

AWHP Split

Easy Design / Installation Instruction



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2. System design application

3. Controller configuration

4. Dip S/W Setting

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5.1 Check-list

5.2 Test run

5.3 Error codes

5.4 Trouble shooting

Please read this guide completely before installing the product.

Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

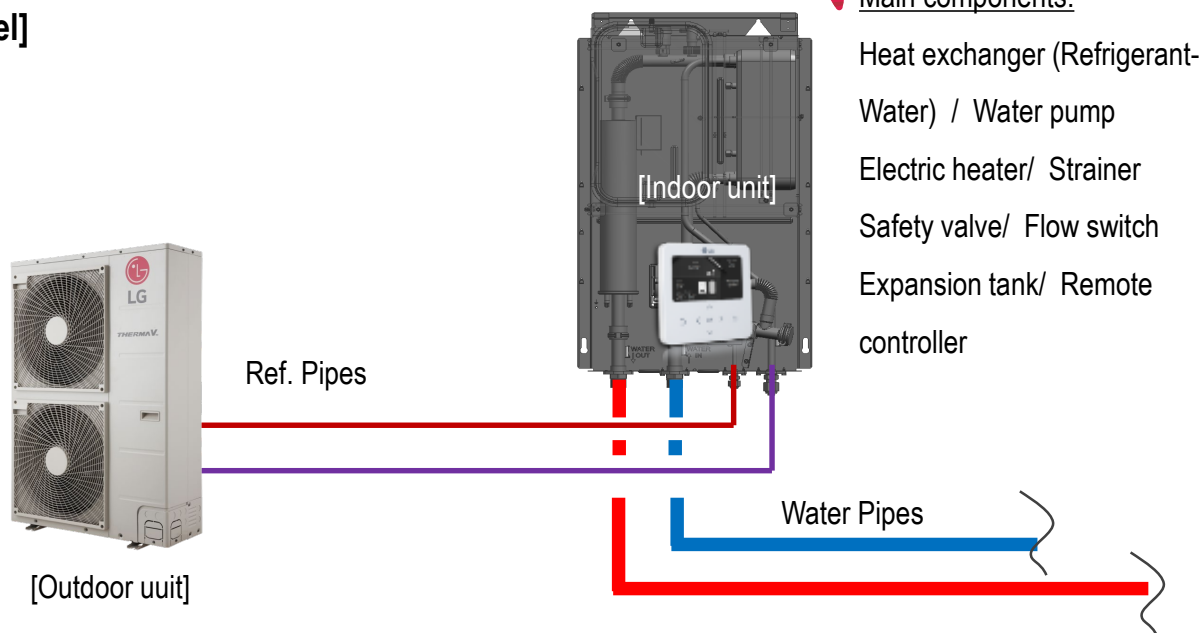
Please retain this guide for future reference after reading it thoroughly.

Overview

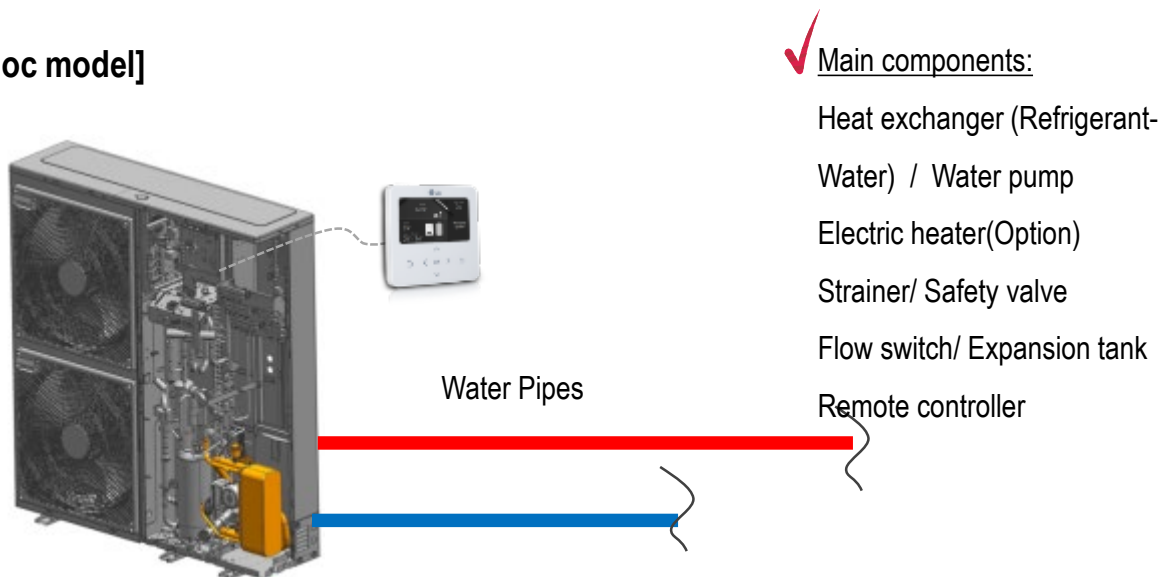
System capable of space cooling, heating and providing DHW

AWHP stands for "Air to Water Heat Pump" and generally refers to Therma V system.

[Split model]



[Monobloc model]



[Application]



[Floor heating]



[FCU]

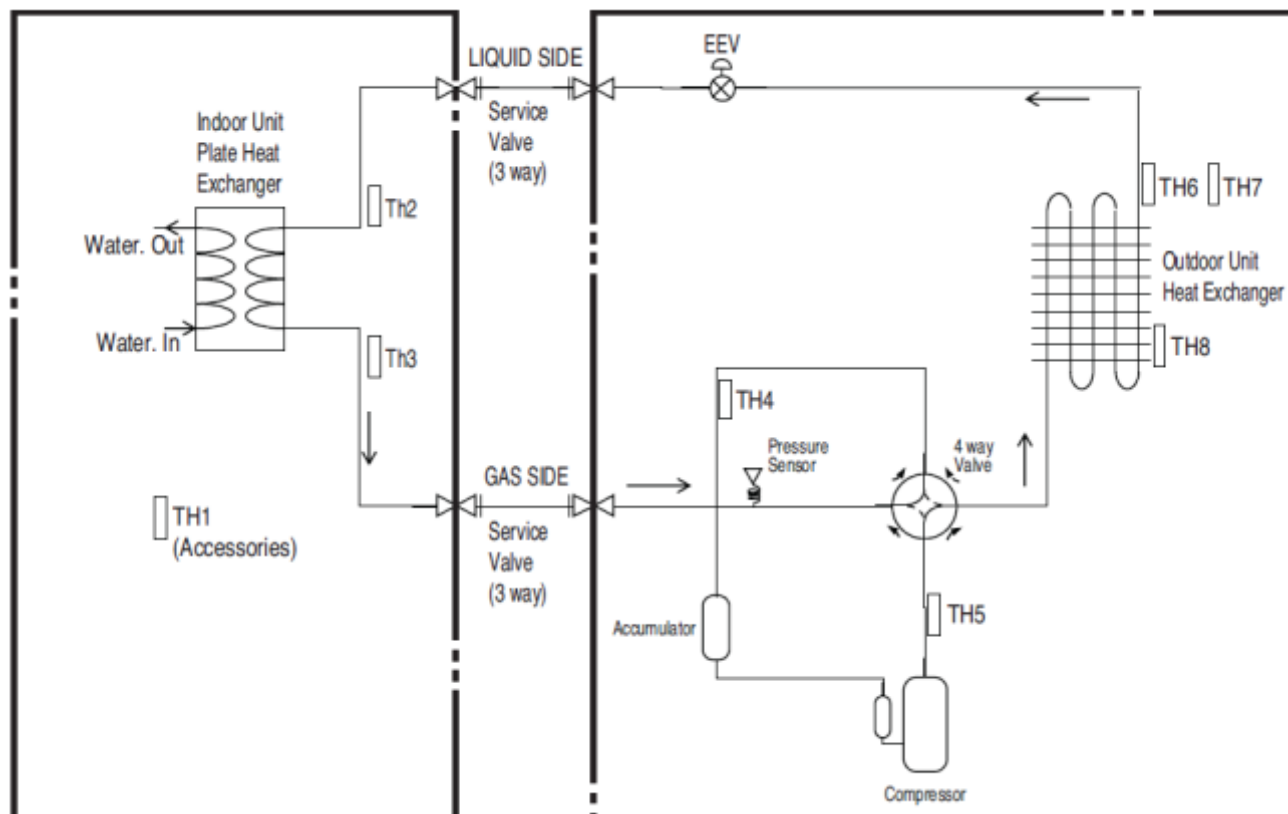


[Radiator]



[Hotwater]

Product Diagram_Split

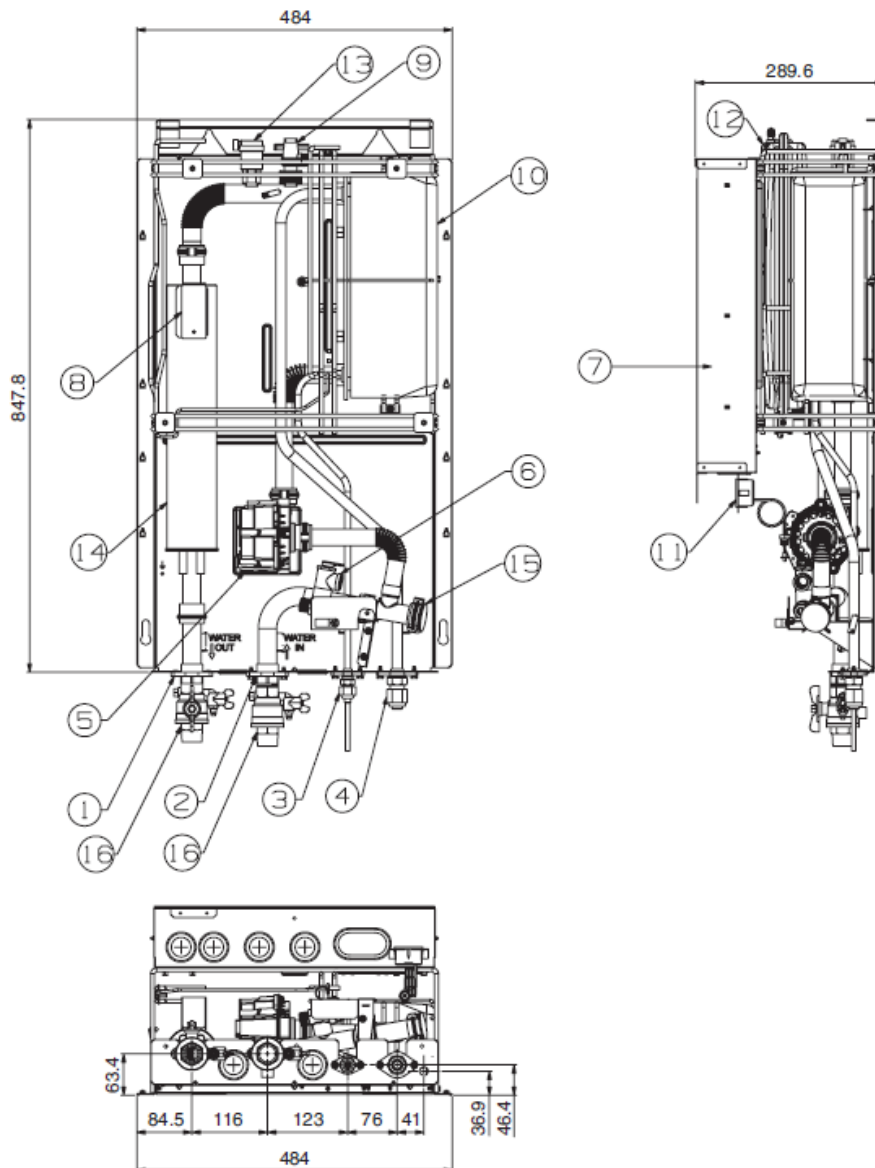


[Product : Split 3rd]

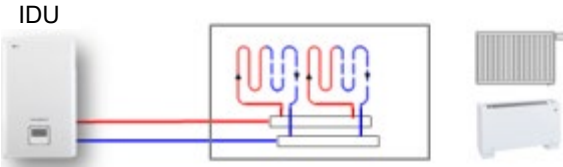
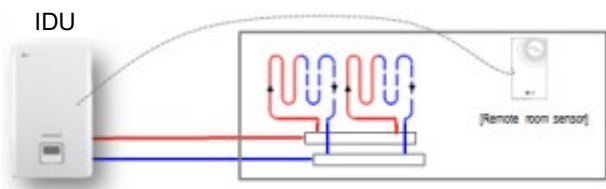
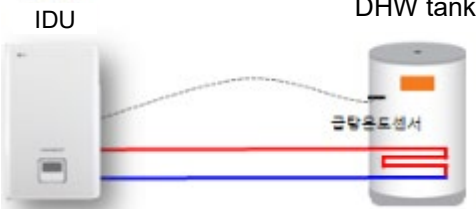
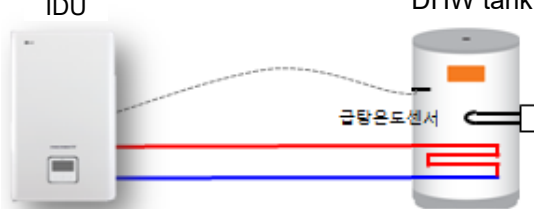
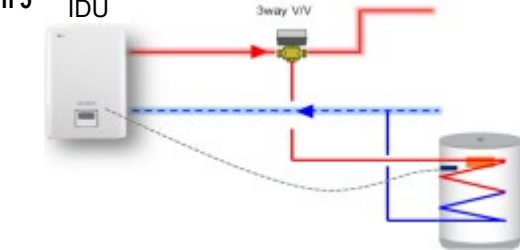
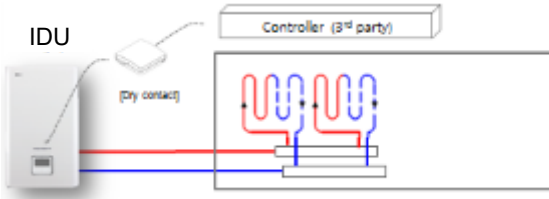
Table of sensors

Category	Symbol	Meaning	PCB Connector	Remarks
Indoor Unit	Th1	Remote air temperature sensor	CN_ROOM	- Optional accessory (being sold separately) - Not shown in diagram
	Th2	Inlet evaporator temperature sensor	CN_PIPE_IN	- Meaning is expressed based on Cooling mode.
	Th3	Outlet evaporator temperature sensor	CN_PIPE_OUT	
Outdoor Unit	Th4	Compressor-suction pipe temperature sensor	CN_SUCTION	
	Th5	Compressor-discharge pipe temperature sensor	CN_DISCHA	
	Th6	Condenser temperature sensor	CN_C_PIPE	- Description is expressed based on Cooling mode.
	Th7	Outdoor air temperature sensor	CN_AIR	
	Th8	Condenser middle temperature sensor	CN_MID	
	EEV	Electronic Expansion Valve	CN_LEV1	

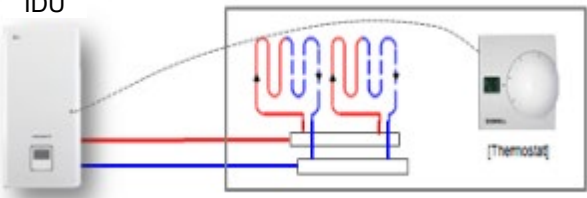
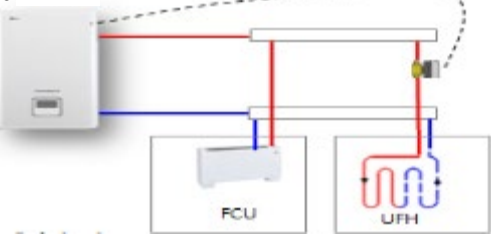
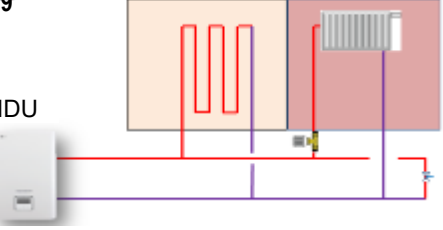
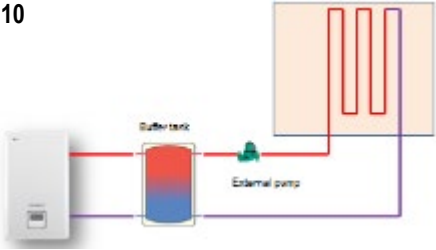
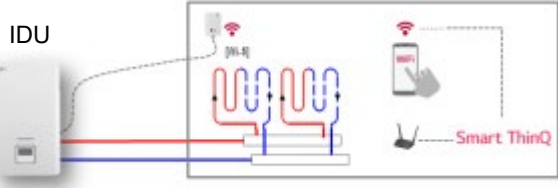
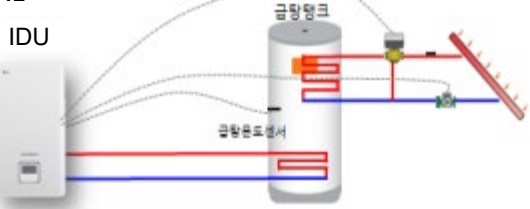
[Water components]



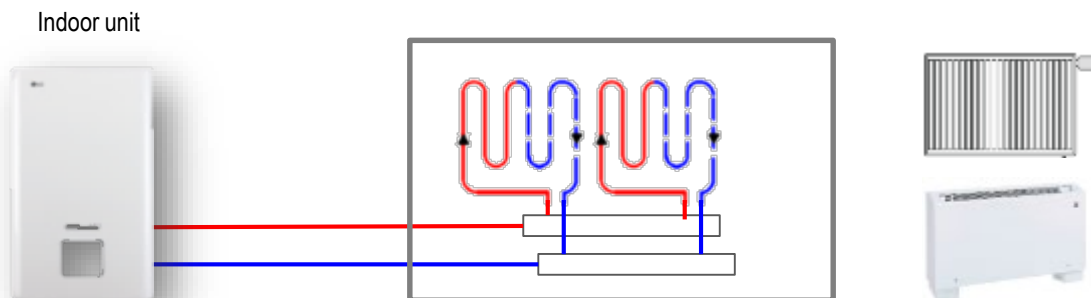
No	Name	Remark
1	Leaving Water Pipe	Male PT 1 inch
2	Entering Water Pipe	Male PT 1 inch
3	Refrigerant Pipe	Ø9.52mm
4	Refrigerant Pipe	Ø15.88mm
5	Water Pump	Max Head 9.5 / 7 / 6 m
6	Safety Valve	Open at water pressure 3 bar
7	Control Box	PCB and terminal blocks
8	Thermal switch	Cut-off power input to electric heater at 90 °C (manual return at 55C)
9	Flow Switch	Minimum operation range at 15 LPM.
10	Plate Heat Exchanger	Heat exchange between refrigerant and water
11	Pressure Gage	Indicates circulating water pressure
12	Expansion Tank	Absorbing Volume change of heated water
13	Air Vent	Air purging when Charging water
14	Electric Heater	Please refer to the below Page 'Model name and related information'
15	Strainer	Filtering and stacking particles inside circulating water
16	Shut-off valve	To drain or to block water when pipe connecting

System diagram	Space heating/cooling	DHW	Booster heater	Remark
<p>System 1</p>  <p>The diagram shows an IDU (In-Door Unit) connected to a radiator system. The radiator system is represented by a box containing a loop of red and blue pipes. A separate radiator unit is shown to the right.</p>	○	X	X	
<p>System 2</p>  <p>The diagram shows an IDU connected to a radiator system. A remote room sensor is connected to the radiator system. The sensor is labeled "[Remote room sensor]".</p>	○	X	X	Remote room sensor
<p>System 3</p>  <p>The diagram shows an IDU connected to a DHW tank. The tank is labeled "금탕온도센서" (DHW tank temperature sensor).</p>	X	○	X	
<p>System 4</p>  <p>The diagram shows an IDU connected to a DHW tank. The tank is labeled "금탕온도센서" (DHW tank temperature sensor). A booster heater is shown inside the tank.</p>	X	○	○	Booster heater
<p>System 5</p>  <p>The diagram shows an IDU connected to a DHW tank. A 3-way valve is used to connect the IDU to the DHW tank. The valve is labeled "3way V/V".</p>	○	○	X	3Way valve
<p>System 6</p>  <p>The diagram shows an IDU connected to a radiator system. A controller (3rd party) is connected to the IDU. The controller is labeled "Controller (3rd party)". The connection is labeled "(dry contact)".</p>	○	X	X	Dry contact

System design applications

System diagram	Space heating/cooling	DHW	Booster heater	Remark
System 7  <p>The diagram shows an IDU (Indoor Unit) connected to a radiator loop. A thermostat is shown controlling the system.</p>	○	X	X	Thermostat
System 8  <p>The diagram shows an IDU connected to a Fan Coil Unit (FCU) and a Under Floor Heating (UFH) system. A 2-way valve is used for switching between the two.</p>	○	X	X	2way valve
System 9  <p>The diagram shows an IDU connected to a radiator and a fan coil. A thermostatic valve is used for temperature control.</p>	○	X	X	Thermostatic valve
System 10  <p>The diagram shows an IDU connected to a buffer tank, an external pump, and a radiator.</p>	○	X	X	.Buffer tank . External pump
System 11  <p>The diagram shows an IDU connected to a radiator. A Wi-Fi module and Smart ThinQ are shown for remote control.</p>	○	○	-	Wi-Fi module To be installed separately
System 12  <p>The diagram shows an IDU connected to a solar water heater system.</p>	X	○	X	solar

System diagram



Purpose:

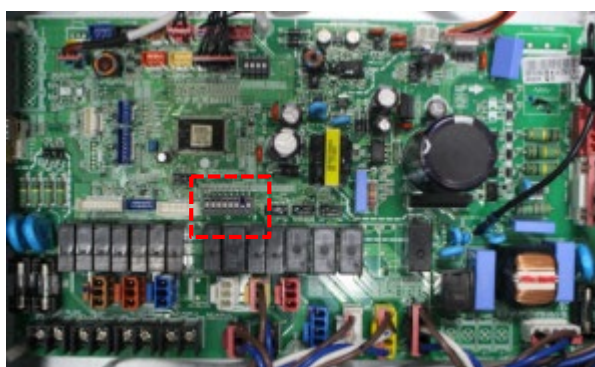
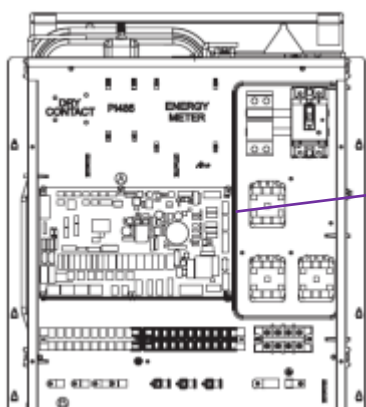
Aims to provide generic floor heating/cooling operations.

Capable of setting up coil-based radiant heating and cooling system thanks to simplified installation structure - also enables heating and cooling by installing radiator/fan coil.

Necessary configuration and feature

Dip s/w	N/A	Keep default See if 2 and 3 are off
Remote controller	Use default one attached to indoor unit	No installation required Additional provision not available
Leaving water temperature	Set up by remote controller	Single temperature
control	Control of leaving water temperature	

Dip s/w Setting

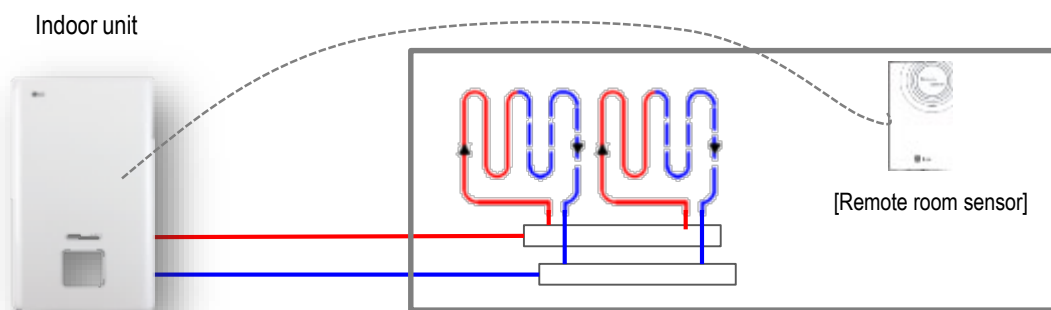


ON



OFF

System diagram



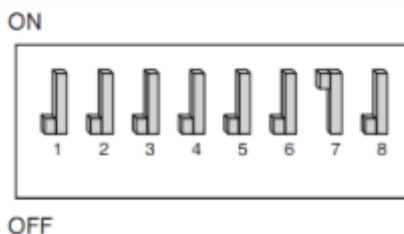
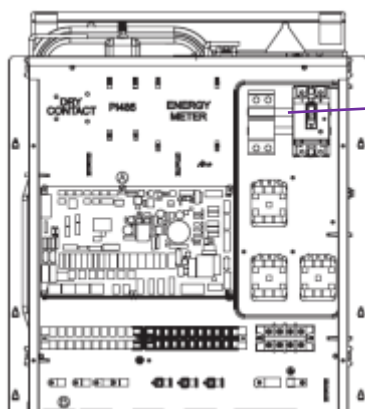
Purpose:

Configuration for generic floor heating and cooling by utilizing indoor air temperature sensor. Can be set up generally with radiator and floor heating coils, and product is operated based on indoor air temperature setup.

Necessary configuration and feature

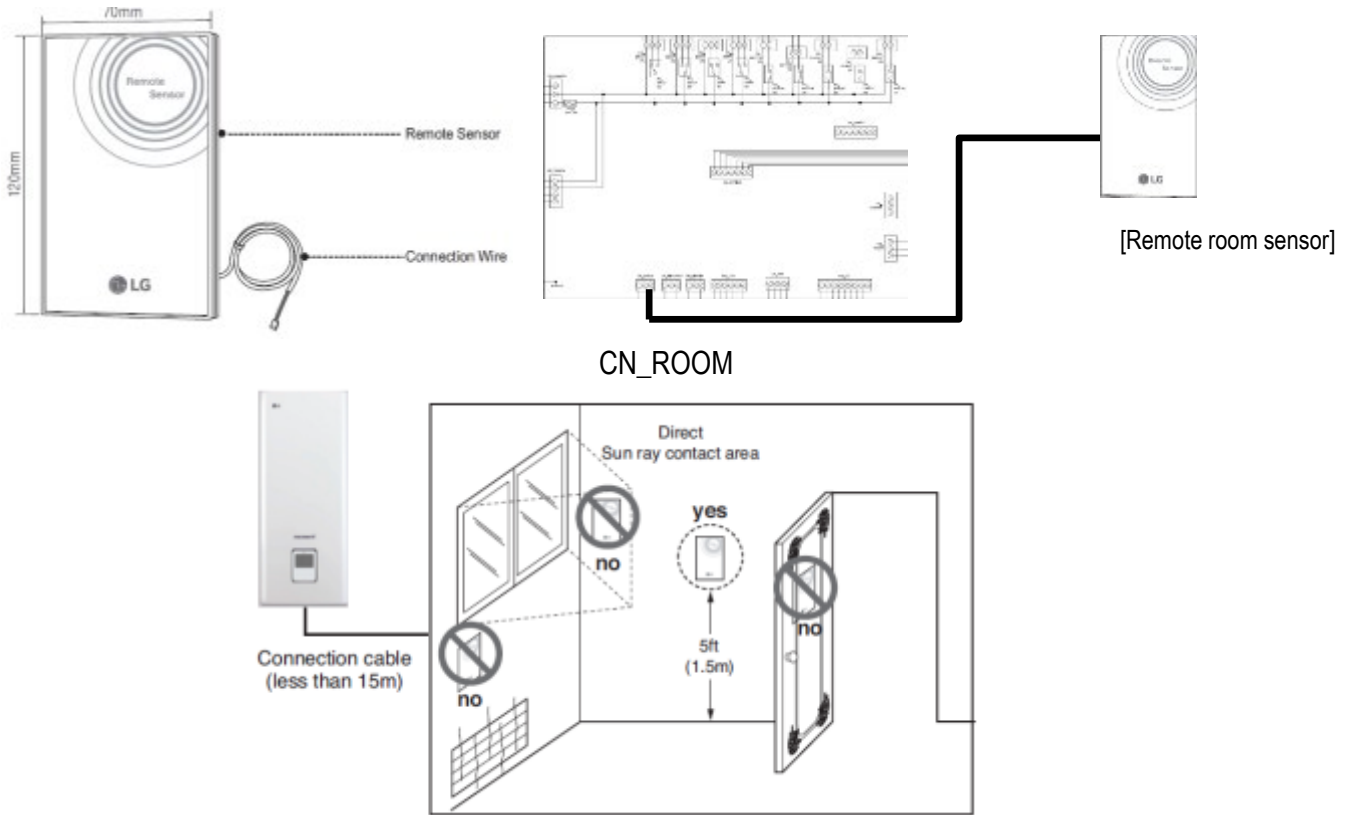
Dip s/w	N/A	Keep default Check if 2 and 3 are off
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
control	Control of indoor air temperature	
Air temperature sensor Installation	Air temperature sensor is an option and needs to be purchased and installed separately.	P/n : PQRSTA0
Installer setting	Remote controller needs to be set up separately.	

Dip s/w Setting

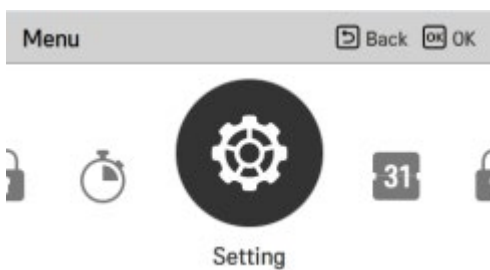


■ Installing remote temperature sensor

Remote temperature sensor can be installed any place a user wants to detect the temperature
Distance between the indoor unit and the remote air temperature sensor should be less than 15 m due to length of the connection cable of remote air temperature sensor.
Connect the wire between CN_Room in PCB and remote room sensor

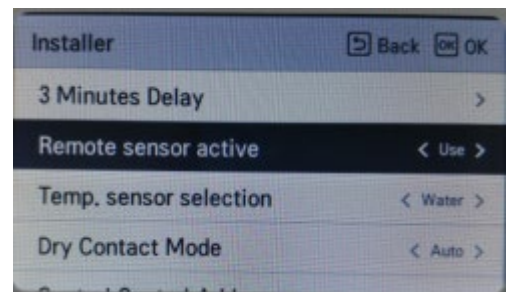
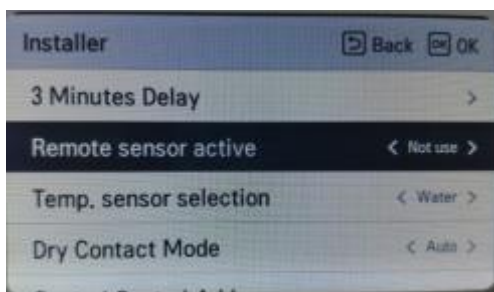


■ Installer setting



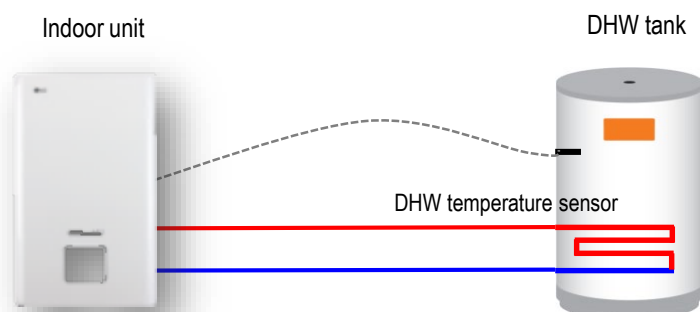
Press 'up' for 3 sec

Enter installer setup mode, then
Set Remote sensor active "Use"
Set Temp.sensor selection "Air".



System 3

System diagram



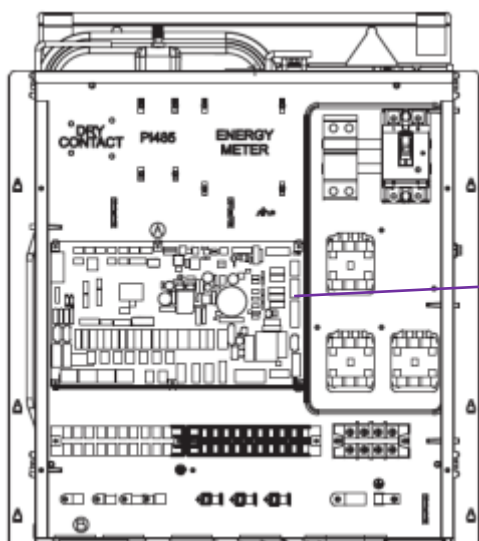
Purpose:

Configuration for DHW exclusive operation. System is set up by connecting piping to heat exchanger installed in DHW tank.

Necessary configuration and feature

Dip s/w	Separate setup is required	Dip s/w No. 3: On
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	DHW temperature is set by remote controller	Single temperature
control	Control of DHW temperature sensor	DHW temperature can be set after initiating heating operation
DHW temperature sensor Installation	Temperature sensor that came with DHW tank needs to be installed.	
Booster heater	If not applied, and tank kit is not used	

Dip s/w Setting



ON

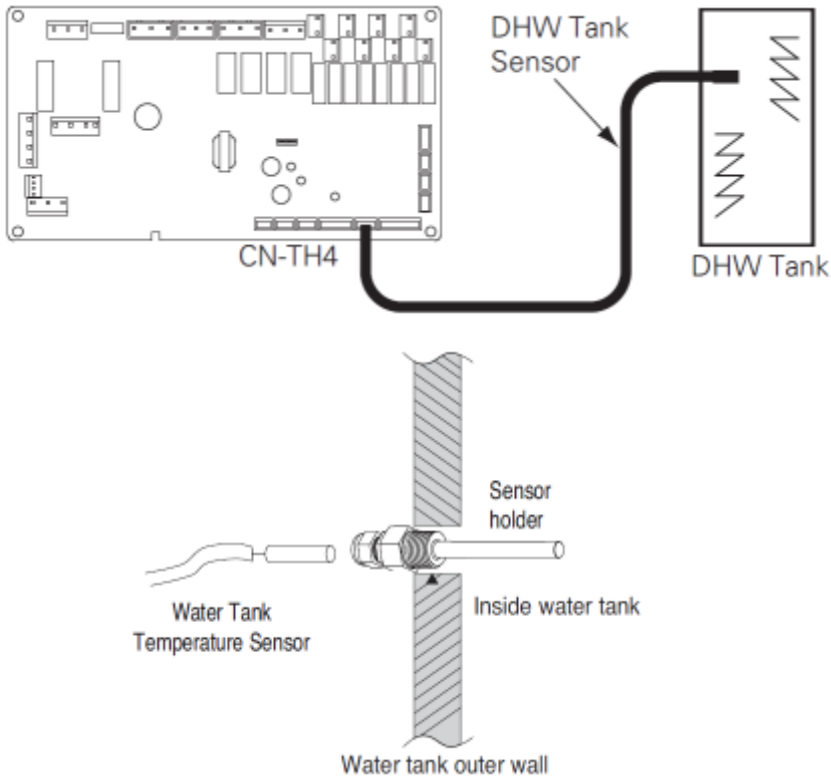


OFF

■ Installing DHW temperature sensor

Length of DHW temperature sensor: 10m (Provided as default)

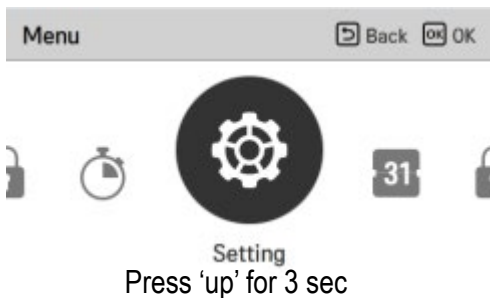
Connect DHW temperature sensor to PCB CN-TH4 and insert sensor in the temperature sensor pocket in tank.



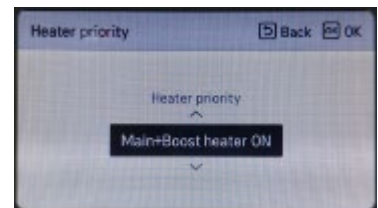
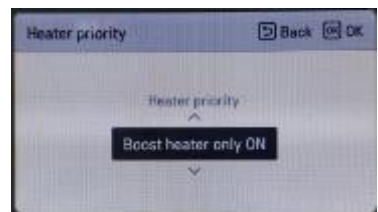
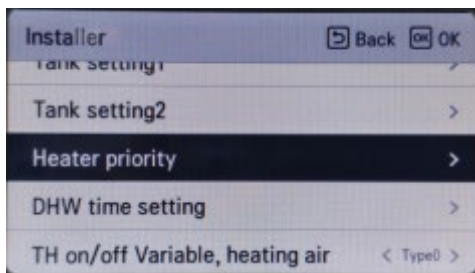
■ Installer setting

For DHW operation

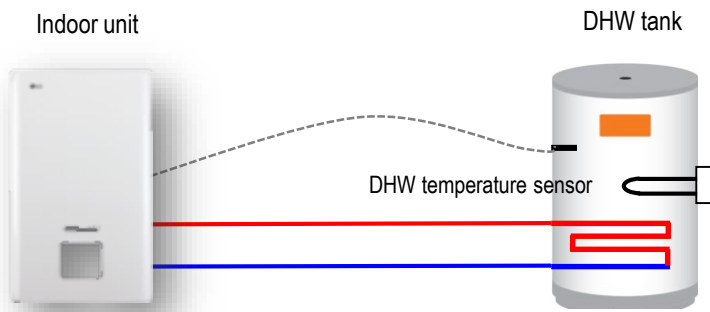
Select on installer setup whether to use booster heater alone or both backup heater and booster heater.



Enter installer setup mode, then Complete Heater priority configuration.



System diagram



Purpose:

Configuration for DHW exclusive operation.

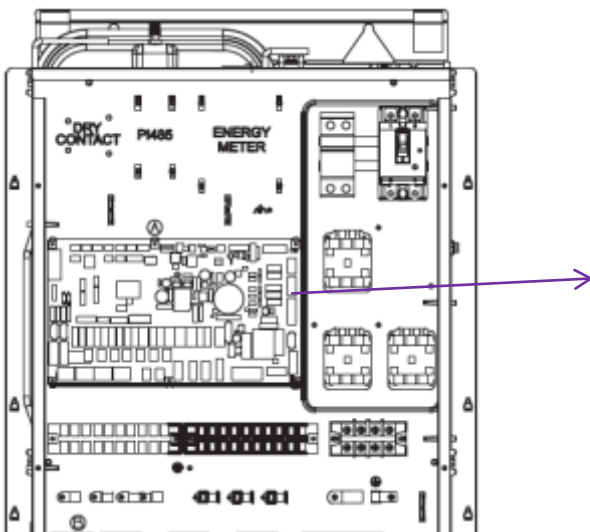
Control separately heater installed inside tank where DHW operation load is great or fluctuation of conditions is drastic.

Booster heater must be installed if DHW operation requires sterilization.

Necessary configuration and feature

Dip s/w	Separate setup is required	Dip s/w No. 3: On
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
control	Control of DHW temperature sensor	DHW temperature can be set after initiating heating operation
DHW temperature sensor Installation	Temperature sensor that came with DHW tank needs to be installed.	
Booster heater	If applied, and tank kit is not used	Separate option

Dip s/w Setting



ON

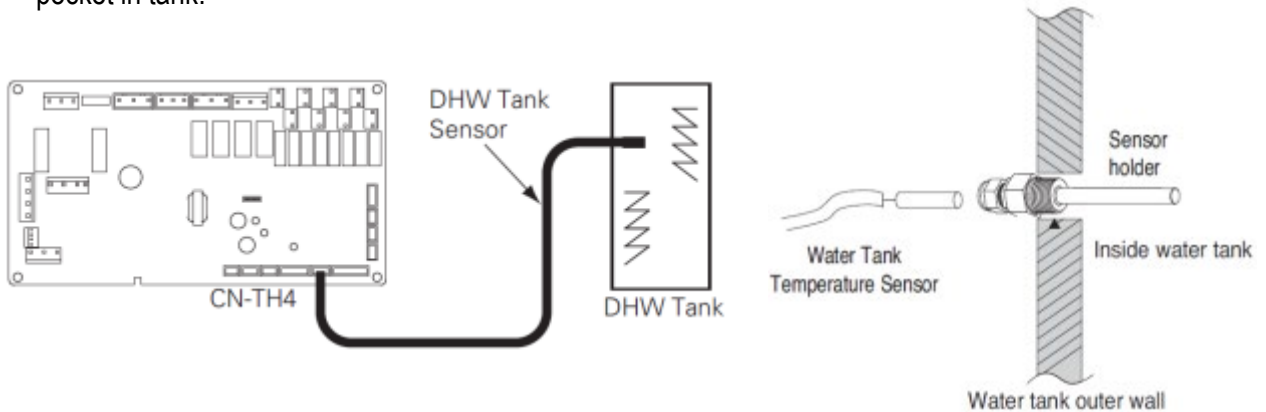


OFF

▪ Installing DHW temperature sensor

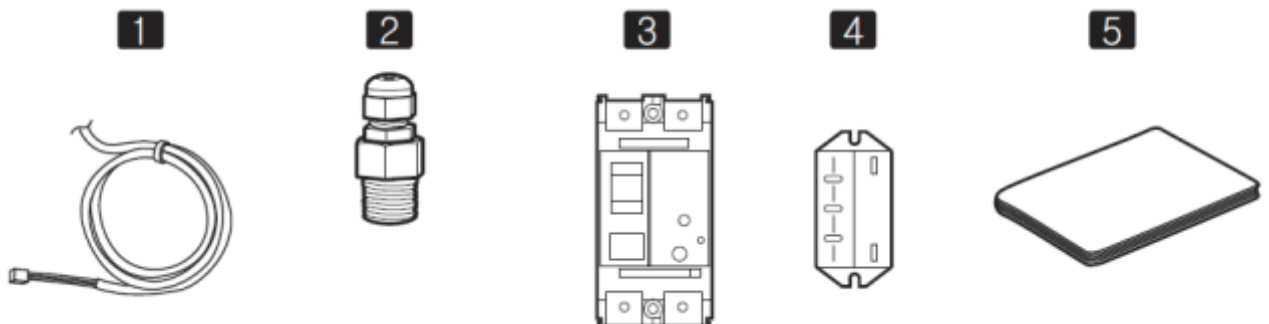
Length of DHW temperature sensor: 10m (Provided as default)

Connect DHW temperature sensor to PCB CN-TH4 and insert sensor in the temperature sensor pocket in tank.

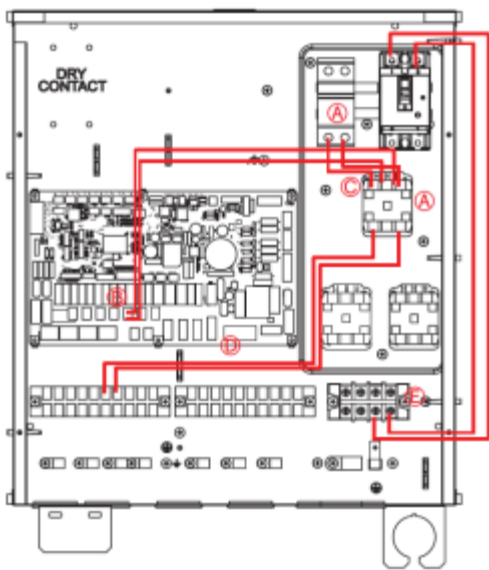


DHW Tank Kit must be used for communication of DHW tank and indoor unit.
It's for communication with the DHW tank which has electric heater.

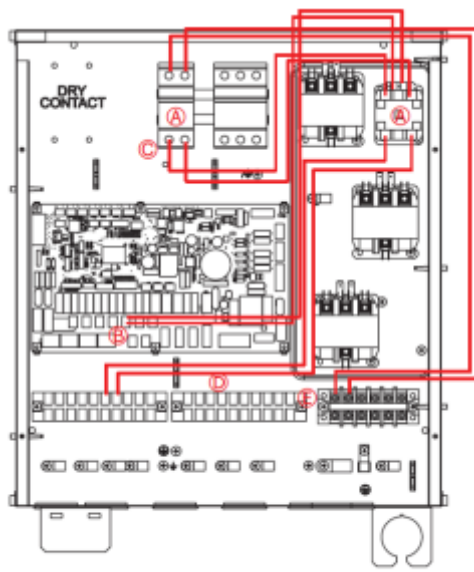
- 1** Sensor (Thermister) : This sensor (RHRSTA0) can be supplied separately.
- 2** Sensor Adaptor
 - It can be attached on the DHW tank
 - Thermister is inserted in the sensor adaptor
 - connection 1/2"(12.7mm) BSP
- 3** ELB (Earth Leakage Breaker) 40A
- 4** Relay contactor
- 5** Installation Manual



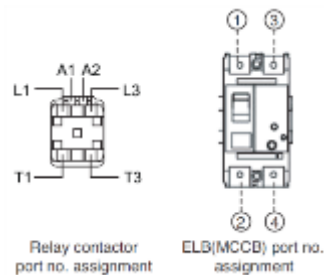
Installing tank KIT



1Ø Electric Heater Model



3Ø Electric Heater Model



Fellow bellow procedures Spet 1 ~ Step 6

Step 1. Find magnetic switch and ELB(MCCB) in the kit. Fit them into the indoor unit control box with enclosed a braket and screws.(symbol Ⓐ at picture)

Step 2. Contact 'CN_B/HEAT(A)'(white connector)of the indoor unit PCB with magnetic switch contact using enclosed cable(symbol Ⓞ at the picture). Connect magnetic switch contactor port no. A1 and A2.

Step 3. Connect magnetic switch contactor port no.L1 and L3 with ELB(MCCB) port no. 2 and 4(symbol Ⓞ at the picture).

Step 4. Connect magnetic switch contactor port no. T1 and T3 with terminal block 1 port 6 and 7(symbol Ⓞ at the picture).

Step 5. Connect ELB(MCCB) to Terminal Block.

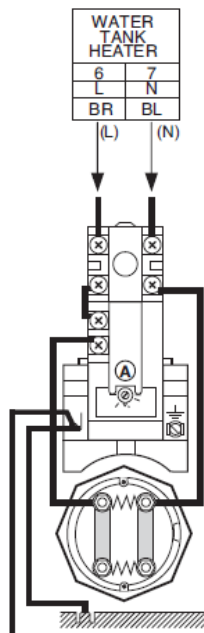
1Ø Electric Heater Model

' Connect ELB(MCCB) port no.1 and 3 with terminal block 3 port 3 and 4(symbol Ⓞ at the picture).

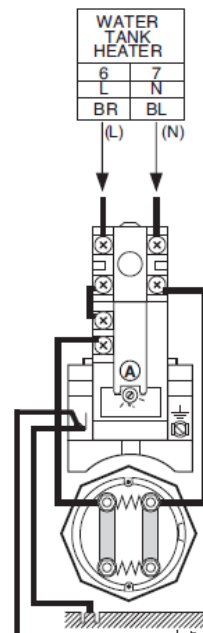
3Ø Electric Heater Model

' Connect ELB(MCCB) port no.1 and 3 with terminal block 3 port 1 and 2(symbol Ⓞ at the picture).

1Ø Electric Heater



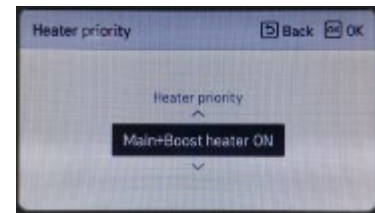
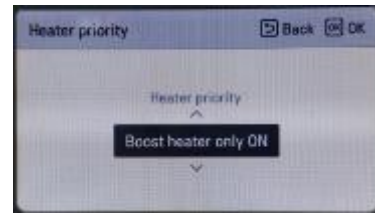
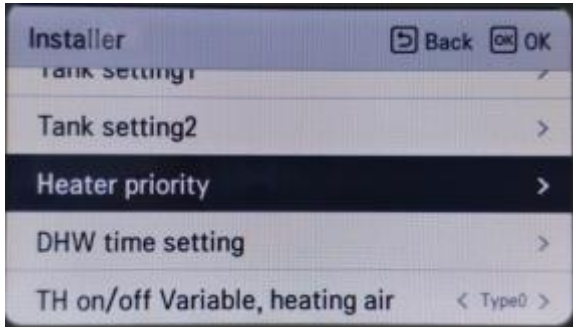
3Ø Electric Heater



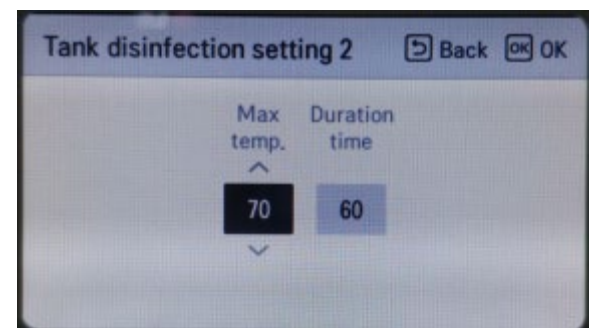
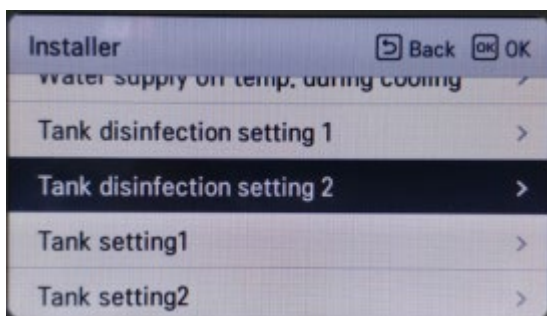
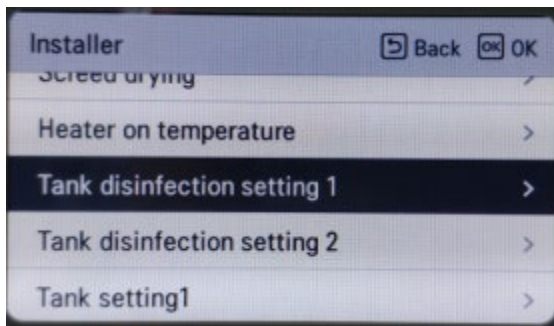
▪ Installer setting

For DHW operation

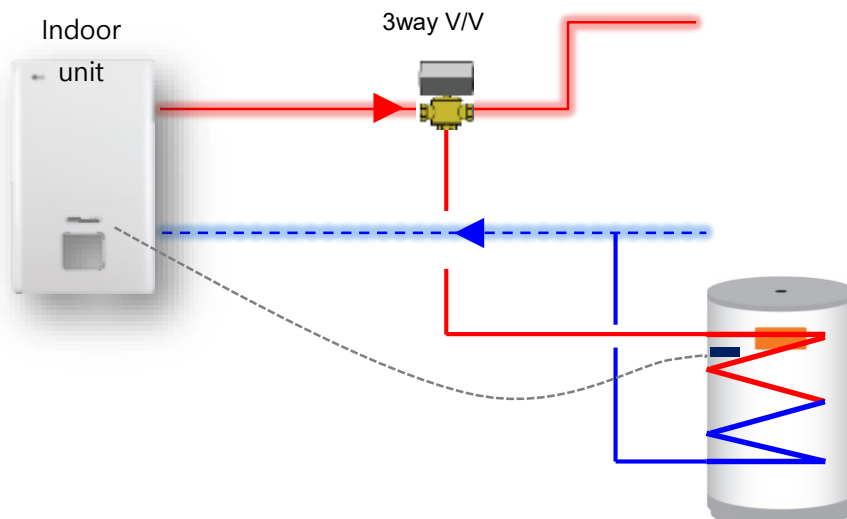
Select on installer setup whether to use booster heater alone or both backup heater and booster heater.



Sterilization is required in order to suppress germs in water stored in tank when installing DHW tank. Set up whether to enable sterilization operation, sterilization temperature and duration.



System diagram



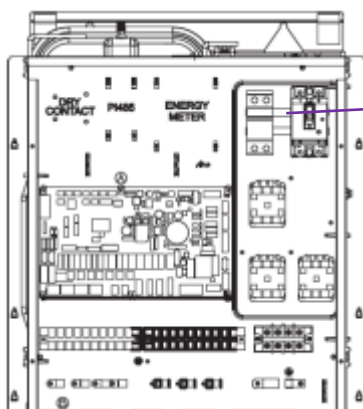
Purpose:

To serve the need to use a single system for Space heating/cooling and Domestic hot water. 3Way valve must be installed to enable system.

Necessary configuration and feature

Dip s/w	Separate setup is required	2 off + 3 on :
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
control	Select priority1) DHW first, 2) Floor heating	Default: DHW
DHW temperature sensor Installation	Temperature sensor that came with DHW tank needs to be installed.	
Installing 3Way v/v	To be purchased and installed separately	
Booster heater	If applied, and tank kit is not used	Separate option
Installer setting	Installer of remote controller needs to be set up separately.	

Dip s/w Setting



ON



OFF

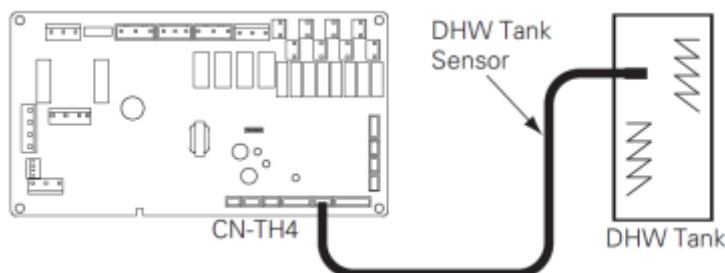
Installing temperature sensor and 3Way v/v

Connect solar thermal sensor to 'CN_TH4'(Red connector) of the indoor unit PCB.

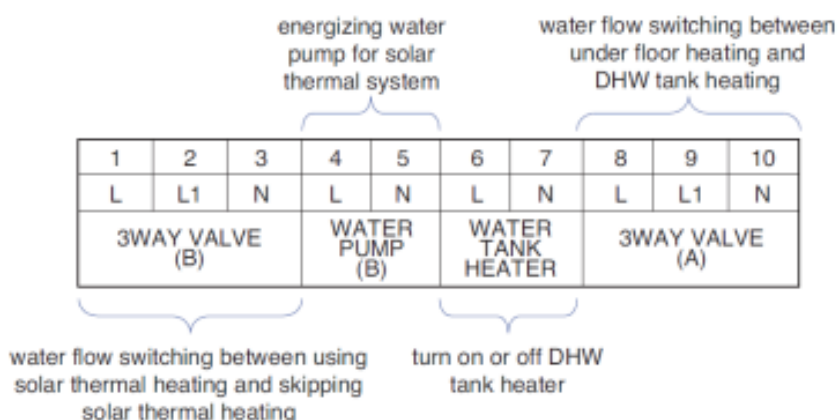
If the DHW tank sensor is connected, disconnect the sensor from PCB first.

Separate connector is required and set up when installing both DHW temperature sensor and solar temperature sensor simultaneously

(2pin for hot water, 2pin for solar)



Terminal Block 1



3WAY VALVE : 3WAY VALVE (A)

- 230V AC SPDT 3-wire type

- SPACE HEATING :

TB1's 9 and 10 are activated

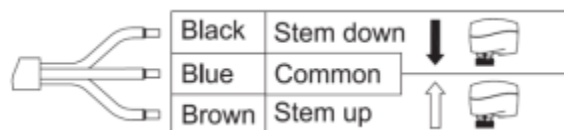
- WATER TANK HEATING :

TB1's 8 and 10 are activated

Example of 3Way valve(Field Scope)



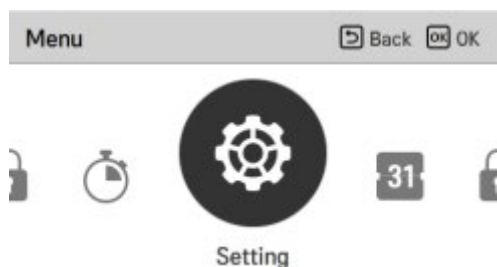
Voltage	230 V (±10%) - 50-60 Hz
Protection class	IP42
Operating time (angle of rotation 90°):	40 s
temperature	-40~70°C



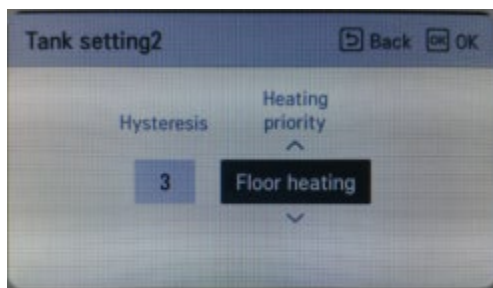
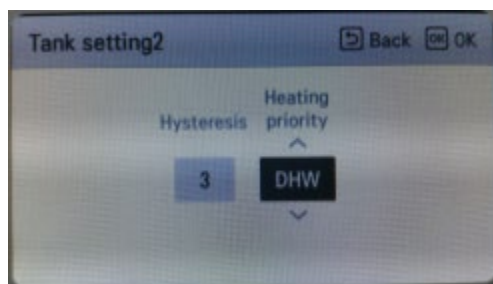
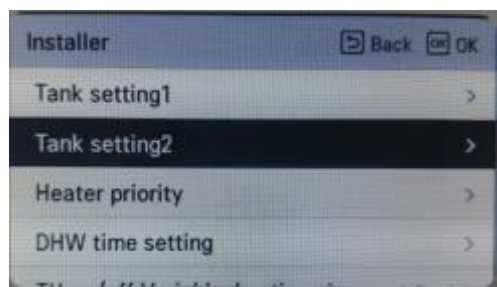
[Type : 3 wires]

▪ Installer setting

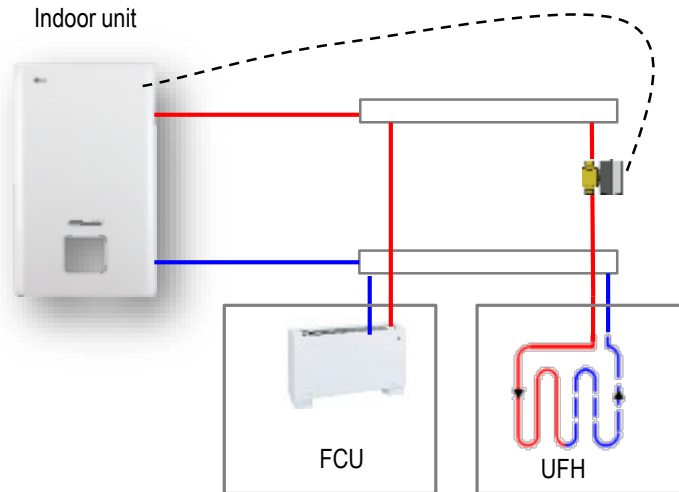
If both Domestic hot water and space heating/cooling are to be used, Heating priority must be set as DHW. After completing setup, 3Way valve will be switched per mode to enable it.



Press 'up' for 3 sec



System diagram



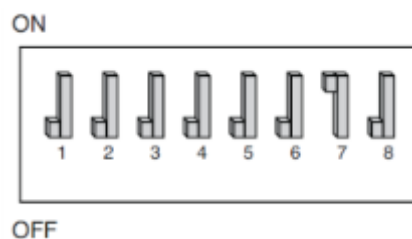
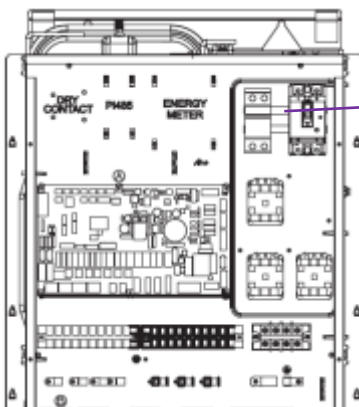
Purpose:

Configuration of focusing on FCU and floor heating in winter while focusing on FCU in summer. Install 2Way valve and set temperature to prevent dewing on floor.

Necessary configuration and feature

Dip s/w	N/A	Keep default Check if 2 and 3 are off
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature control	Set up by remote controller Control of leaving water temperature	Single temperature
Installing 2Way v/v	To be purchased and installed separately	Spec : 240V
Installer setting	Installer of remote controller needs to be set up separately.	

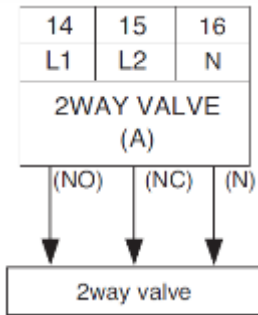
Dip s/w Setting



Installing 2way v/v

2way valve is required to control water flow while cooling operation. Role of 2way valve is to cut off water flow into under floor loop in cooling mode when fan coil unit is equipped for cooling operation. 2way valve comes with product and needs to be installed in strict compliance with installation manual. Especially check if the valve is NO(Normal Open) or NC(Normal close) type before installing it and also check for any leak after installing the valve.

[Terminal block 2]

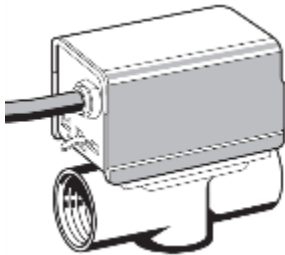


Normal Open type should be connected to wire (NO) and wire (N) for valve closing in cooling mode.

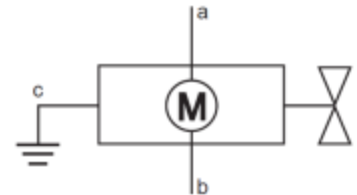
- Normal Open type should be connected to wire (NO) and wire (N) for valve closing in cooling mode.

(NO) : Live signal (for Normal Open type) from PCB to 2way valve
 (NC) : Live signal (for Normal Closed type) from PCB to 2way valve
 (N) : Neutral signal from PCB to 2way valve
 *Power : 230V AC

Example of 2Way valve(Field Scope)

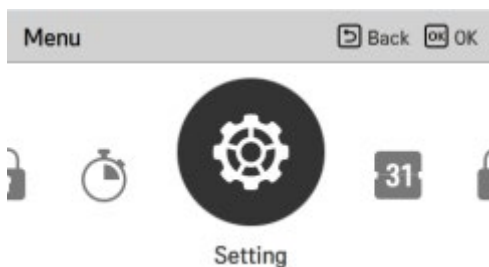


Voltage	220-240V, 50Hz
Protection class	IP20
Starting position	normally closed
temperature	-40~65°C



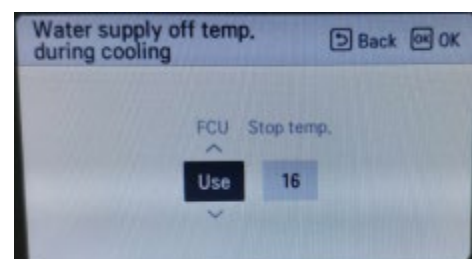
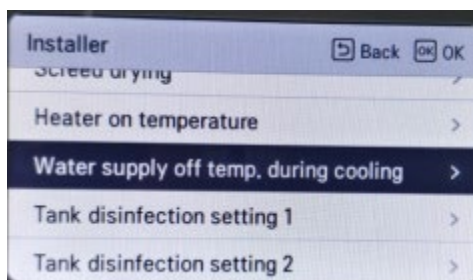
Wire	Function
a = brown	line (power supply)
b = blue	neutral
c = green/yellow	earth (ground)

Installer setting

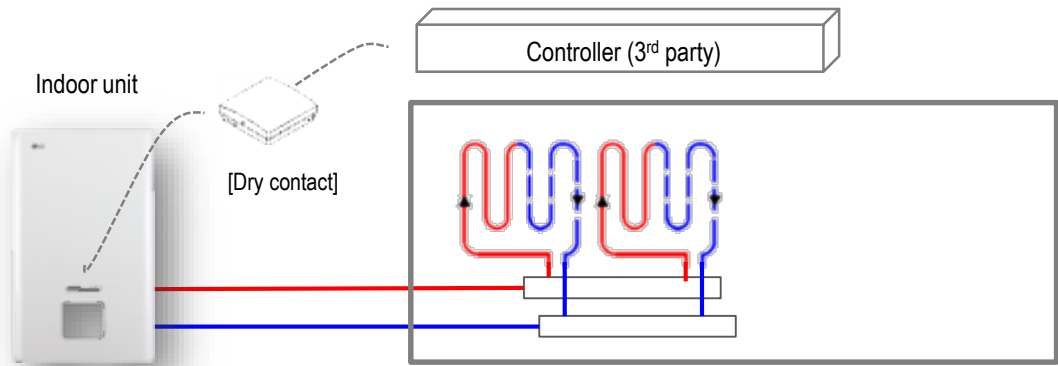


Press 'up' for 3 sec

Enter installer setup mode, then go to , water supply off temp.during cooling menu to set whether to use FCU and temperature to prevent dewing.



System diagram



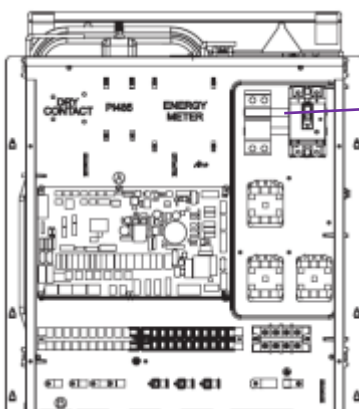
Purpose:

System installation for generic floor heating/cooling based on indoor air temperature sensor
Radiator/fan coil based heating and cooling

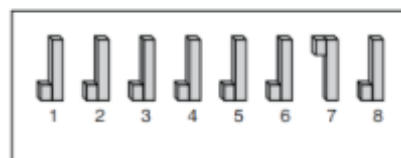
Necessary configuration and feature

Dip s/w	N/A	Keep default 2/3 OFF
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
Control	Control of leaving water temperature	
DRY CONTACT Installation	Dry contact is an option and needs to be purchased and installed separately. Mode: General mode ON/OFF	P/n : PDRYCB000
Installing 3 RD Controller	To be purchased from 3 rd party(Required)	
Installer setting	Remote controller needs to be set up separately.	

Dip s/w Setting



ON

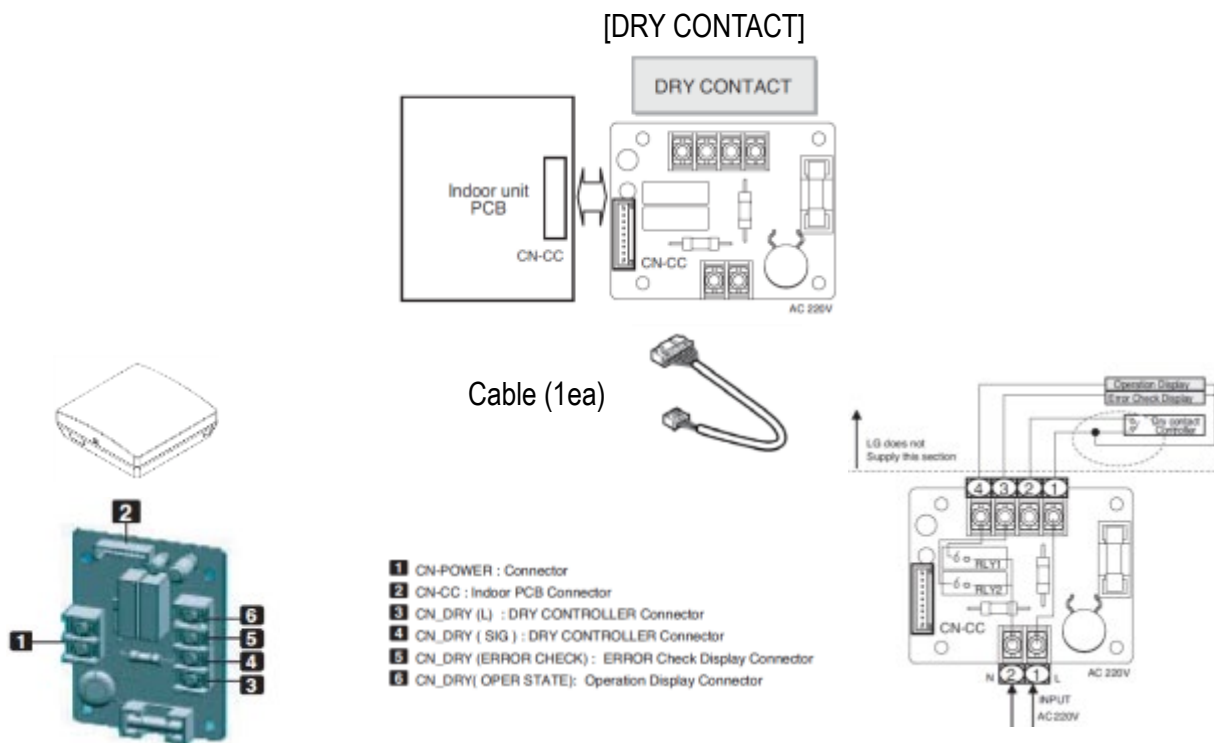


OFF

Instaling dry contact

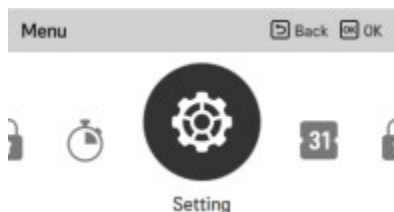
LG Dry Contact is a solution for automatic control of air conditioning system at the owner's behest. In simple words, it's a switch which can be used to turn the unit On/Off after getting the signal from external sources like key-in lock, door or window switch etc specially used in Hotel rooms.

To receive on & off external signal

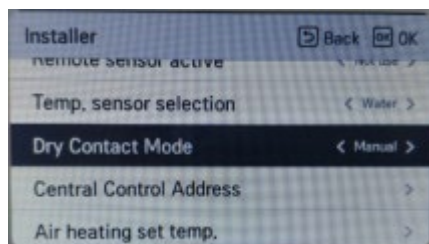


After change any Dry contact setting, then you must press RESET switch to reflect the setting.

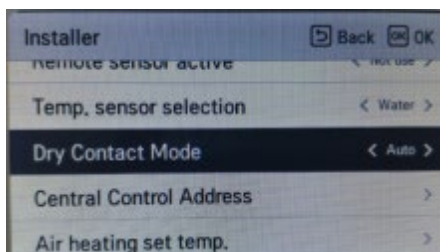
Installer setting



Press 'up' for 3 sec

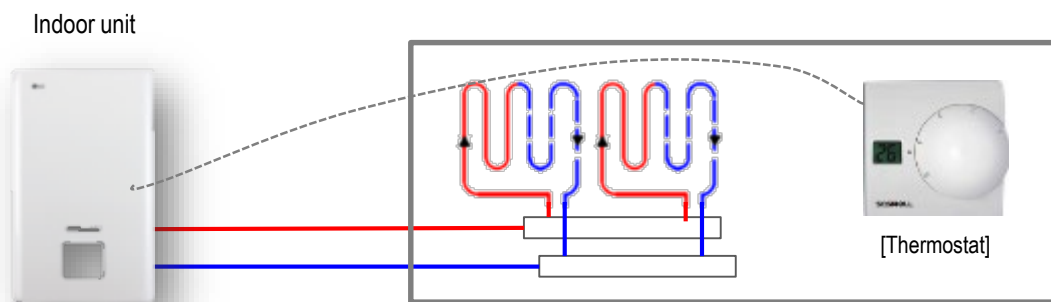


Manual : `off` signal from drycontact
Product shall be `off` and locked.
`On` signal from dycontact, Product shall be free from lock



Auto : `off` signal from drycontact
Product shall be `off`.
`On` signal from dycontact, Product shall run

System diagram



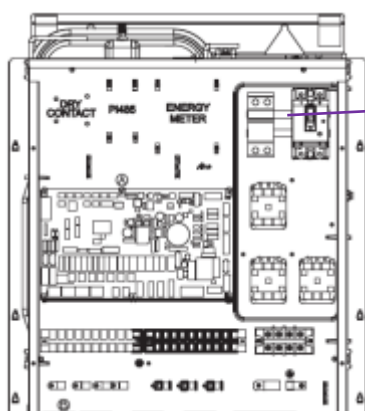
Purpose:

System installation for generic floor heating/cooling based on indoor air temperature sensor
Radiator/fan coil based heating and cooling

Necessary configuration and feature

Dip s/w	N/A	8 on 2/3 off
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
control	Control of leaving water temperature	
Thermostat Installation	Thermostat is an option and needs to be purchased and installed separately.	Spec : 230V
Installer setting	Remote controller does not need to be set up separately.	

Dip s/w Setting



ON



OFF

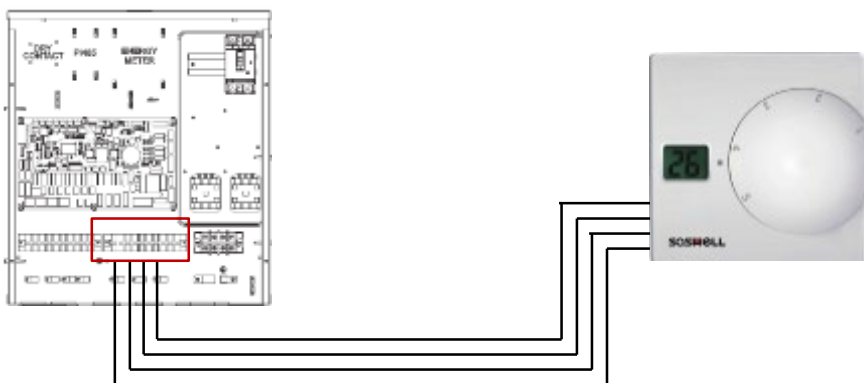
■ Installing thermostat

To control by air temperature

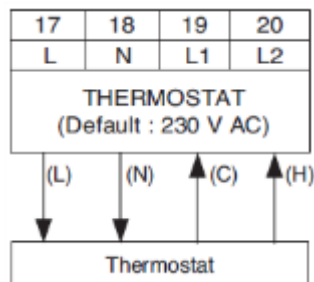
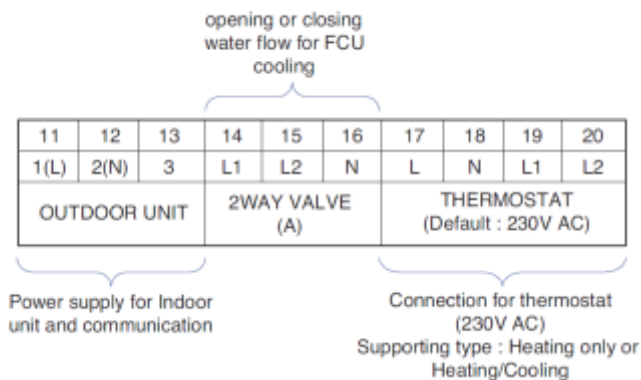
Heating-Only type (230V AC)

Cooling/Heating type (230V AC with Mode selection switch)

Thermostat generates "Heating ON or Heating OFF" signal according to user's heating target temperature.
Thermostat generates both "Heating ON or Heating OFF" and "Cooling ON or Cooling OFF" signal according to user's heating and cooling target temperature.



Terminal Block 2

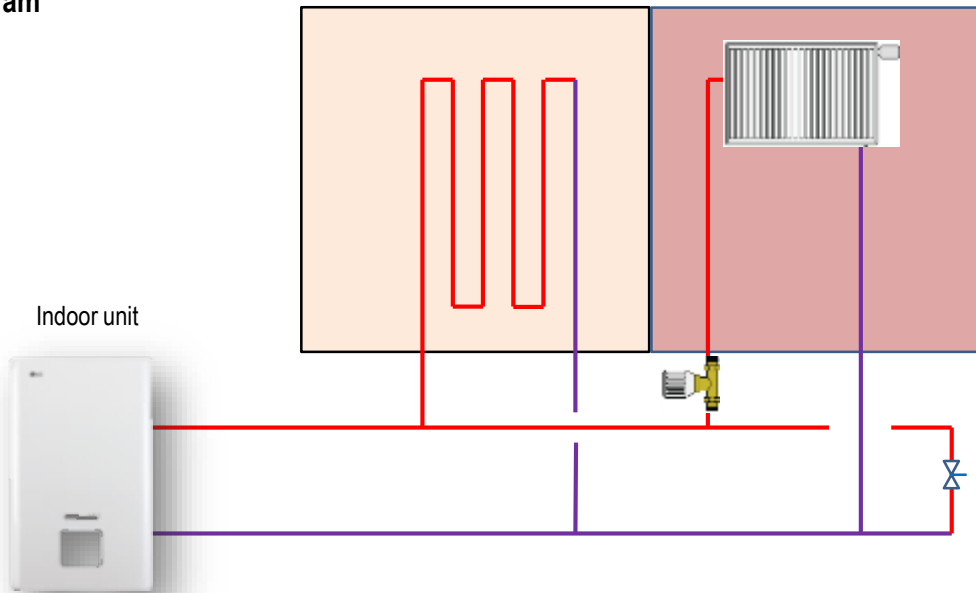


(L) : Live signal from PCB to thermostat
(N) : Neutral signal from PCB to thermostat
(C) : Cooling signal from thermostat to PCB
(H) : Heating signal from thermostat to PCB

■ Installer setting

: N/A.

System diagram



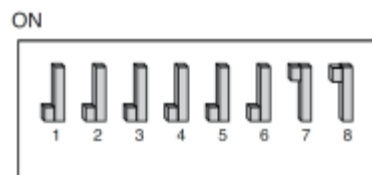
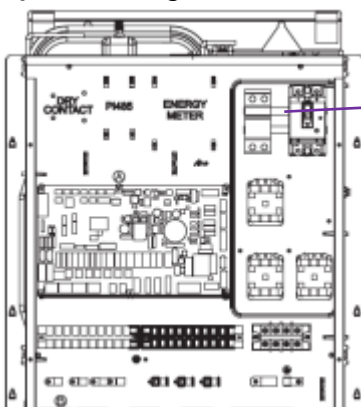
Purpose:

Configuration for supplying hot water in two different temperatures to the room to heat. Install a separate Thermostatic valve to set up and control 2 temperatures. Generally Thermostatic valve is to be installed where temperature is lower than main operation temperature.

Necessary configuration and feature

Dip s/w	N/A	Keep default Check if 2 and 3 are off
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	1zone : Single temperature 2zone : Adjustable(by valve)
control	Control of indoor air temperature	
Thermostatic valve	A valve needs to be purchased and installed separately.	3 rd party scope
Installer setting	Remote controller does not need to be set up separately.	

Dip s/w Setting



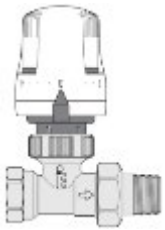
OFF

▪ Installing thermostatic valve

Thermostatic valve needs to be purchased and installed separately by installer.

Valves include remote sensor type, contact probe and thermostatic type, and select one depending on site conditions.

Control is made separately and not in conjunction with LG product. Install as per requirements of manufacturer.



[Valve shape]



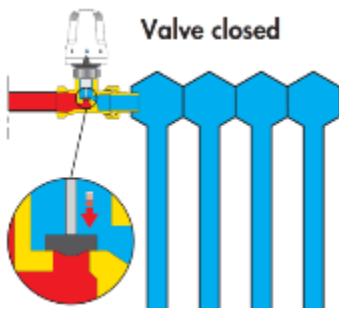
[Remote sensor]



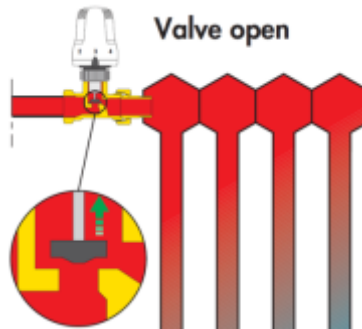
[Contact probe]



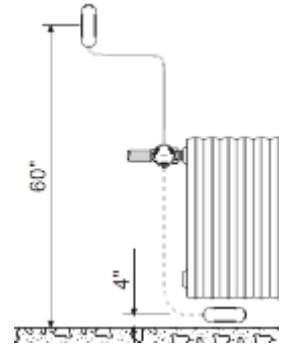
[Thermostatic]



[Valve closed]



[Valve open]



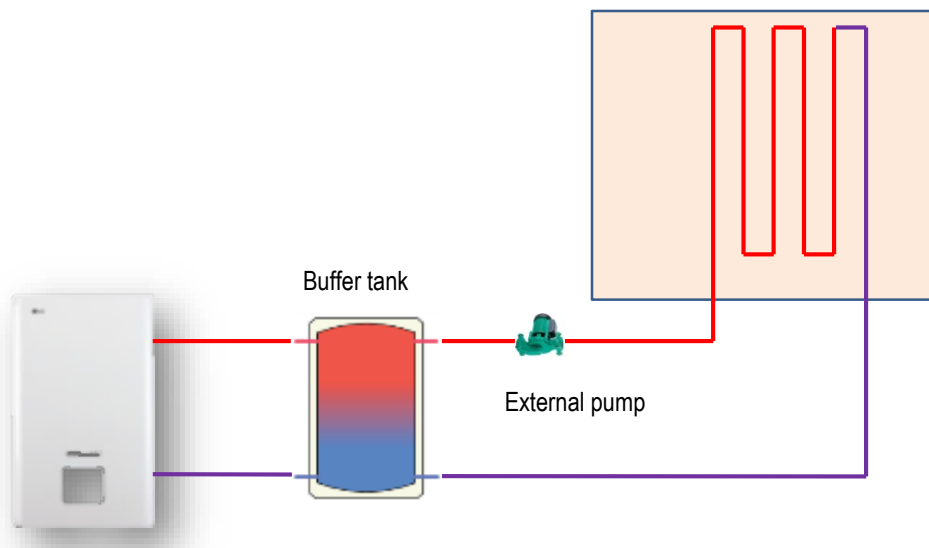
[Installation example]

▪ Installer setting

: N/A.

System 10

System diagram



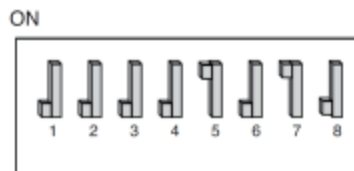
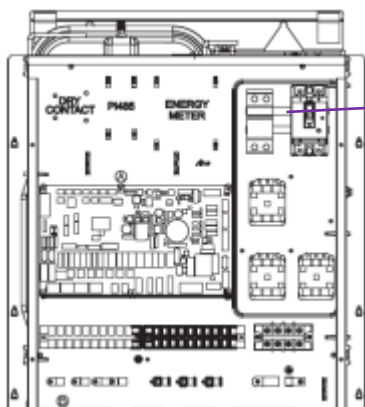
Purpose:

Configuration of installing buffer tank and external tank when the room to provide floor heating is too large and requires pump of bigger capacity. Buffer tank enable highly efficient operation while external tank provides stable flow.

Necessary configuration and feature

Dip s/w	Separate setup is required	Dip s/w No. 5: On 2/3 off
Remote controller	Use default one attached to indoor unit	
Leaving water temperature	Set up by remote controller	1zone : Single temperature
Control	Control of leaving water temperature	
Buffer tank	Requires installing buffer tank or mixing tank	Field scope
Secondary pump	Secondary pump needs to be installed separately	Field scope
Separate controller	To be purchased and installed separately	DDC, Thermostat
Installer setting	Remote controller needs to be set up separately.	

Dip s/w Setting



OFF

▪ Installing external pump

External pumps to be installed for cases where hot water needs to be circulated in large rooms.

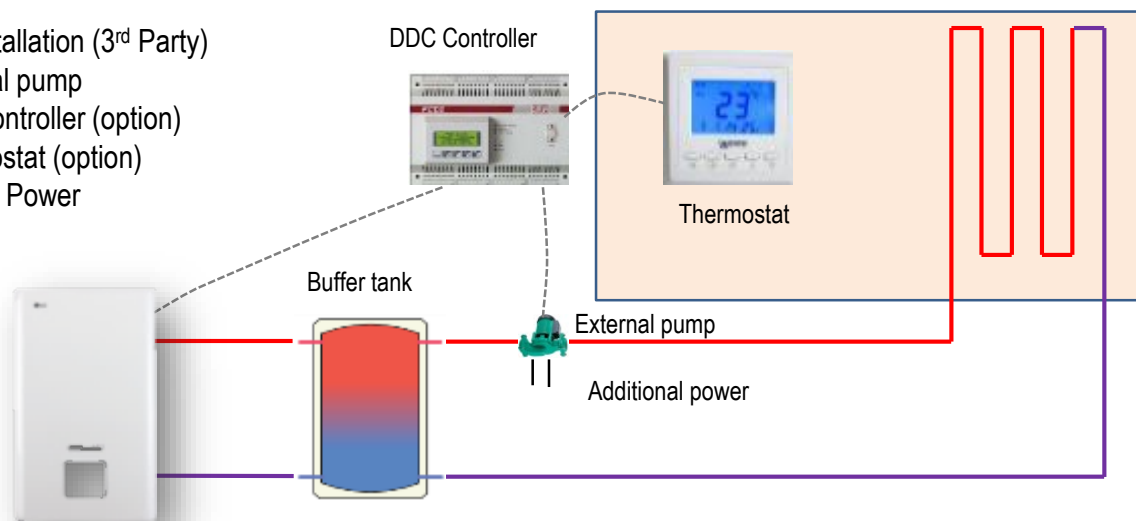
For rooms with long loops, install external pump along with buffer tank in order to secure needed flow and to ensure that flow larger than rated flow is to be provided to product.

Power and control of External pump shall be configured separately from own product.

Set up link to 3rd Party controller or thermostat to operate external pump as needed.

Field installation (3rd Party)

- External pump
- DDC controller (option)
- Thermostat (option)
- Electric Power

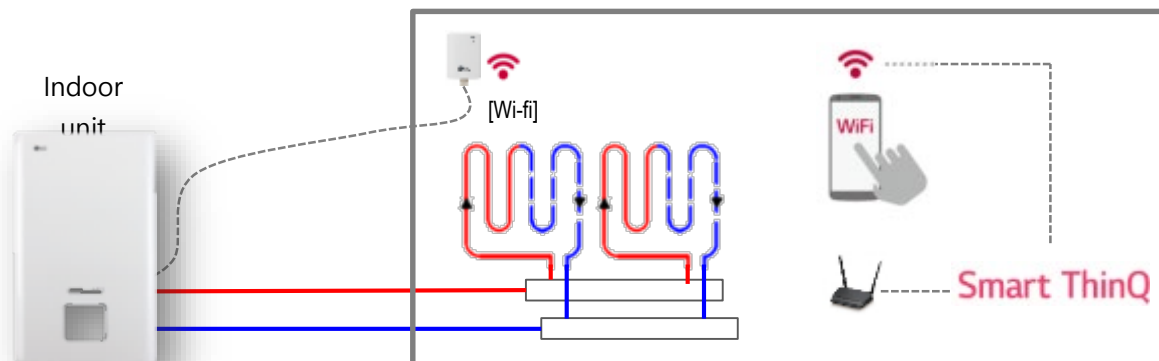


▪ Installer setting

: N/A.

System 11

System diagram



Purpose:

Enabling remote system operation from smartphone.

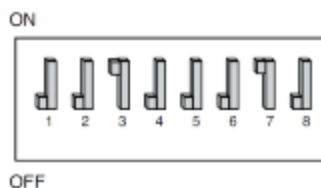
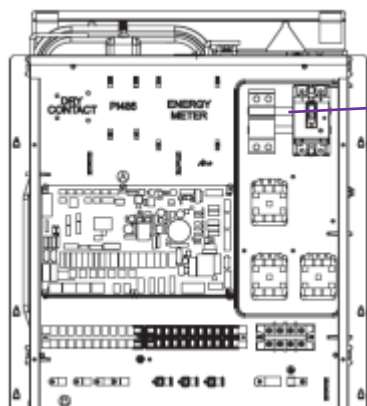
Available functions include selection of operation mode, DHW, temperature setup and scheduling.

Necessary configuration and feature

Dip s/w	Separate setup is required	Default
Remote controller	Use default one attached to indoor unit	
Leaving water temperature	Set up by remote controller and Wi-Fi configuration	1zone : Single temperature
Control	Control of leaving water temperature	
Wi-Fi controller	To be purchased and installed separately	Wi-Fi Modem (WLANDongle) P/N : PWYREW000 (Cable)
Installer setting	Remote controller needs to be set up separately.	

A network-enabled smartphone, a router, the LG SmartThinQ app and a Wi-Fi modem are needed in order to use the app and its functions.

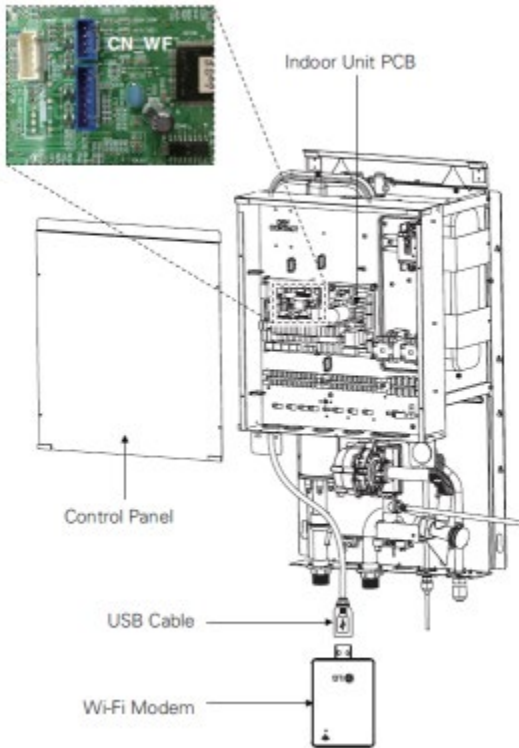
Dip s/w Setting



Wi-fi Installation

Check if the indoor unit is turned off and the power of the outdoor unit is turned off.

2. Open the front panel and the control box of the indoor unit.
 3. Connect the USB cable to the indoor unit PCB (CN_WF).
 4. Use an extension cable that reaches to the location where you want to install the Wi-Fi modem.
 5. Connect the Wi-Fi modem to the USB cable.
 6. Attach the Wi-Fi modem to a wall or ceiling near the router.
- (Use the included double-sided tape to fix it in place.)

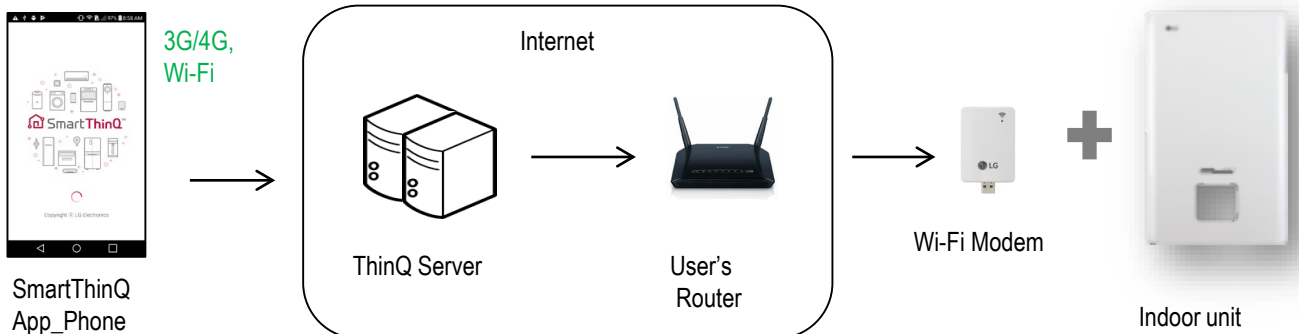


Name	Quantity	Appearance
Wi-Fi Modem	1	
USB Cable (60cm)	1	
Extension Cable (50cm)	1	

Name	Quantity	Appearance
USB Extension Cable (10m)	1	

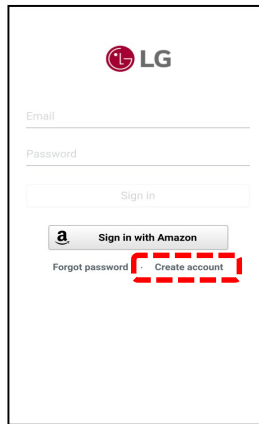
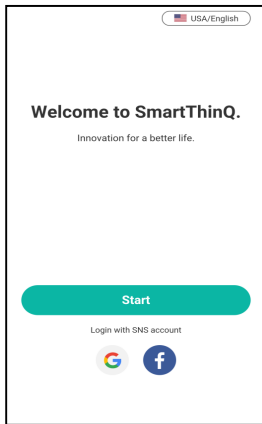
USB Extension Cable (Sold Separately) Model: PWYREW000

Control configuration



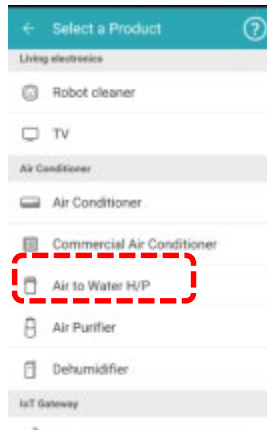
▪ Creating an account

Install SmartThinQapp on smartphone and create an account.



Tap "Create account" to make a new account.

▪ Product registration



Select a product to register. (Ex. AWHP)

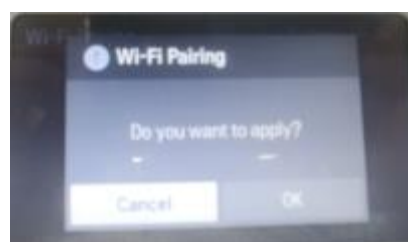
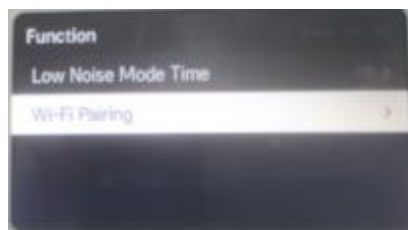
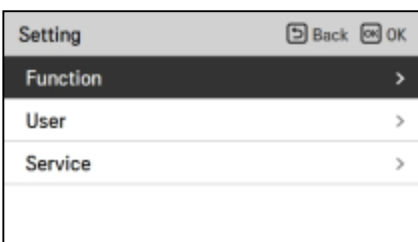
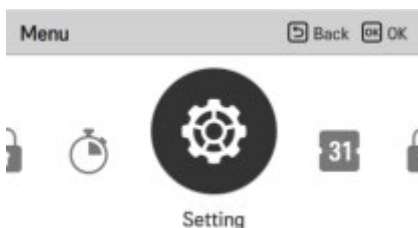
Tap the "+" button.

There are diverse ways to make an account and register the product other than the aforementioned way. Refer to user manual.

▪ Installer setting (Controller)

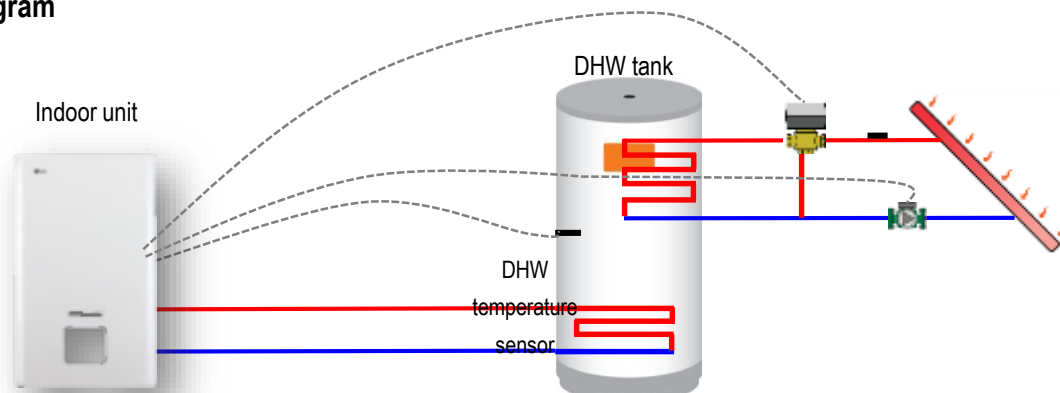
Pair the product after installing Wifi modem.

Tap "Settings" on menu and go to Function for pairing..



System 12

System diagram



Purpose:

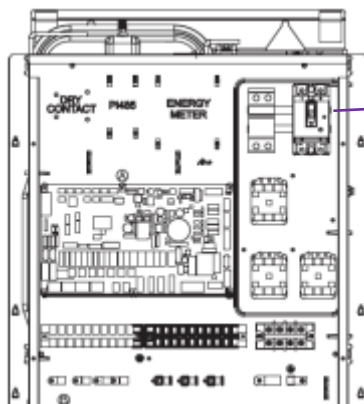
DHW exclusive operation+ Booster heater

DHW operation by using solar heat as auxiliary heat source.

Necessary configuration and feature

Dip s/w	Separate setup is required	Dip s/w No. 2: Off / No. 3: On
Remote controller	Use default one attached to indoor unit	No installation required
Leaving water temperature	Set up by remote controller	Single temperature
control	Control of DHW temperature sensor	
DHW temperature sensor Installation	Temperature sensor that came with DHW tank needs to be installed.	
Tank applied with solar coil	Tank applied with solar coil needs to be purchased	
Installing solar temperature sensor	Optional sensor needs to be purchased and installed	
Installing 3Way v/v	To be purchased and installed separately	
Booster heater	If applied, and tank kit is not used	Separate option

Dip s/w Setting



ON



OFF

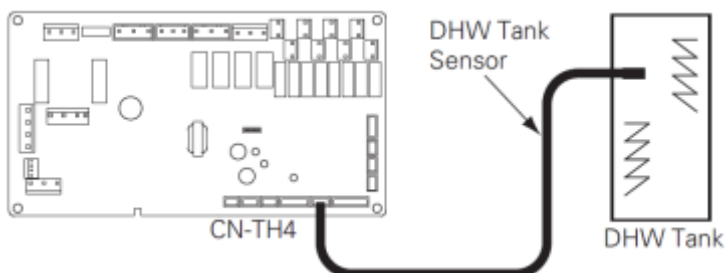
■ Installing temperature sensor and 3Way v/v

Connect solar thermal sensor to 'CN_TH4'(Red connector) of the indoor unit PCB.

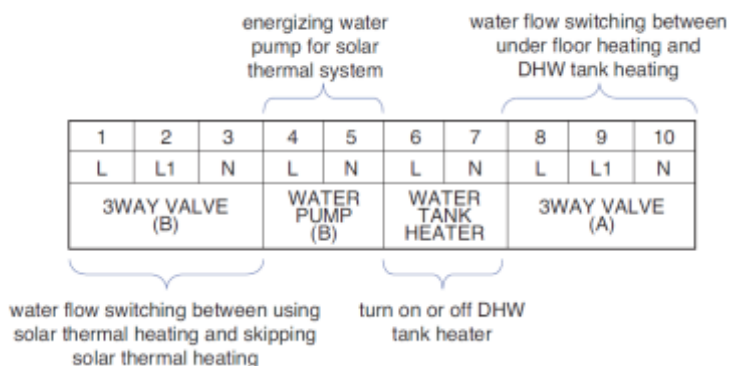
If the DHW tank sensor is connected, disconnect the sensor from PCB first.

Separate connector is required and set up when installing both DHW temperature sensor and solar temperature sensor simultaneously

(2pin for hot water, 2pin for solar)



Terminal Block 1



3WAY VALVE : 3WAY VALVE (B)

- 230V AC SPDT 3-wire type

- With SOLAR HEATING :

 TB1's 2 and 3 are activated

- Without SOLAR HEATING :

 TB1's 1 and 3 are activated

Solar Thermal Kit Must be used for communication of solar thermal component and indoor unit.

- PHLLA : Sensor's limit temperature 100°

- PHLLB : Sensor's limit temperature 120°

1 Sensor (Thermister)

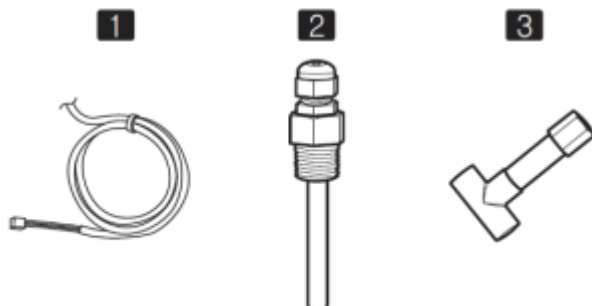
2 Sensor Adaptor

- It can be attached on T type pipe fitting attached in the pipe of solar thermal component

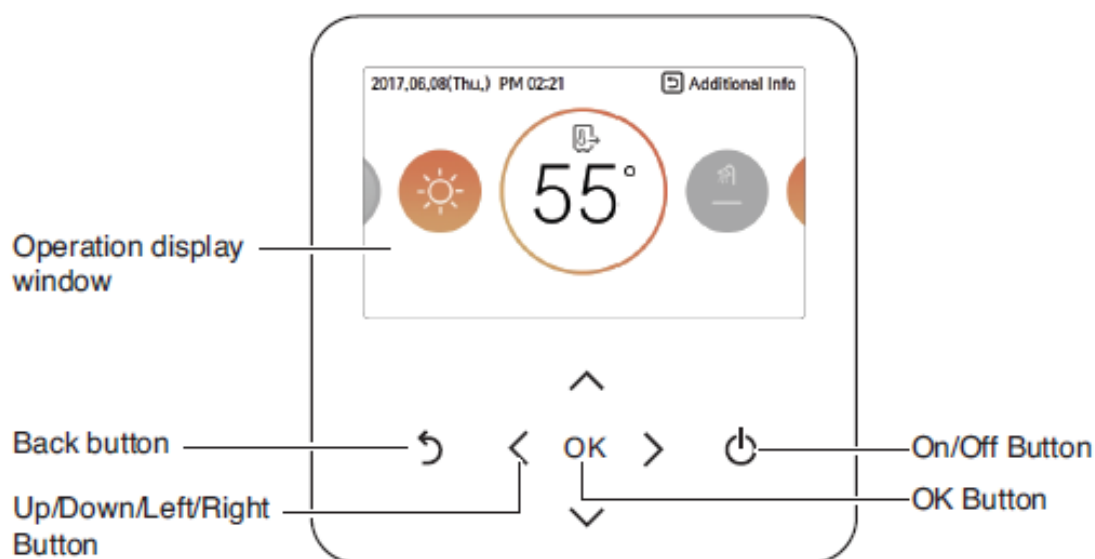
- Thermister is inserted in the sensor adaptor

- connection 1/2"(12.7mm) BSP

3 T type pipe fitting (option)



Controller configuration



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

You can easily control the desired operation mode.

In the main screen, press [**<**, **>** (left/right)] button to select the operation mode or home leave or hold category, and press [**^**, **v**(up/down)] button to set the operation mode.

※ Some products may not support some operation modes.

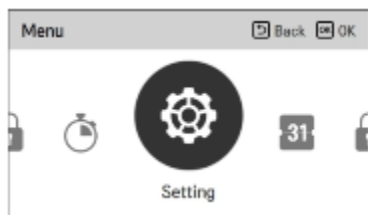
Mode	Description
Cool	The product yields cool water to use in FCU cooling.
Heat	The product yields hot water to use in under floor heating or FCU heating.
AI / Auto	In this mode, heating setpoint is automatically determined by pre-defined temperature profile.

Controller – User setting

Setting	
Function	Low noise mode time
User	Language Temperature Unit Screen saver timer LCD brightness in idle Date time summer time password schedule initialization Theme System reboot
Service	Service contact RMC version information Open source license
Schedule	
Daily schedule	Room Dhw Dhw heater
Schedules & edit	Room Dhw Dhw heater
Exception day	
Lock	
All lock On/off lock Mode lock Dhw lock	
Timer	
Simple timer Sleep timer Turn-on reservation Turn-off reservation	

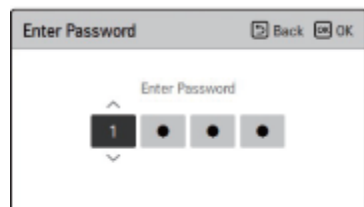
#App. Controller configuration

Controller – Installer setting



In the menu screen, press [\leftarrow , \rightarrow (left/right)] button to select the setting category, and press [\wedge (up)] button for 3 seconds to enter the password input screen for the installer setting.

- Input the password and press [OK] button to move to the installer setting list.



Installer setting password

Main screen ' menu ' setting ' service ' RMC version information ' SW Version
Example) SW version : 1.00.1 a

In the above case, the password is 1001

Setting

3 minutes delay

Remote sensor active

Temp. sensor selection

Dry contact mode

Central control address

Air cooling set temp

Water cooling set temp

Air heating set temp

Water heating set temp

DHW set temp

Screed drying

Heater on temperature

Water supply off temp during cooling

Tank disinfection setting 1

Tank disinfection setting 2

Tank setting 1

Tank setting 2

Heater priority

DHW time setting

TH on/off variable, heating air

TH on/off variable, heating water

Pump setting in heating

Pump setting in cooling

CN_CC

Heating only mode

Pump frequency setting (RPM)

Smart Grid(SG)

Seasonal auto temp

Disables delayed operation of Comp of outdoor unit

※ Setting up this in Field is prohibited(For factory mode)

Checks whether Remote temperature sensor is installed

Setting up temperature criteria

Setting up whether product will be operated if linked with Dry Contact

Setting up address if central controller is to be linked

Setting up upper/lower limits of cooling temperature based on air

Setting up upper/lower limits of cooling temperature based on leaving water

Setting up upper/lower limits of heating temperature based on air

Setting up upper/lower limits of heating temperature based on leaving water

Setting up upper/lower limits of DHW temperature

For setting up cement curing function

Setting up outdoor temperature conditions for operating heater

For setting up FCU and setting temperature to stop water supply

Setting up sterilization function and date/time to activate it

Setting up target temperature and duration of sterilization

Setting up minimum temperature of DHW and maximum temperature of Heat Pump

Setting up DHW temperature to maintain hysteresis and heating priority

Setting up priority of heater for DHW operation

Setting up duration of minimum temperature for DHW, minimum duration of disengagement

delay of DHW heater operation

Setting up variable temperature of Thermal On/Off for heating air temperature

Setting up variable temperature of Thermal On/Off for leaving water temperature of heating

Setting up water pump operation in heating mode with Thermo Off

Setting up water pump operation in cooling mode with Thermo Off

Setting up installing method of Dry Contact and judgment method

Setting up heating-exclusive functions

Setting up Water Pump PWM

Setting up enabling Smart Grid and detailed functions(SG2 level)

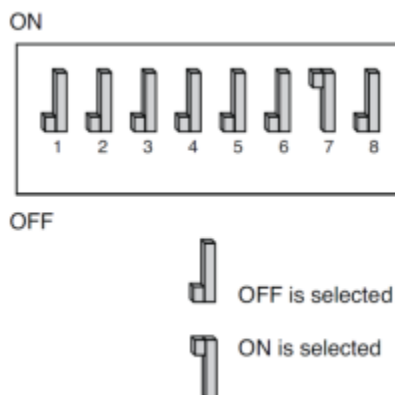
Setting up temperature to switch modes in automatic mode, outdoor unit temperature in heating/cooling and leaving/entering water and air temperature

#App. Dip S/W Setting

No.	Description	Details	Default
1	Role when central controller is equipped	1 off : Master 1 on : Slave	1 off
2	Accessory installation information	<ul style="list-style-type: none"> ▪ 2&3 off : Indoor unit + Outdoor unit is installed ▪ 2off + 3 on : Indoor unit + Outdoor unit + DHW tank is installed 2on + 3off : Indoor unit + Outdoor unit+ DHW tank+ Solar thermal system is installed 	2&3 off
3	Emergency operation Level	4off : High temperature cycle 4 on : Low temperature cycle	4 off
4	External water pump installation information	5 off : External water pump is NOT installed 5 on : External water pump is Installed	5 off
5	Selecting electric heater capacity	6&7 off : Full capacity is used 6 off + 7on : Half capacity is used 6on + 7off : Electric heater is not used	6off + 7 on
6	Thermostat installation information	8 off : Thermostat is NOT installed 8 on : Thermostat is installed	8off

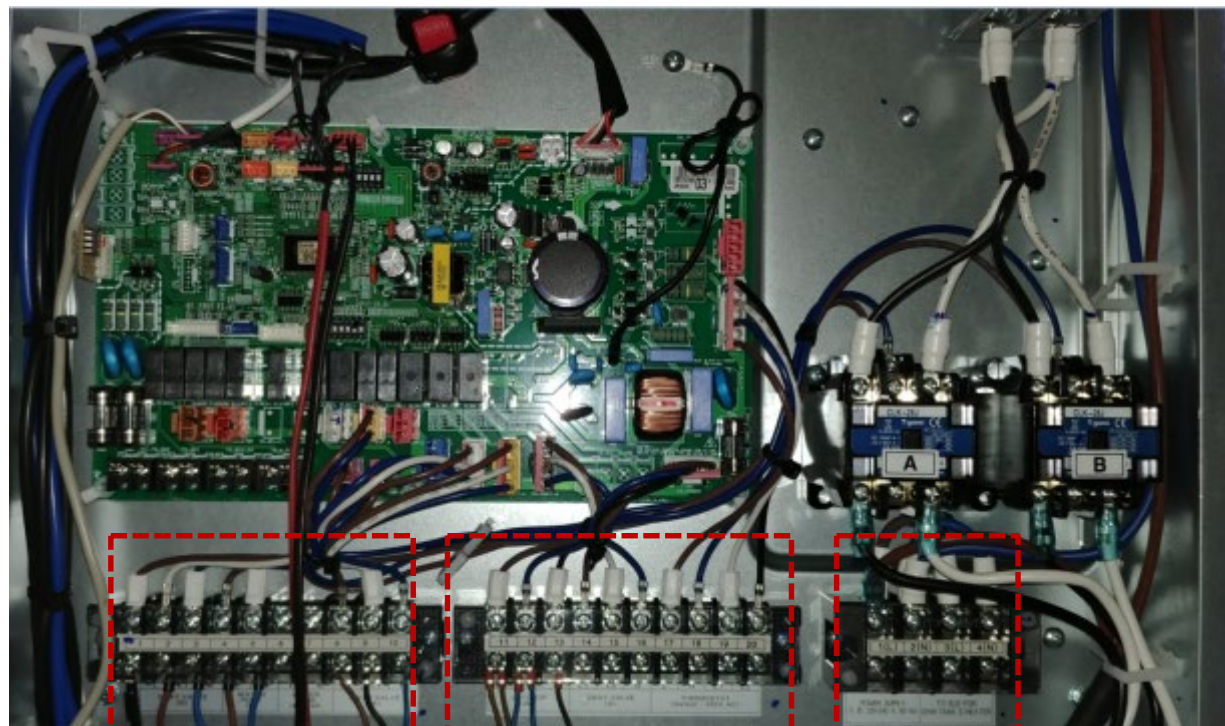


[PCB]



#App. Terminal block information

PCB on Indoor unit



TB1

TB2

TB3

TERMINAL BLOCK : TB1

1	2	3	4	5	6	7	8	9	10
L	L1	N	L	N	L	N	L	L1	N
3WAY VALVE (B)			WATER PUMP (B)		WATER TANK HEATER		3WAY VALVE (A)		

TERMINAL BLOCK : TB2

11	12	13	14	15	16	17	18	19	20
1(L)	2(N)	3	L1	L2	N	L	N	L1	L2
OUTDOOR UNIT			2WAY VALVE (A)			THERMOSTAT (Default : 230V AC)			

TERMINAL BLOCK : TB3

1	2		3	4	5
L	N		R	S	T
TO ELB FOR DHW TANK E/HEATER			POWER SUPPLY (3 Ø, 380-415 V, 50 Hz)		



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