category



3. Adjust the desired temperature level by press [^ , v (up/down)] button.



NOTE

Decreasing temperature profile by 3 °C (based on room air temperature)

<Temperature adjust step (unit : °C) >

-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5

← Cold

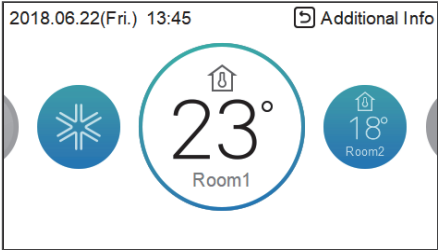
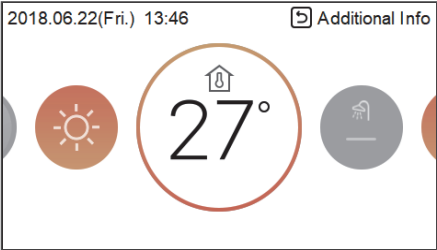
Hot →

TEMPERATURE SETTING

Controlling desired temperature

You can easily control to the desired temperature.

- In the main screen, press [<, > (left/right)] button to select the desired temperature category, and press [^, v (up/down)] button to set the desired temperature.
- In the cooling, heating, and AI/auto mode, the desired temperature control is possible.



Mode	Description
Room temperature	Room temperature can be set by using remote sensor's internal temperature sensor.
Room1 & Room2 temperature	Temperature of Room 1 and Room 2 can be set respectively, when 2nd circuit option is activated in installer mode.
Leaving water temperature	If the desired temperature is lower than the water temperature, the heating is not performed. Set the desired temperature higher than the water temperature.
DHW tank temperature	DHW tank temperature setting is available when DHW tank is installed.
Water inlet temperature	This operation is changed to the temperature sensor only, the inlet temperature sensor, and temperature control logic is the same as the leaving water temperature operation.
Room temperature + Leaving water temperature	Room temperature can be set by using remote sensor's internal temperature sensor. If the desired temperature is lower than the water temperature, the heating is not performed. Set the desired temperature higher than the water temperature.

NOTE

The function can be activated according to the installer setting.

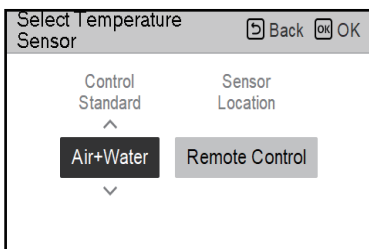
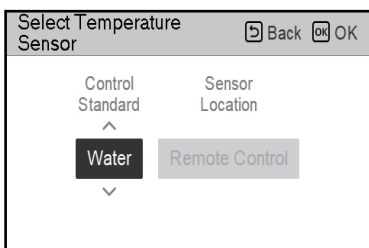
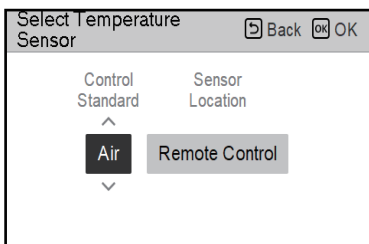
NOTE

Room 1 = Circuit 2 = Mixing circuit
Room 2 = Circuit 1 = Direct circuit

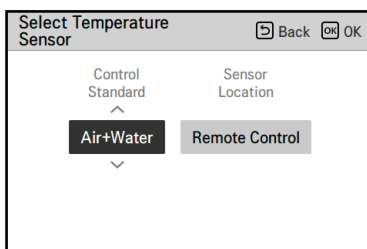
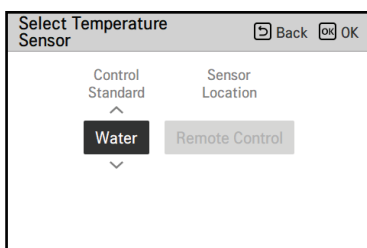
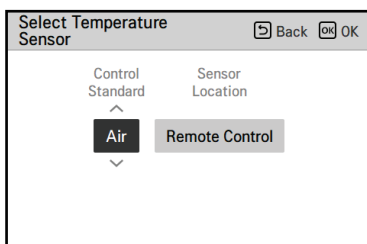
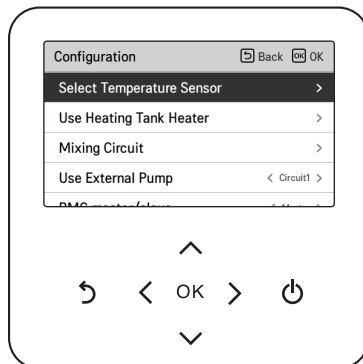
Select Temperature Sensor

There are 3 sensor options, air only, leaving water only, and air+water in installer mode. Sensor Locations are not available on all models.

(For 3 Series)

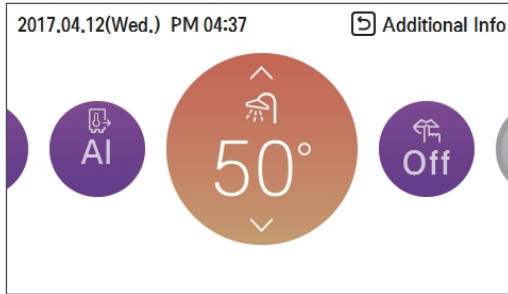


(For 4 Series)



DHW heating operation

Function to set whether or not to use a installed DHW tank



NOTE

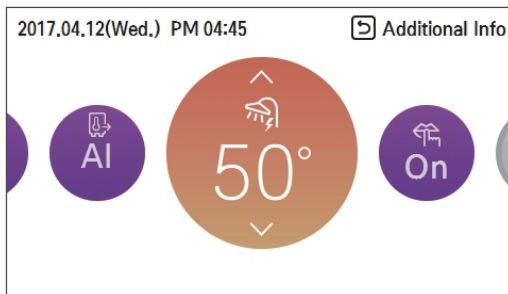
- This function is not used when the DHW tank is not installed.
- If you want to know more information, refer function on installation information section.

Quick DHW tank heating

If there is urgent DHW heating demand, Quick DHW Tank Heating mode can be used to reduce the time to reach target DHW tank temperature by forcibly turning on DHW tank heater.

After reaching target DHW tank temperature or by user's input to stop, Quick DHW Tank Heating mode will be finished.

1. Press down [Back] button for a second focused on DHW Heating Operation.



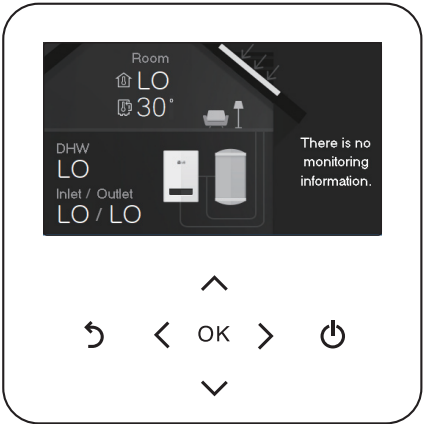
View temperature

General mode

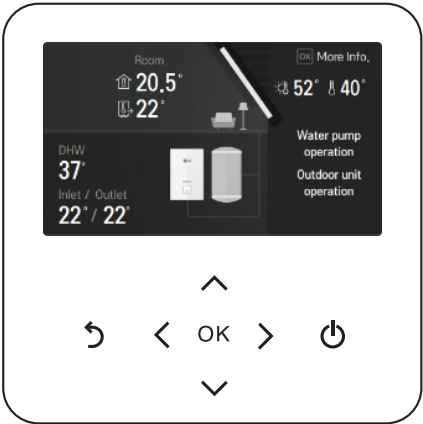
You can check the current temperature.

- In the main screen, you can enter the monitoring screen by pressing [Back] button.

(For 3 Series)



(For 4 Series)



Mode	Description
Room temperature	View room air temperature
Inlet temperature	View inlet water temperature
Outlet temperature	View outlet water temperature
DHW temperature	View DHW temperature (Only displayed when set to DHW heating mode)
Solar heat temperature	View solar thermal system temperature (Only displayed when set to DHW heating mode and solar thermal heating mode)
Outdoor temperature	View outdoor temperature

2nd circuit mode

(For 3 Series)



(For 4 Series)

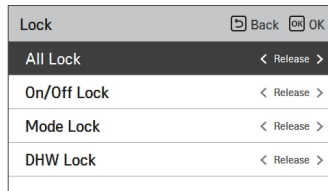
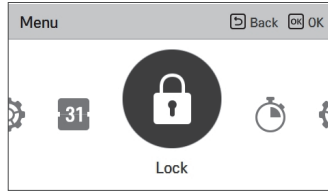


Mode	Description
Room 1 temperature	View room 1 temperature
Room 2 temperature	View room 2 temperature
Inlet temperature	View inlet water temperature
Outlet temperature	View outlet water temperature
DHW temperature	View DHW temperature (Only displayed when set to DHW heating mode)
Solar heat temperature	View solar thermal system temperature (Only displayed when set to DHW heating mode and solar thermal heating mode)
Outdoor temperature	View outdoor temperature

LOCK SETTING

How to enter Lock setting

- In the menu screen, press [←,→(left/right)] button to select “lock setting” category, and press [OK] button to move to the lock setting list screen.
- In the lock setting list, if you press [↑,↓(up/down)] button, you can turn on/off the corresponding lock function.



Lock setting – all, on/off, mode, DHW lock

- It is the function to lock the button operation of the remote controller so that children or other persons cannot use it without permission.
- It is the function to limit the desired temperature range that can be set in the wired remote controller.

Mode	Description
All Lock	It locks all button operation of the remote controller.
On/Off Lock	It locks the On/Off button operation of the remote controller.
Mode Lock	lock It locks the operation mode button operation of the remote controller
DHW Lock	lock It locks the DHW On/Off button operation of the remote controller.

NOTE

- DHW lock is not used when the DHW tank is not installed.
- If you want to know more information, refer function on installation information section.

NOTE

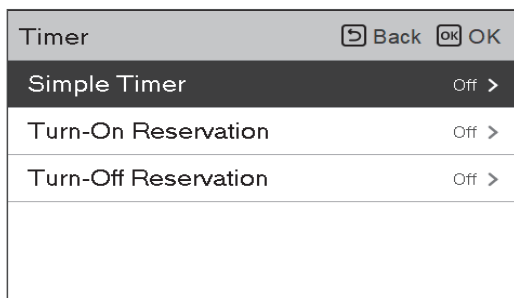
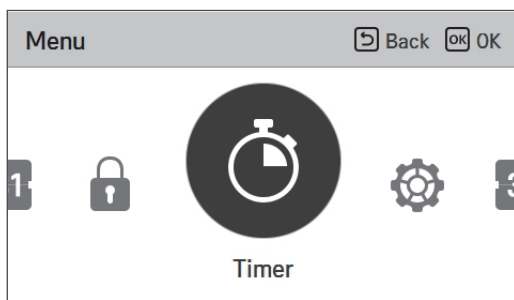
In the central controller, when the central control temperature range lock is set, the wired remote controller's temperature lock setting is cleared.

The temperature change by external equipment is reflected regardless of the remote controller temperature range lock.

TIMER SETTING

Timer entrance and setting method

- In the menu screen, press [<,>(left/right)] button to select the timer category, and press [OK] button to move to the timer setting list screen.
- In the timer setting list screen, press [^, v (up/down)] button to select the timer to set, and press [OK] button to move to the detail screen.
- After setting the value, when you press [OK] button, the timer is activated.
- After setting the value, if you press [Back] button, the changed value will not be applied.



Simple Timer

You can easily set the timer in the range of 1~7 hours in the units of 1 hour.

Timer	Back OK OK
Simple Timer	On >
Turn-On Reservation	Off >
Turn-Off Reservation	Off >



Simple Timer	Back OK OK
^ 1 v hours, left to stop. ▶ Start	

NOTE

If the product operation is On, the easy timer turns off the operation after the corresponding time.

If the product operation is Off, the easy timer turns on the operation after the corresponding time.

If the easy timer operation is turned On/Off before the timer operation, the set timer will be cleared.

Turn-On Reservation

The product is automatically turned On at the set timer time.

Timer	Back	OK
Simple Timer	Off	>
Turn-On Reservation	On	>
Turn-Off Reservation	Off	>

It provides 2 Time formats, 12 Hours(AM/PM) or 24 Hours reference.

Turn-On Reservation		Back	OK
< 14 > : Minute 00	▶ Start		

Turn-On Reservation		Back	OK
AM/PM AM	< 12 > : Minute 00	▶ Start	

NOTE

Even if the Turn-on Reservation operation is turned On/Off after the setting and before the timer operation, the set timer is not cleared.

Turn-Off Reservation

The product is automatically turned Off at the set timer time.

Timer	Back	OK
Simple Timer	Off	>
Turn-On Reservation	Off	>
Turn-Off Reservation	On	>

It provides 2 Time formats, 12 Hours(AM/PM) or 24 Hours reference.

Turn-Off Reservation		Back	OK
< 23 > Minute 00	Start		

Turn-Off Reservation		Back	OK
< PM > Hour 11 Minute 00	Start		

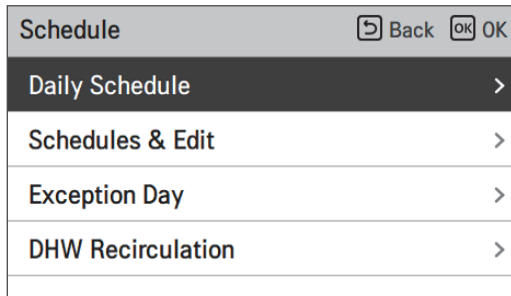
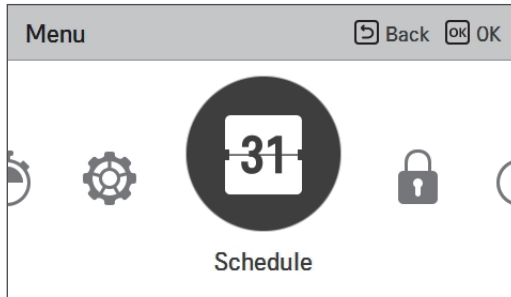
NOTE

Even if the Turn-off Reservation operation is turned On/Off after the setting and before the timer operation, the set timer is not cleared.

SCHEDULE SETTING

How to enter schedule

- In the menu screen, press [←,→(left/right)] button so select the schedule category, and press [OK] button to move to the schedule setting list screen.
- In the schedule setting list screen, press [↑, ↓ (up/down)] button to select the menu to set, and press [OK] button to move to the detail screen.
- There are 4 options in schedule formula ,depending on product function.
 - Room
 - Hot water / DHW
 - Heater of hot water tank / DHW heater
 - DHW recirculation



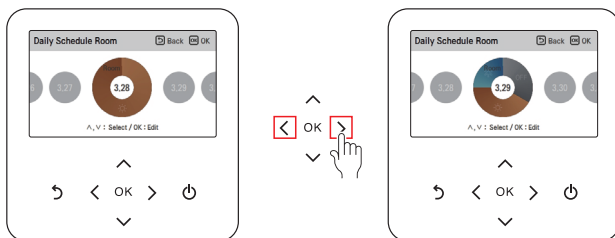
NOTE

Even though there is a heater of hot water tank schedule option, It cannot be activated in case of sterilization operation.

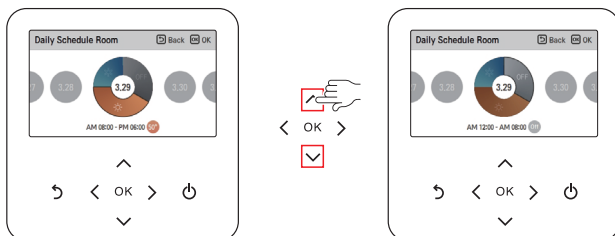
Daily schedule

It is the function that can check the status of the timer (schedule) saved in the remote controller.

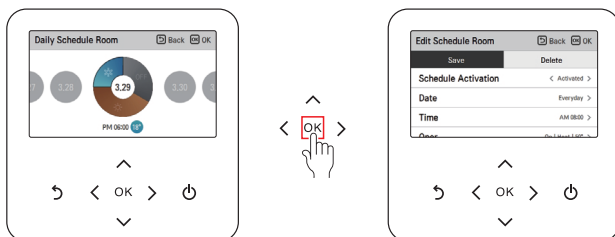
- In the schedule list, select the daily schedule status category, and press [OK] button to move to the detail daily schedule status screen.
- You can use the remote controller's [<, > (left/right)] button to check the timer information of other dates.



- You can use the remote controller's [^, v (up/down)] button to check the corresponding date's other timer information.



- Select the timer information, and press [OK] button to move to the corresponding timer's edit screen.



NOTE

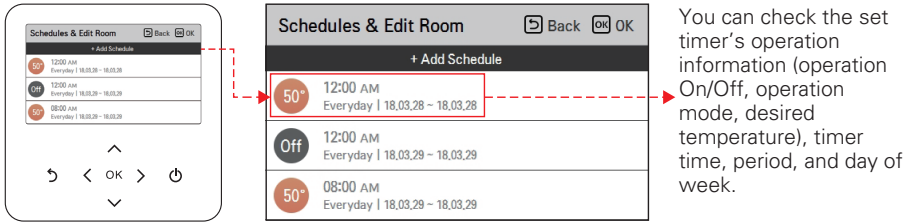
In the daily schedule status screen, even if the timer (schedule) is set, if the corresponding date is designated as an exception date, the schedule will not be performed.

Less than 5 schedules per day is recommended.

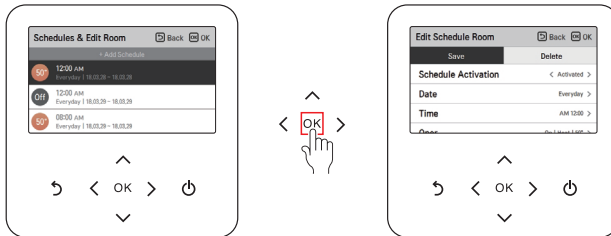
Schedules & Edit

It is the function that can check the status of the timer (schedule) saved in the remote controller.

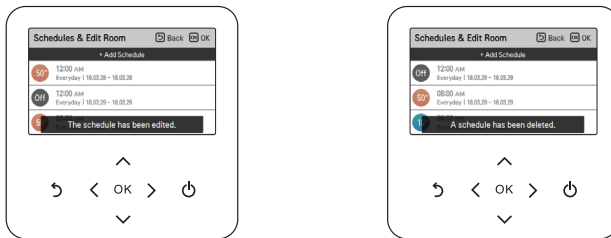
- In the schedule list, select the daily schedule status category, and press [OK] button to move to the daily schedule status detail screen.
- You can use the remote controller's [←,→] (left/right) button to check other date's timer information.



- You can edit the saved schedule's timer information.
 - Select the schedule to edit using [↑, ↓] (up/down) button, and press [OK] button to move to the edit screen.



- Select the timer information, and press [OK] button to move to the corresponding timer's edit screen.



< If schedule is changed >

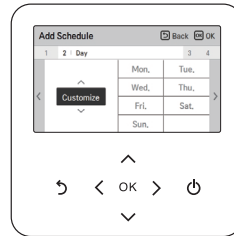
< If schedule is deleted >

Schedules & Edit – Add schedule

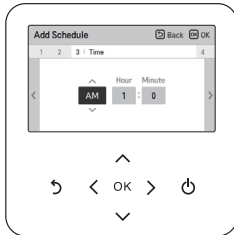
Description of each stage in Add schedule



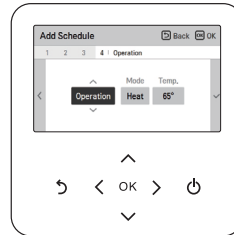
Stage 1. Period setting



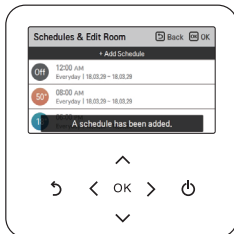
Stage 2. Day of week setting



Stage 3. Time setting



Stage 4. Operation setting



Add schedule is completed

In 'Stage 1', it sets the period to perform the timer.

In 'Stage 2', it sets the day of week to perform the timer.

- You can select 'Everyday / Weekend / Weekdays / Individual selection'.

In 'Stage 3', it sets the start time for the timer.

In 'Stage 4', it sets the timer operation information.

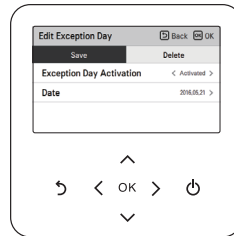
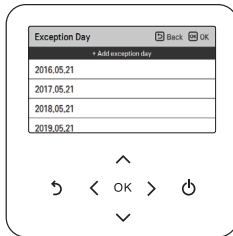
- If 'Stop' is selected, you cannot set the mode / temperature

When stages 1~4 are completed, along with the message of 'schedule is added', it moves to View and edit schedule screen.

Exception Day

It is the function to automatically stop the operation on the set timer day.

- In the schedule list, select the exception day category, and press [OK] button to move to the Exception day designation detail screen.
- In the exception day, you can check, and add/change/delete the exception day information saved in the remote controller.
 - To add an exception day, in the Exception day registration detail screen, designate year/month/day, and press [OK] button to save the Exception day.
 - Select the Exception day to edit using [$\wedge$, $\vee$ (up/down)] button, and press [OK] button to move to the edit screen.

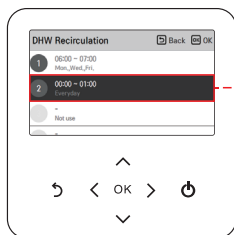


- In the exception day edit screen, you can check, delete/change the corresponding exception day's setting contents.
- When you change the exception day information, you need to save it after the change.

DHW Recirculation Schedule (For 4 Series)

It is the function that can check the status of DHW recirculation timer (schedule) saved in the remote controller.

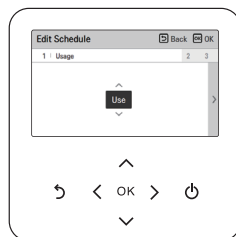
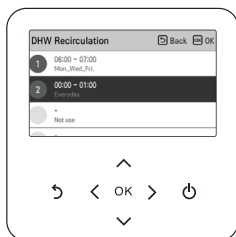
- In the schedule list, select the DHW recirculation schedule status category, and press [OK] button to move to the daily schedule status detail screen.



You can check the set
Timer time, period, and day of week.

- DHW recirculation schedule can be set up to 4 times.

- Select the timer information, and press [OK] button to move to the corresponding timer's edit screen.



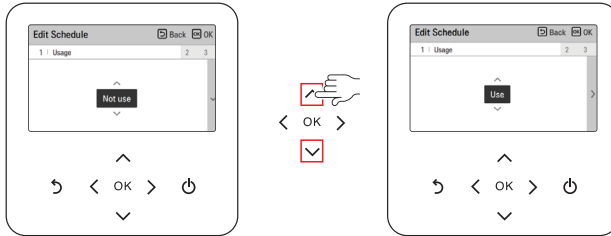
NOTE

This function is not default.

It can be activated, after setting value in installer mode.

Description of each stage in Add schedule

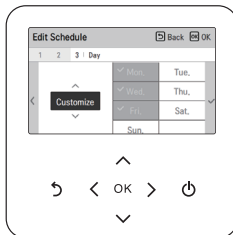
- Stage 1. Usage setting
 - It sets the use of the timer setting.
 - Select 'Use' to move on the next stage



- Stage 2. Time setting setting
 - It sets the period to perform the timer.
 - The end time cannot be earlier than the start time.



- Stage 3. Day of week setting
 - It sets the day of week to perform the timer.
 - You can select 'Customize / Weekend / Weekday / Everyday'.



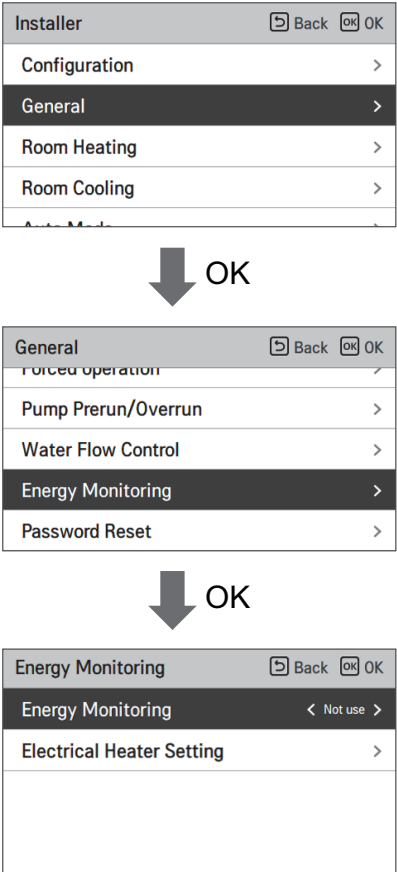
NOTE

If you select 'Not use' again in stage 1 after completing the schedule setting, the timer does not work. but the setting value remains, and when selecting 'Use' again, the same setting value can be used.

ENERGY MONITORING SETTING (For 4 Series)

Energy Monitoring Setting

It is the function that can check the status of energy and power on screen. It calculates power data to create data for energy monitoring. This function can be activated in installer mode.



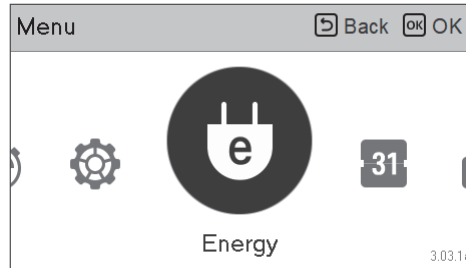
If the heater of the unit is used, the heater power can be calculated after setting the heater information on remote controller

NOTE

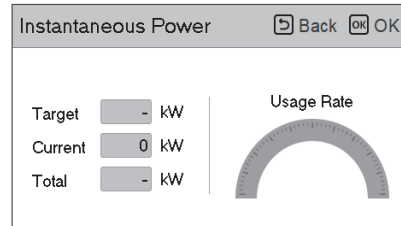
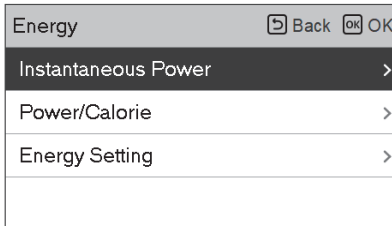
The accuracy of the energy monitoring functionality calculated by the product cannot be guaranteed. This function is not available when using ESS

Information of Energy Monitoring

It provides useful information on the amount of energy and power during the week/month/year. Opening "Energy" option, these are presented on screen.

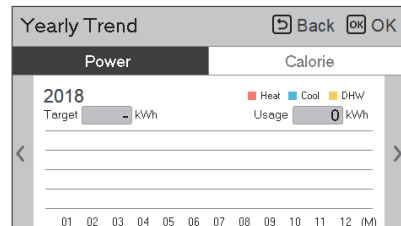
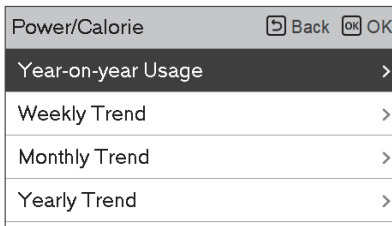


Instantaneous Power



Power/Calorie

The information includes instantaneous power as well as power usage and up to annual trend.



METER INTERFACE SETTING

Connection path of meter interface

It is the function that can check the status of energy and power on screen. It collects and calculates power or calorie data to create data for energy monitoring and energy warning alarm pop-ups. This function can be activated in installer mode.

(For 3 Series)

Installer	Back OK	Meter Interface	Back OK
3rd Party Boiler	>	Modbus Address	>
Meter Interface	>	Unit	>
Pump Prerun/Overrun	>		
Data logging	>		
Reset Initialisation	>		

(For 4 Series)

Installer	Back OK	Connectivity	Back OK	Meter Interface	Back OK
Domestic Hot Water	>	Smart Control	>	Modbus Address	>
Solar Thermal System	>	CN_EXT	>	Unit	>
Service	>	3rd Party Boiler	>		
Connectivity	>	Meter Interface	>		
Information	>	Zone	>		



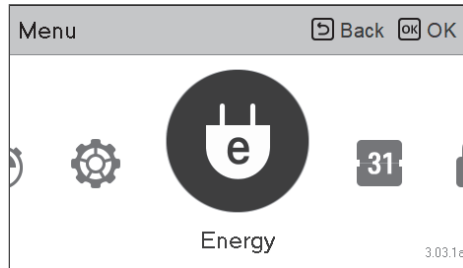
Modbus Address	Back OK	Modbus Address	Back OK	Modbus Address	Back OK
Modbus Address	Not use	Modbus Address	B0	Modbus Address	B1

There are 2 options, modbus address and unit, in this function. Activating the modbus address option, you choose one address(B0 or B1) or don't use. Then, you set the port and specification in range of 0000.0~9999.9[pulse/kWh] as shown in the figure below.

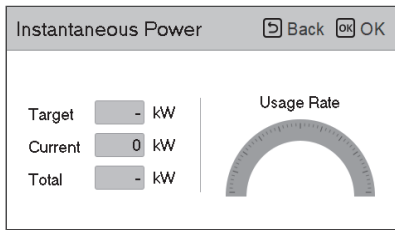
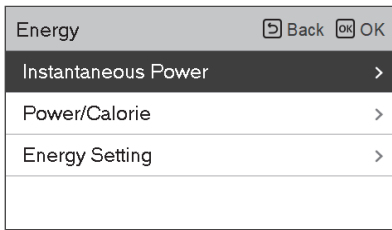
Unit	Back OK OK	Unit	Back OK OK
Pulse/kWh	Port1 0 0 0 0 . 0	Pulse/kWh	Port1 1 1 1 1 . 1

Information of meter interface

It provides useful information on the mount of energy and power during the week/month/year. Opening "Energy" option, these are presented on screen.

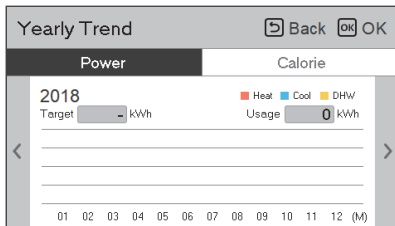
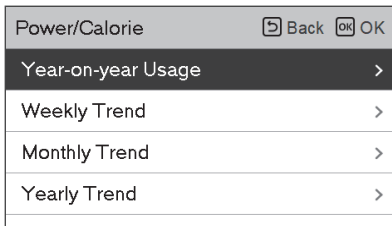


Instantaneous Power



Power/Calorie

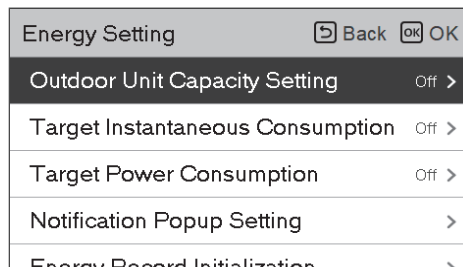
The information includes instantaneous power as well as power/calorie usage and up to annual trend.



Energy Setting

In addition, various energy settings are possible as shown below.

Current value reaches to defined target value, It alerts to you on display

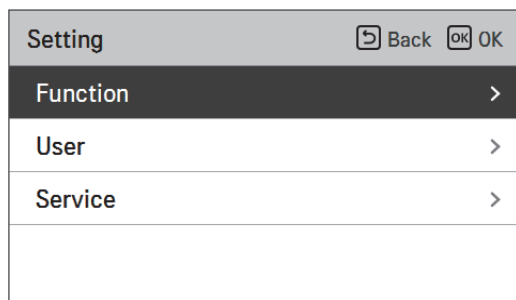
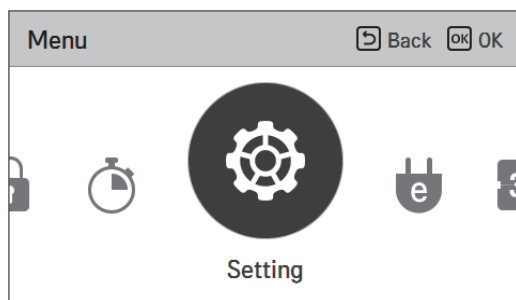


FUNCTION SETTING

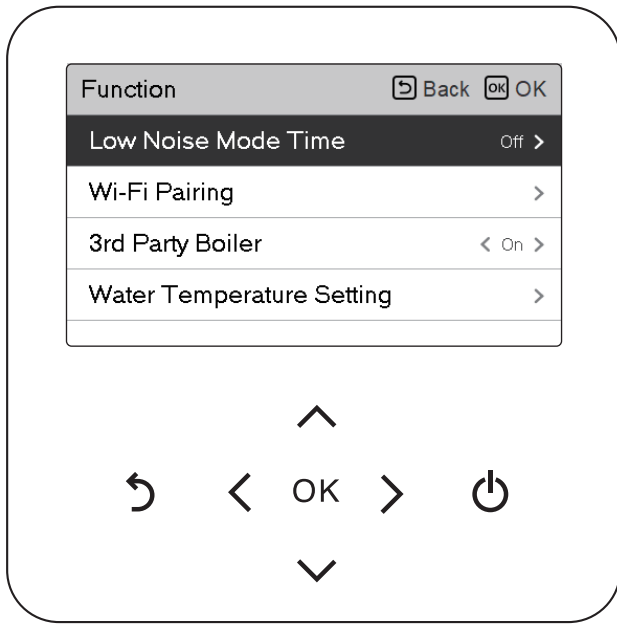
How to enter function setting

To enter the menu displayed at the bottom, you need to enter the function setting menu as follows.

- In the menu screen, press [**<**,**>**(left/right)] button to select the setting category, and press [OK] button to move to the setting list.
- In the setting list, select the function setting category, and press [OK] button to move to the function setting list.



Function setting

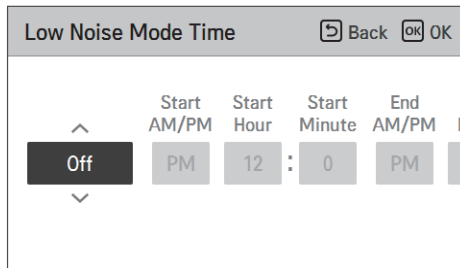
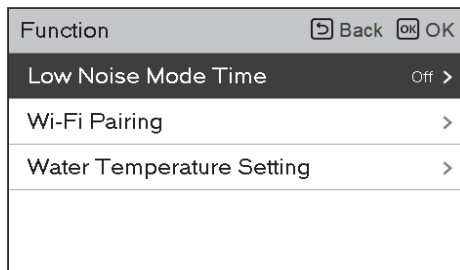


Menu	Description
Low Noise Mode Time	It is the function to set the start and end time of the outdoor unit's low noise mode operation.
Wi-Fi Pairing	It is the function to control remotely through network with indoor unit.
Water Temperature Setting	If you select (Air + Water) as the temperature control mode, This option is activated on screen. It is the function to set target water temperature.
3 rd Party Boiler	It is the function to linkage the boiler of other companies. (this function can be activated, after setting every value in installer mode.)

Low Noise Mode Time

It is the function to set the start and end time of the outdoor unit's low noise mode operation.

- In the function setting list, select the Low Noise Mode Time category, and press [OK] button to move to the detail screen.
 - After setting the start time and the end time, press [OK] button to move to the upper level list.
 - If the start time and the current time are the same, it enters the outdoor unit low noise operation mode, and in the monitoring screen, 'in outdoor unit low noise operation mode' message is displayed.
 - If the end time and the current time are the same, the outdoor unit low noise operation mode is cleared.



NOTE

Low noise mode time setting function can be set only when the installer setting's outdoor unit function M/S setting is set to "Master".

Low noise mode time setting function is only available in some products.



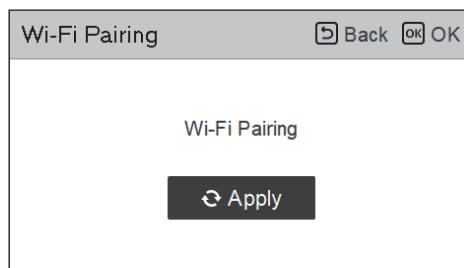
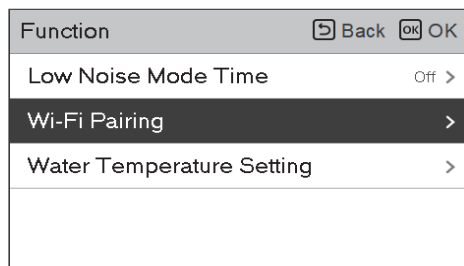
CAUTION

If the function is not used, please set it to Off.

When you enter the low noise operation, the cooling capacity may be degraded.

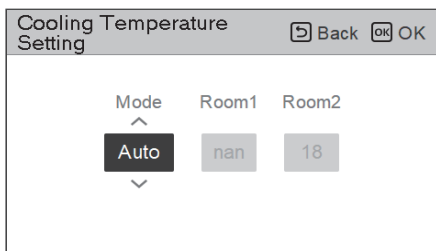
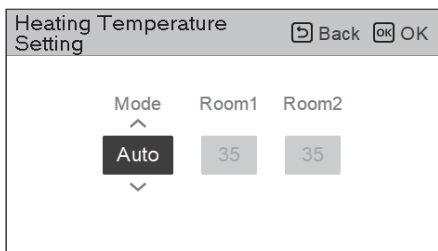
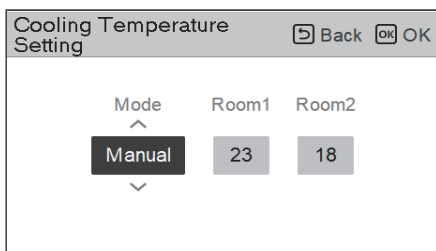
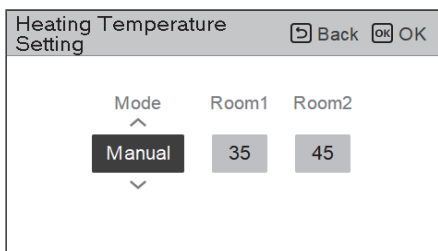
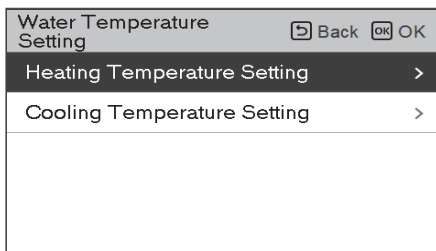
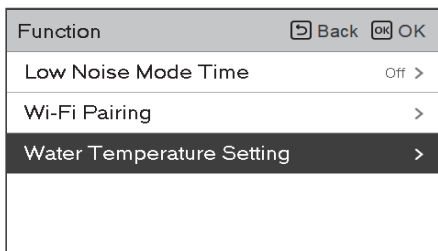
Wi-Fi Pairing

It is the function to control remotely through network with indoor unit.



Water Temperature Setting

If you choose air+water temperature control way, this option is listed-up on function setting display. It is the function to set upper limit of water temperature while controlling the unit based on room air temperature.



Value	Description
Manual	Manually setting water target temperature of heating and cooling mode
Auto	Automatically setting water target temperature depends on seasonal auto mode setting

NOTE

This function is not default.

It can be activated, after setting value in installer mode.

It can be different by model.

3rd Party Boiler

NOTE

This function is not default.
It can be activated, after setting value in installer mode.

Function to set whether or not to use a installed 3rd Party function.

3rd Party Boiler Back OK OK

Mode Temp. Hysteresis

Not use Manual -7 4

3rd Party Boiler Back OK OK

Mode Temp. Hysteresis

Use Manual -7 4

If the mode of this function is set to "Manual", you can set temperature of the boiler and hysteresis, respectively.

3rd Party Boiler Back OK OK

Mode Temp. Hysteresis

Use Auto -5 4

3rd Party Boiler Back OK OK

Mode Temp. Hysteresis

Use Auto -5 2

AS shown above, After every setting is completed in installer mode, 3rd party boiler option is activated in function list.

Function	Back OK OK
Low Noise Mode Time	Off >
Wi-Fi Pairing	>
3rd Party Boiler	< On >
Water Temperature Setting	>

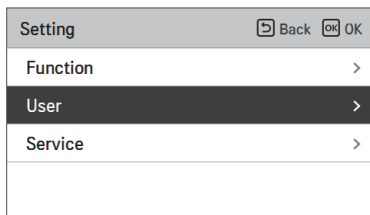
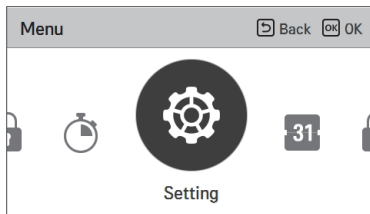
On/off mode of this option are opened by pushing "<" or ">" button simply and easily.

USER SETTING

How to enter user setting

To enter the menu displayed at the bottom, you need to enter the user setting menu as follows.

- Select the setting category, and press [OK] button to move to the setting list.
- Select the user setting category, and press [OK] button to move to the user setting list.



User Setting

- You can set the product user functions.
- Some functions may not be available in some product types.

Menu	Description
Language	Set the language to be displayed on the remote controller.
Temperature Unit	Set the temperature unit displayed on the remote controller.
Screen Saver Timer	Adjust the screen Off time of the remote controller.
LCD Brightness In Idle	Adjust the remote controller's screen brightness.
Date	Set the date displayed on the remote controller.
Time	Set the time displayed on the remote controller.
Summer Time	Set the summer time in the remote controller.
Password	Set the password to prevent unauthorized change to remote controller settings.
Schedule Initialization / Schedule Reset	Initialize all timer settings in the remote controller.
Theme	Set the theme of the remote controller screen.
System Reboot	Restart the remote controller.

Language

Set the language to be displayed on the remote controller.

- In the user setting list, select the language category, and press [OK] button to move to the detail screen.
- After the setting, if you press [OK] button, the setting is saved and moves to the previous screen.

User		Back	OK
Language		English >	
Temperature Unit		Celsius >	
Screen saver timer		< 15s >	
LCD Brightness In Idle		< 0% >	
Date		2010.7.29(Tue) >	



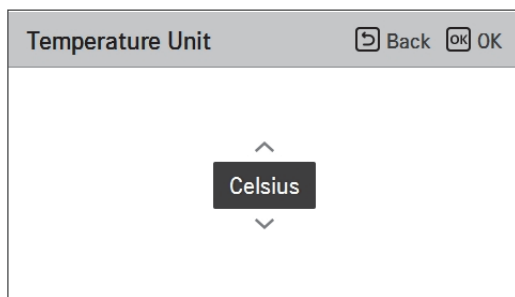
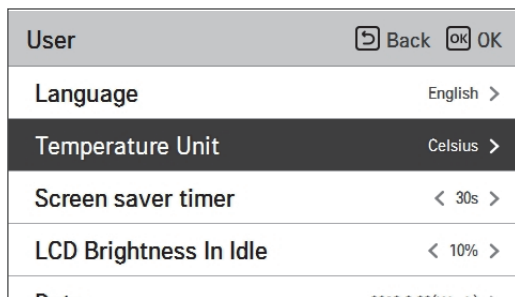
Language		Back	OK
Language ^ English v			

Language		
한국어	English	Français
Deutsche	Italiano	Español
Русский	Polski	Português
中国	Čeština	Türk
Nederlands	Românesc	ελληνικά
Magyar	Български	Srpski
Hrvatski	Slovenščina	Dansk

Temperature Unit

Set the temperature unit displayed on the remote controller.

- In the user setting list, select the temperature unit setting category, and press [OK] button to move to the detail screen.



Value	Celsius
	Fahrenheit



CAUTION

The temperature unit function may not work or work differently in some products.
You cannot set the temperature unit in the slave wired remote controller.

Screen Saver Timer

Adjust the screen Off time of the remote controller.

- Select the following setting values using [<,>(left/right)] button.

User	Back OK
Language	English >
Temperature Unit	Celsius >
Screen saver timer	< 15s >
LCD Brightness In Idle	< 0% >
Date	2010.7.22(Tue) >

Value		
15 seconds	30 seconds (default)	1 min



CAUTION

Selecting longer stand by screen will decrease LCD lifespan.

LCD Brightness In Idle

Adjust the remote controller's screen brightness.

- Select the following setting values using [<,>(left/right)] button.

User	Back OK
Language	English >
Temperature Unit	Celsius >
Screen saver timer	< 15s >
LCD Brightness In Idle	< 0% >
Date	2010.7.22(Tue) >

Value			
0 %	10 % (default)	20 %	30 %



CAUTION

Selecting brighter stand by screen will decrease LCD lifespan.

Date

Set the date displayed on the remote controller.

- In the user setting list, select the date category, and press [OK] button to move to the detail screen.
- After the setting, if you press [OK] button, the setting is saved and moves to the previous screen.

User	Back OK OK
External Device	
Date	2016.5.18(Wed.) >
Time	PM 02:02 >
Summer Time	Off >
Password	Off >



Date	Back OK OK	
< 2016 > Month 5 Day 18		

Time

Set the time displayed on the remote controller.

- In the user setting list, select the time category, and press [OK] button to move to the detail screen.
- After the setting, if you press [OK] button, the setting is saved and moves to the previous screen.
- In the screen, Time display can be presented in the form of AM / PM or 24 hours standard.

User	Back	OK
External Device		
Date	2016.5.18(Wed.) >	
Time	PM 02:04 >	
Summer Time	Off >	
Password	Off >	



Time	Back	OK
Time Format	Hour	Minute
24 Hours	08	44

Time	Back	OK
Time Format	AM/PM	Hour Minute
12 Hours	AM	8 : 44

Summer Time

Set the daylight savings time dates in the remote controller.

- In the user setting list, select the summer time setting category, and press [OK] button to move to the detail screen.
 - Summer time: The system to advance the time by 1 hour from the spring when the day is longer and return back in the fall when the day gets shorter.
 - When it becomes AM 02:00 on the DST start date, the current time changes to AM 03:00, and when it becomes AM 02:00 of the DST end date, the current time changes to AM 01:00.

User		Back	OK
External Device			
Date	2016.5.18(Wed.) >		
Time	PM 02:05 >		
Summer Time	Off >		
Password	Off >		

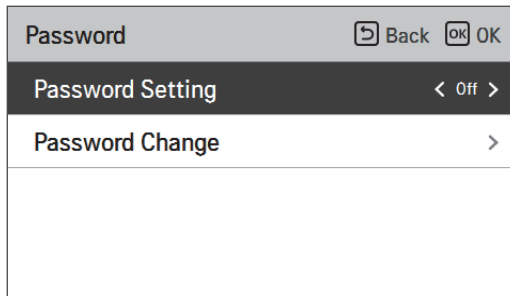
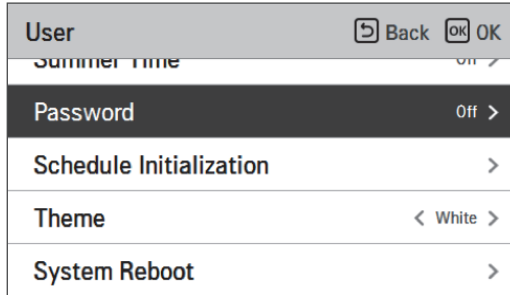


Summer Time						Back	OK
^	Month	Day		Month	Day		
	Off	1	1	-	1	1	
▼							

Password

Set the password to prevent unauthorized change to remote controller settings.

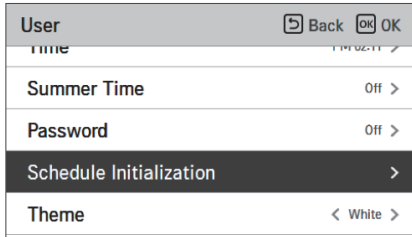
- Select the user password setting category, and press [OK] button to move to the detail screen.
 - If the password is set, when you enter "menu – setting", you need to input password to enter the setting list.
 - When you forgot the password, you can initialize the password using the installer setting's "password initialization".
- The initialized password is "0000".



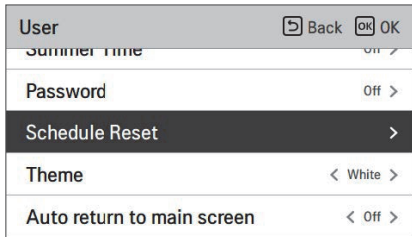
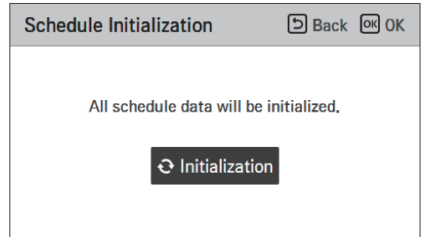
Schedule Initialization / Schedule Reset

Initialize all timer settings in the remote controller.

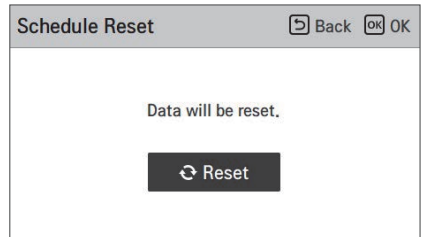
- In the user setting list, select the schedule initialization setting category, and press [OK] button to move to the detail screen.
 - Press the check button to initialize the sleep/simple timer, on/off timer, schedule and exception date in the remote controller.



OK



OK



NOTE

It can be different by model.

Theme

Set the theme of the remote controller screen.

- Select either white or black using [,<,>(left/right)] button.

User	Back	OK
Summer Time	On	>
Password	Off	>
Schedule Initialization		>
Theme	< White >	
Auto return to main screen	< On >	

Auto return to main screen

Set the auto return mode.

- Select either On or Off using [,<,>(left/right)] button.

User	Back	OK
Password	On	>
Schedule Reset		>
Theme	< White >	
Auto return to main screen	< Off >	
System Reboot		>

System Reboot

Restart the remote controller.

- In the user setting list, select the system restart setting category, and press [OK] button to move to the detail screen.
 - In the detail screen, when you press [OK] button, a popup message is displayed, press the check button, to restart the system.
 - For forced reset, press down [On/Off + Back] button for 5 seconds to restart the system.

User	Back	OK
Summer Time	On	>
Password	Off	>
Schedule Initialization		>
Theme	< White >	
System Reboot		>



System Reboot	Back	OK
System will be rebooting.		
Reboot		

OVERVIEW OWNER'S SETTINGS

Menu structure

Menu	
→ Lock	
→ All Lock	26
→ On/Off Lock	26
→ Mode Lock	26
→ Timer	
→ Simple Timer	28
→ Turn-On Reservation	29
→ Turn-Off Reservation	30
→ Schedule	
→ Daily Schedule	32
→ Schedules & Edit	33
→ Schedules & Edit - Add schedule	34
→ Energy	
→ Connection path of meter interface	40
→ Information of meter interface	41
→ Instantaneous Power	41
→ Power/Calorie	41
→ Energy Setting	41
→ Setting	
→ Function	
→ Low Noise Mode Time	44
→ Wi-Fi Pairing	45
→ Water Temperature Setting	46
→ 3 rd Party Boiler	47

	User	
	→	Language49
	→	Temperature Unit50
	→	Screen Saver Timer51
	→	LCD Brightness In Idle51
	→	Date52
	→	Time53
	→	Summer Time54
	→	Password55
	→	Schedule Initialization56
	→	Theme57
	→	System Reboot57

USING THERMOSTAT

The term "thermostat", which is widely used in this chapter, is a kind of 3rd party accessory. LG Electronics does not supply thermostat and it should be supplied 3rd party manufacturers.

Room thermostat can be used for easy and convenience control. To utilize thermostat more efficiently and correctly, this chapter presents information about using thermostat.

When thermostat is interlocked, the subject of Thermo On / Off is limited to the thermostat.



CAUTION

- Some electro-mechanical type thermostat has internal delay time to protect compressor. In that case, mode change can takes time more than user's expectation. Please read thermostat manual carefully if the product does not response quickly.
- Setting temperature range by thermostat can be different with that of the product. The heating or cooling set temperature should be chosen within the setting temperature range of the product.

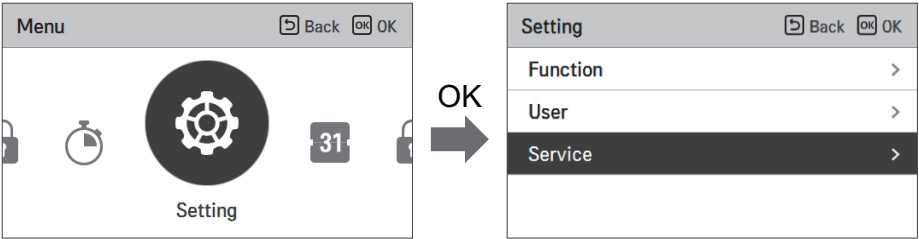
How to use thermostat

To find how to turn on and off, how to set target temperature, how to change operating mode, etc, please refer thermostat operating manual provided by thermostat manufacturer.

SERVICE SETTING

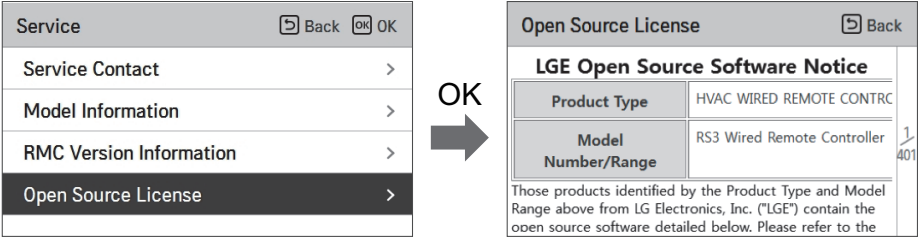
How to enter service setting

- To enter the menu displayed at the bottom, you need to enter the service setting menu as follows.
- In the menu screen, press [**<**,**>**(left/right)] button to select the setting category, and press [OK] button to move to the setting list.
 - In the setting list, select the service setting category, and press [OK] button to move to the service setting list.



Open source license

- View the remote controller's open source license.
- In the service setting list, select the open source license category, and press [OK] button to move to the detail screen.



EMERGENCY OPERATION

• Definition of terms

- Trouble : a problem which can stop system operation, and can be resumed temporally under limited operation without certificated professional's assist.
- Error : problem which can stop system operation, and can be resumed only after certificated professional's check.
- Emergency mode : temporary heating operation while system met trouble.

• Objective of introducing 'Trouble'

- Not like airconditioning product, Air-to-Water heat pump is generally operation in whole winter season without any system stopping.
- If system found some problem, which is not critical to system operating for yielding heating energy, the system can temporarily continue in emergency mode operation with end user's decision.

• Classified trouble

- Trouble is classified two levels according to the seriousness of the problem. : Slight trouble and Heavy trouble
- Slight trouble : Sensor trouble. In most case, this trouble is concerned with sensor problems. The unit is operating under emergency mode operation(level 1).
- Heavy trouble : Compressor cycle trouble. Emergency mode operation(level 2) is performed by optional electric heater.
- Option trouble : a problem is found for option operation such as water tank heating. In this trouble, the troubled option is assumed as if it is not installed at the system.

• Emergency operation level

When the AWHP has any trouble,

- (1) If there is not a function to judge possibility of operation : Once an error occurs mainly in indoor unit, AWHP stops. On the other hand, Remocon allows the product to activate On/ Off operation.(On : emergency operation)
 - Slight / Heavy trouble : Heating Operable only
 - Critical trouble : Full stop
 - Treatment priority : Critical > Heavy > Slight
- (2) If there is a function to judge possibility of operation : Depending on the status of slight / heavy / critical trouble, pop-up phrase is guided separately on display.
 - Slight trouble : Heating/Cooling Operable
 - Heavy trouble : Heating Operable only
 - Critical trouble : Service center request
 - AWHP operates when user pressed OK button on pop-up window.

- **Duplicated trouble : Option trouble with slight or heavy trouble**

- If option trouble is occurred with slight (or heavy) trouble at the same time, the system puts higher priority to slight (or heavy) trouble and operates as if slight (or heavy) trouble is occurred.
- Therefore, sometimes sanitary water heating can be impossible in emergency operation mode. When sanitary water is not warming up while emergency operation, please check if sanitary water sensor and related wiring are all Ok.

- **Emergency operation is not automatically restarted after main electricity power is reset.**

- In normal condition, the product operating information is restored and automatically restarted after main electricity power is reset.
- But in emergency operation, automatic re-start is prohibited to protect the product.
- Therefore, user must restart the product after power reset when emergency operation has been running.

MAINTENANCE AND SERVICE

Maintenance activities

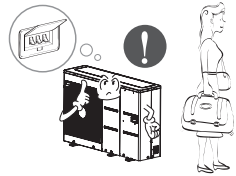
In order to ensure optimal availability of the unit, a number of checks and inspections on the unit and the field wiring have to be carried out at regular intervals, preferably yearly. This maintenance should be carried out by your local agreed technician.

When the unit is not going....



CAUTION

- If the product is not used for long time, we strongly recommend not to switch off the power supply to the product.
- When the power is applied for the first time, operate the product after preheating for 2 hours. To protect the unit by increasing the oil temperature of the compressor.
- If power is not supplied, some special product-protecting actions (such as water pump anti-locking) will not performed.

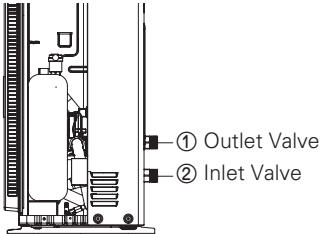


How to drain remaining water in the product

! CAUTION

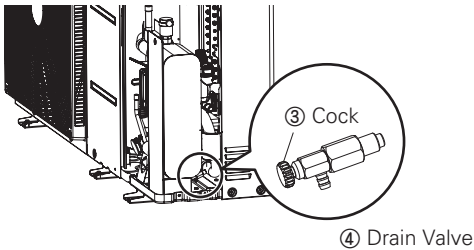
If the product is not used for a long period of time with remaining water, there is a risk of freezing in winter.

Step1



Step1. To drain most of the water out of the product, remove the water pipes from the inlet/outlet valve(①, ②). After draining, reconnect them

Step2



Step2. To drain the rest of the water out of the product, open the cock(③) of the drain valve(④) counterclockwise. After draining, lock it in the opposite direction to the end.

- To use the product again, you have to refill water in it. Refer to 'Water Charging' of 'Installation' part in installation manual.

Call the service immediately in the following situations

- Anything abnormal such as burning smell, loud noise etc. happen. Stop the unit and turn the breaker off. Never try to repair by yourself or restart the system in such cases.
- Main power cord is too hot or damaged.
- Error code is generated by self diagnosis.
- Water leaks from unit.
- Any switch, breaker (safety, earth) or fuse fails to work properly.

User must carry routine checkup & cleaning to avoid unit's poor performance.

In case of special situation, the job must be carried out by the only service person.



CAUTION

- In the case of water with added brine, the drain valve of shut-off valve must be connected to a recovery container.
- Do not touch the water stirred with the brine.
- When the brine in the pipe is leaked, do not operate the unit and contact dealer, seller or an authorized service center.



Manufacturer :

LG Electronics Inc.

84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, KOREA

UK Importer :

LG Electronics U.K. Ltd

Velocity 2, Brooklands Drive, Weybridge, KT13 0SL

Eco design requirement

The information for Eco design is available on the following free access website.

<https://www.lg.com/global/support/cedoc/cedoc>