LG
Life's Good

COMPREHENSIVE
EASY INSTALLATION GUIDE

R32 THERMA V SPLIT / MONOBLOC

CONTENTS

Dear Installers & Design Engineers ( )

LG electronics air solution business unit is a provider of total HVAC and energy solution.
The company offers a broad portfolio of air conditioner and heating products that are compatible with any building anywhere, including compact residences, towering skyscrapers, massive factories and giant concert halls.

The company has steadily increased its sales and market share by introducing energy efficient and reliable HVAC solutions and actively pursuing new opportunities wherever they arise.

This is a complimentary material for A/C installer, plumber and designers.

The essential and frequently referenced information is written.
We hope you lead the design process and product purchases by referring this book.

For more information, please visit us at http://partner.lge.com

Thank you.

OVERVIEW

Welcome to LG comprehensive book which is designed to help you decide which Application and installation is best suited to customer's needs.
Through this book you will learn about application cases, Installation method, product information, wiring and checklists.

01. Overview

- Simple product information
- Set PCB

02. Application

- 16 cases

03. Error Codes & Trouble Shooting

- Error codes & Checking points

04. Check List

- Check points after installation

05. Reference drawings for application

- 13 cases

Please read this guide completely before installing the product. Installation work must be performed in accordance with the national wiring standards by authorised personnel only.
Please retain this guide for future reference after reading it thoroughly.

MODERN HEAT PUMP SYSTEM

Introduction

Domestic, commercial hot water and heating systems have been used for a long time, using gas or oil and electric heaters. Also, as a cooling system, a heat pump using air as a heat source has recently been expanded from a large centralised facility such as a chiller to a building system in a short period of time.
In existing systems, there is a lack of environment-friendly aspects such as an infrastructure system for fuel supply, a space for storing fuel and environmental pollution. In recent years, with the requirements for high efficiency and environmentally friendly equipment, the technological advances of the manufacturer's heat pumps have provided a driving force for changes in energy consumption from overcapacity.

What is Heat Pump?

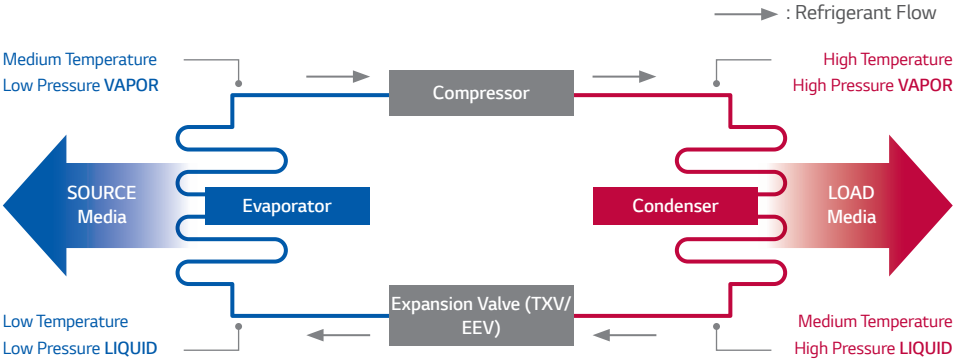
The heat pump is a device that convert low temperature heat to high temperature by using two heat exchanger condenser and evaporator.
The refrigerant circulates through the medium to transfer the heat energy. During cooling operation,
the indoor heat is absorbed and discharged to the outside. And when the heating operation is performed, the outdoor heat is absorbed and the heat is released to the room.

Refrigeration Cycle

The refrigerant cycle is a vapor compression process. The main components are compressor, condenser, expansion device and evaporator. A 4way valve is additionally installed to convert the heating and cooling operation. In the case of cooling operation, the high-temperature and pressure gas refrigerant made from the compressor is converted into the liquid refrigerant through the condensation process and becomes
the low-temperature and pressure liquid refrigerant through the expansion valve. The heat is absorbed through the evaporator and circulated back to the compressor in a state of low-temperature low-pressure gas refrigerant.

Major Components

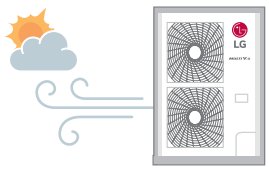
- Compressor
- Condenser
- Expansion Device (EEV)
- Evaporator
- 4Way Valve



Categories of Heat Pump

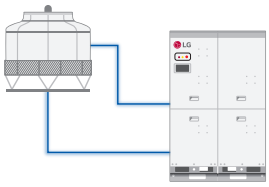
The classification of the heat pump can be classified as follows according to the source that absorbs and dissipates heat. If the heat source is air, it is an air source. If it is water, it is a water source.
If it is geothermal, it is a ground source.

ASHP
(Air Source Heat Pump)



- **Air to Air**
  MULTI V series (VRF), Multi, Single CAC, Single Package, GHP
- **Air to Water**
  THERMA V, Hydro Kit, etc.

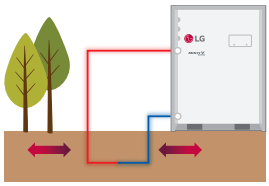
WSHP
(Water Source Heat Pump)



- **Water to Air**
  MULTI V Water series (VRF)
- **Water to Water**
  Chiller products*

* Centrifugal Chiller, Screw Chiller, Absorption Chiller, Scroll Chiller

GSHP
(Ground Source Heat Pump)



- **Ground to Air**
  MULTI V Water series (VRF)
- **Ground to Water**
  Water type ISC

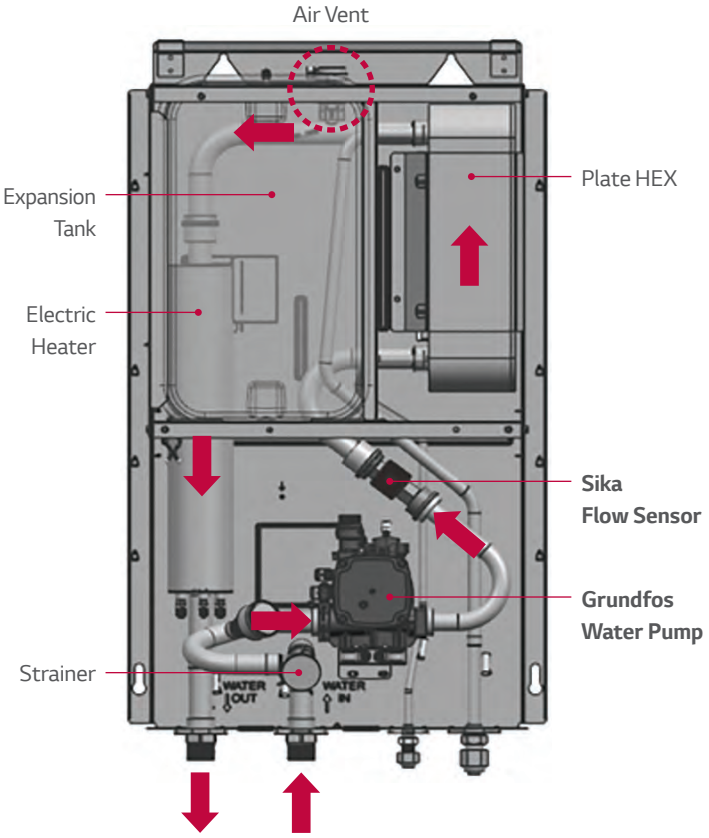
SSHP
(Solar Source, Renewable Energy)

- **Energy Package**
- **Energy Module**

PRODUCT

R32 Split

U4 / K1



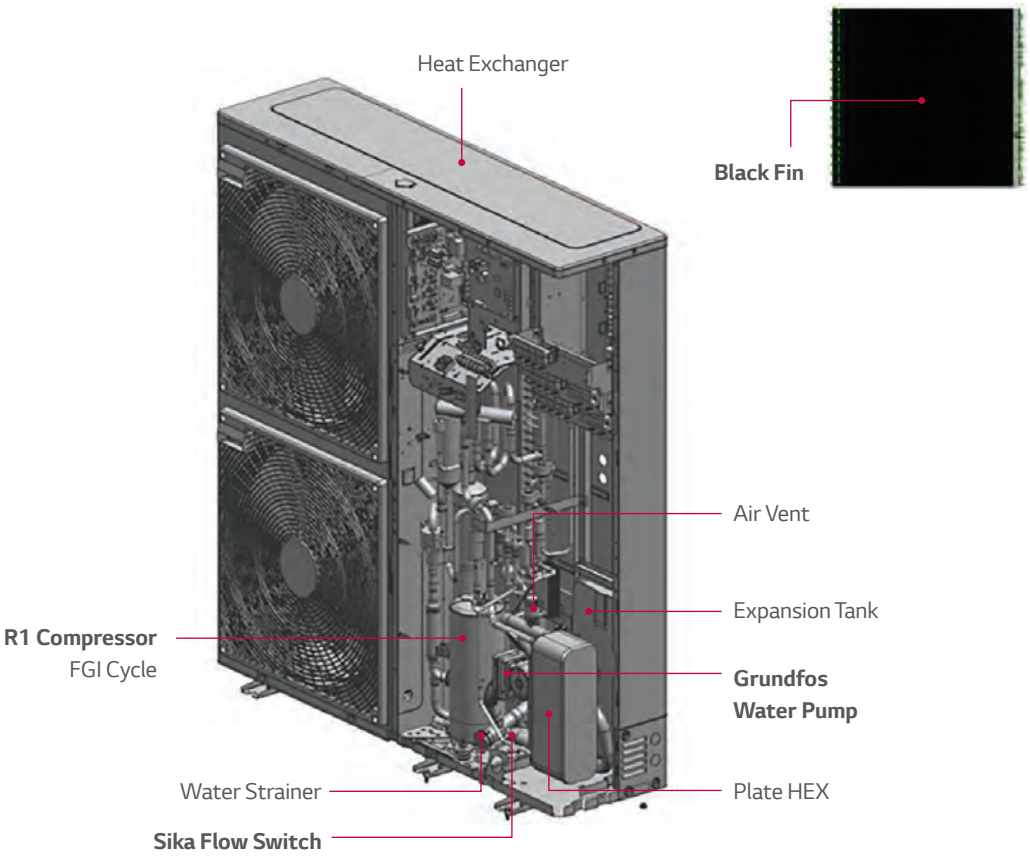
Indoor Unit

Outdoor Unit

RS3 Remote Controller

R32 Monobloc

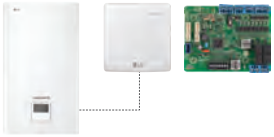
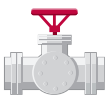
UN3 / UN4

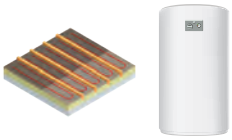
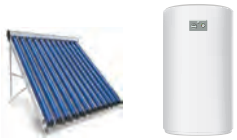


Outdoor Unit

RS3 Remote Controller

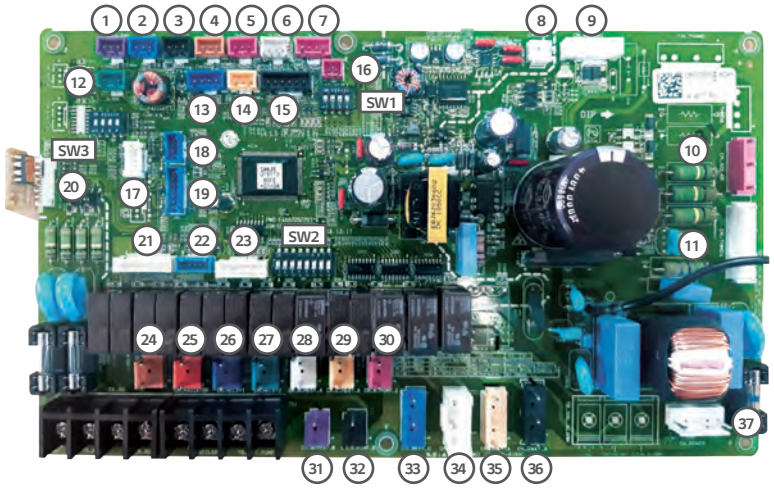
APPLICATIONS

System Diagram	Purpose		Remark
	Heating / Cooling	DHW	
Air Temp Sensor 	▯	X	LG accessory - Remote air sensor - Remote air temp sensor
Thermostat 	▯	X	Field scope
Dry Contact 	▯	▯	LG accessory - Dry contact
External Water Pump 	▯	X	Field scope
2nd Heating Circuit 	▯	X	Field scope
2Way Valve for Cooling 	▯	X	Field scope
Auxiliary Boiler 	▯	X	LG accessory - Back up heater
Back up Heater for Monobloc 	▯	X	Field scope

System Diagram	Purpose		Remark
	Heating / Cooling	DHW	
Anti-freezing Solution 	○	X	Field scope
Hot Water with Booster Heater 	X	○	LG accessory - DHW kit
Hot Water with 3Way Valve 	X	○	LG accessory or Field scope - 3Way valve
Solar Panel for DHW 	X	○	Field scope
Installation in Parallel (Modbus RTU) Modbus 	○	○	LG accessory - Modbus RTU - PI485
Meter Interface 	X	○	LG accessory - Meter interface
LG Central Controller LG BECON	○	○	LG accessory - LG central controller
Wi-Fi LG ThinQ 	○	○	LG accessory - Wi-Fi modem
2 Remocons 	○	○	LG accessory - PREMTW101.ENCXLEU

SETTING OF PCB

IDU PCB (R32 Split / R32 Monobloc)



NO.	Name	NO.	Name	NO.	Name	NO.	Name
1	CN_LEAK_ROOM2 (VL)	11	CN_THMO1 (WH)	21	CN_CC (WH)	31	CN_E_HEAT_B (VL)
2	CN_FLOW1 (BL)	12	CN_REMO (GR)	22	CN_EXT (BL)	32	CN_W_PUMP_B (BK)
3	CN_FLOW2 (BK)	13	CN_F_METER (BL)	23	CN_EEV (WH)	33	CN_3WAY_C (BL)
4	CN_MIX_OUT (BR)	14	CN_ROOM (YL)	24	CN_MIXR (BR)	34	CN_3WAY_B (WH)
5	CN_PIPE_OUT (RD)	15	CN_TH3 (BK)	25	CN_RADIATOR (OR)	35	CN_3WAY_A (YL)
6	CN_PIPE_IN (WH)	16	CN_HEATER (RD)	26	CN_RELAY_1 (BL)	36	CN_2WAY_A (BK)
7	CN_TH4 (RD)	17	CN_EXCOM (WH)	27	CN_RELAY_2 (GR)	37	CN_POWER (WH)
8	CN_COM (WH)	18	CN_WF (BL)	28	CN_B_HEAT_A (WH)		
9	CN_MOTOR1 (WH)	19	CN1 (BL)	29	CN_E_HEAT_A (YL)		
10	CN_SOLAR (RD)	20	CN_OPTION (WH)	30	CN_W_PUMP_A (RD)		

• Switch 1

Description	Setting		Default
Modbus Communication Type*	1	Master (LG extension modules)	1
	1	Slave (3rd party controller)	
Reserved	2	Reserved.	2
	2	Reserved.	
Reserved	3 3	Reserved.	3
Reserved	4 4	Reserved.	4

* RTU must be installed to use this function.

• Switch 2

Description	Setting		Default
Role when central controller is equipped	1	Master	1
	1	Slave	
Accessory Installation Information	2 3	Heat pump is installed. (Heating / Cooling circuit only)	2
	2 3	Heat pump + DHW tank is installed.	
	2 3	Heat pump + DHW tank + Solar thermal system is installed.	3
	2 3	Reserved. (Do not select)	
Cycle	4	Heating only	4
	4	Heating & Cooling	
Flow Switch (Flow Sensor) Detection	5	Always	5
	5	While water pump is on.	
Selecting Back up Heater Capacity	6 7	Back up heater is not used.	6
	6 7	1Ø Model : Half capacity is used. 3Ø Model : 1/3 capacity is used.	
	6 7	Reserved	7
	6 7	Full capacity is used.	
Thermostat Installation Information	8	Thermostat is not installed.	8
	8	Thermostat is installed.	

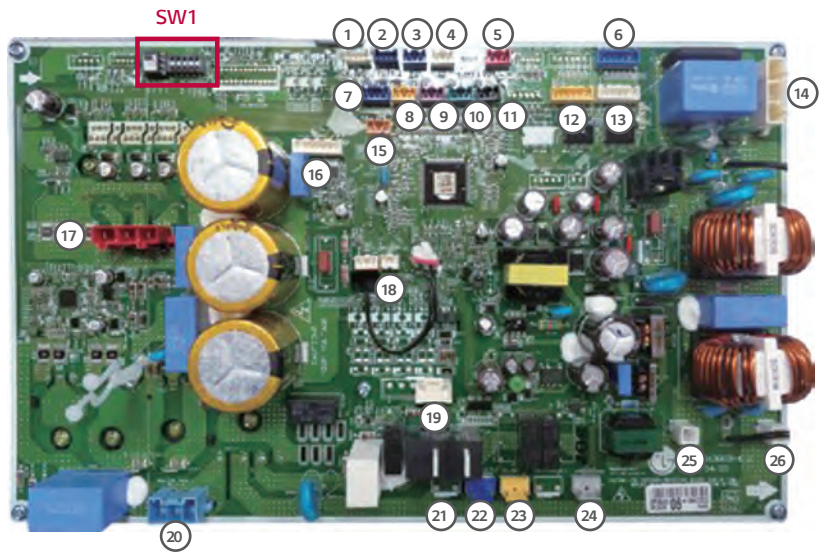
• Switch 3

Description	Setting		Default
Remote Air Sensor	1	Remote sensor is not installed. (Accessory)	1
	1	Remote sensor is installed. (Accessory)	
Anti-freeze Mode	2	Anti-freeze is not applied.	2
	2	Anti-freeze is applied. (Adjustable anti-freeze temp)**	
Reserved	3 3	Reserved.	3
Reserved	4 4	Reserved.	4

** Bridge at CN_FLOW2 on Hydro-PCB must be disconnected to enable setting.

SETTING OF PCB

ODU Main PCB (R32 Monobloc 5 / 7 / 9kW, 1P)



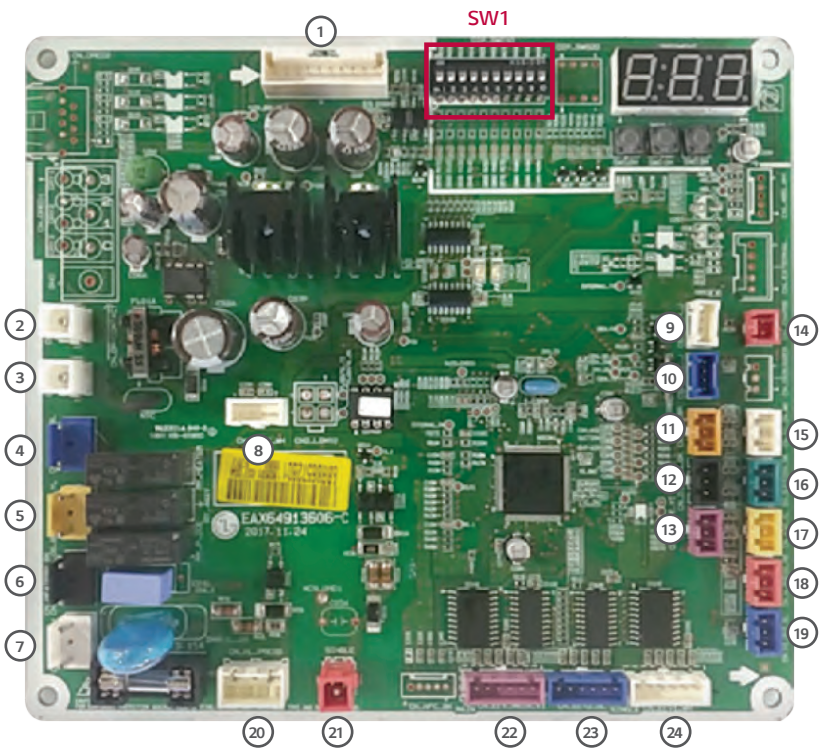
NO.	Name	NO.	Name	NO.	Name	NO.	Name
1	CEN1	8	CN_AIR	15	CN_MID	22	CN_HEATER2
2	CEN2	9	CN_PIPE	16	CN_BLDC	23	CN_4WAY
3	CN_VI_OUT	10	CN_SUCTION	17	CN_UVW	24	CN_PRESS
4	CN_VI_IN	11	CN_DISCHARGE	18	CN_FLASH	25	CN_CP_L
5	CN_H_PRESS	12	CN_EEV3	19	CN_COM	26	CN_CP_N
6	CN_EEV2	13	CN_EEV1	20	REACTOR_IN		
7	CN_LGMV	14	CN_POWER	21	CN_HEATER1		

• Switch 1

Description	Setting		Default
Low Noise Mode	2	Always mode : Maintain low noise mode for target temperature.	2
	2	Partial mode : Escape low noise mode for target temperature.	
Peak Control	3	Max mode	3
	3	Peak control : To limit maximum current. (Power saving)	

- Only DIP-switch no.2 and no.3 has a function. Others have no function.
- When setting the limited low noise mode, mode can be exited to secure capacity after operating for a certain time.

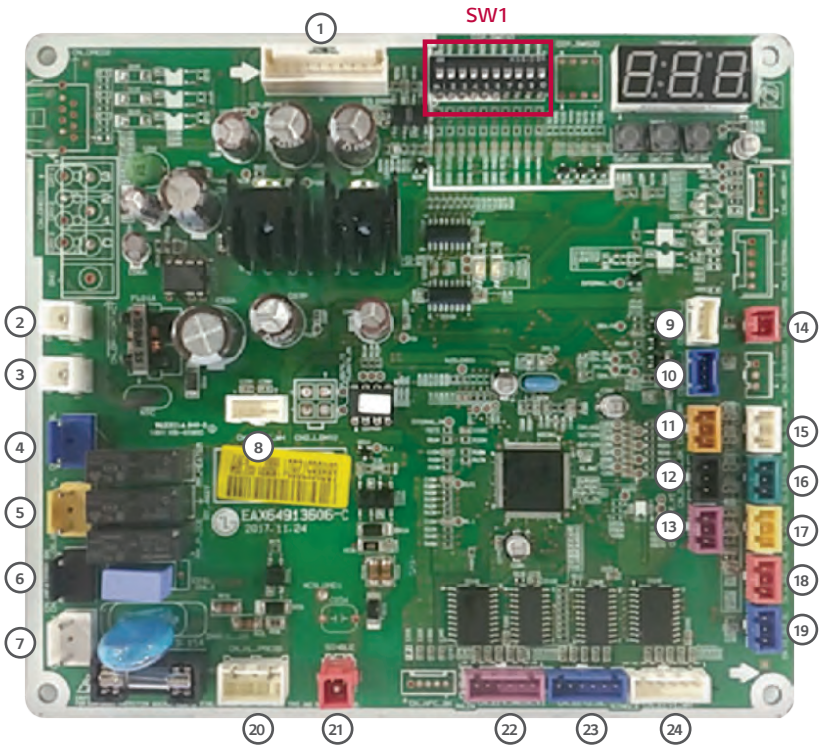
ODU Main PCB (R32 Monobloc 12 / 14 / 16kW, 1P)



NO.	Name	NO.	Name	NO.	Name	NO.	Name
1	CN_INV	7	CN_POWER	13	CN_C_PIPE	19	CN_VI_OUT
2	CN_CP_N	8	CN_CP_L	14	CN_CNVSS	20	CN_HL_PRESS
3	CN_LGMV	9	CEN1	15	CN_CI_IN	21	SINGLE
4	CN_HEATER	10	CEN2	16	CN_SUCTION	22	CN_EEV_MAIN
5	CN_HEATER2	11	CN_MID	17	CN_AIR	23	CN_EEV2
6	CN_POWER	12	CN_DISCHA	18	CN_H_PRESS	24	CN_EEV1

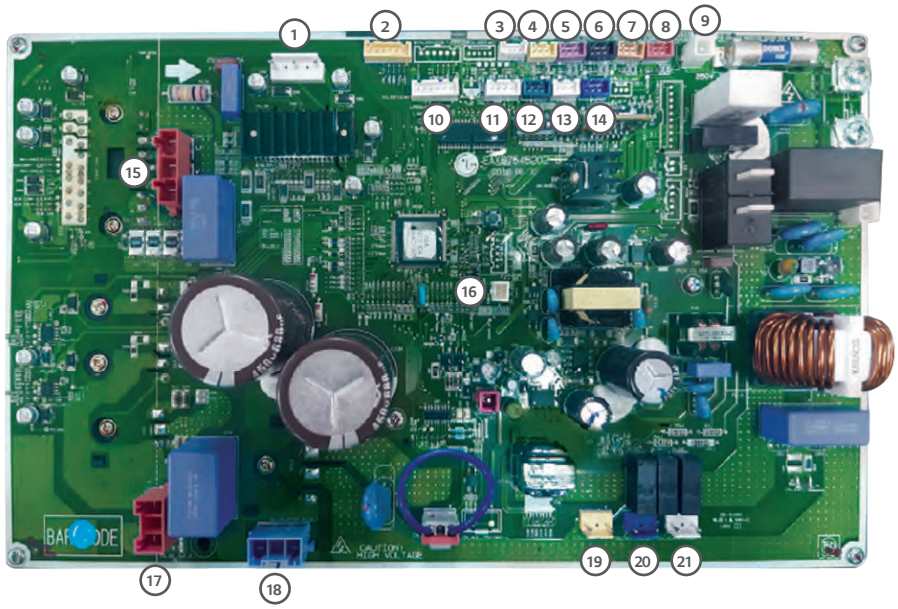
SETTING OF PCB

ODU Main PCB (R32 Monobloc 12 / 14 / 16kW, 3P)



NO.	Name	NO.	Name	NO.	Name	NO.	Name
1	CN_INV	7	CN_POWER	13	CN_C_PIPE	19	CN_VI_OUT
2	CN_CP_N	8	CN_CP_L	14	CN_CNVSS	20	CN_HL_PRESS
3	CN_LGMV	9	CEN1	15	CN_CI_IN	21	SINGLE
4	CN_HEATER	10	CEN2	16	CN_SUCTION	22	CN_EEV_MAIN
5	CN_HEATER2	11	CN_MID	17	CN_AIR	23	CN_EEV2
6	CN_POWER	12	CN_DISCHA	18	CN_H_PRESS	24	CN_EEV1

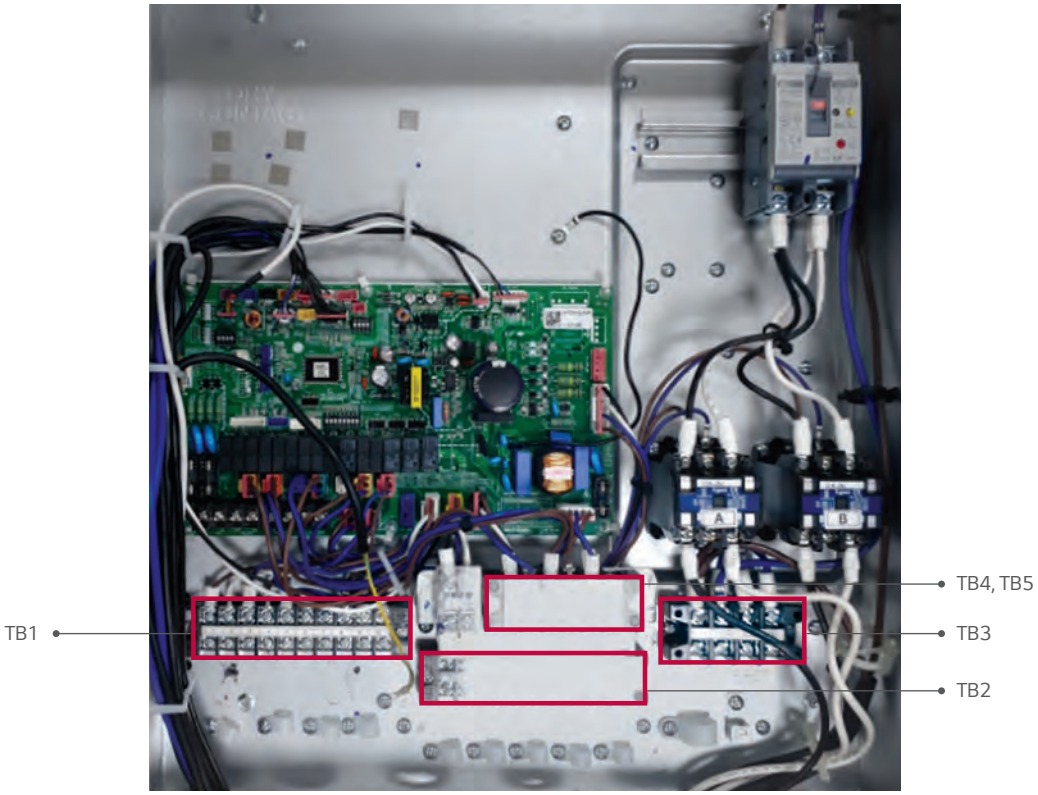
ODU Main PCB (R32 Split 5 / 7 / 9kW, 1P)



NO.	Name	NO.	Name	NO.	Name	NO.	Name
1	CN_FAN (WH)	7	CN_MID (BR)	13	CN_VI_IN (WH)	19	CN_4WAY (YL)
2	CN_EEV3 (YL)	8	CN_H_PRESS (RD)	14	CN_VI_OUT (BL)	20	CN_HEATER2 (BL)
3	CN_CENTRAL (WH)	9	CN_CP_L (WH)	15	CN_COMP (RD)	21	CN_HEATER1 (WH)
4	CN_AIR (YL)	10	CN_EEV1 (WH)	16	CN_FLASH (WH)		
5	CN_C_PIPE (VI)	11	CN_LGMV (WH)	17	CN_REATOR_OUT (RD)		
6	CN_DISCHARGE (BK)	12	CN_SUCTION (GR)	18	CN_REATOR_IN (BL)		

TERMINAL BLOCK

Terminal Block Information : R32 Split



• 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(L)	2(N)	3(L)	4(N)
POWER SUPPLY (1Ø, 220 ~ 240V, 50HZ)		TO ELB FOR DHW TANK E/HEATER	

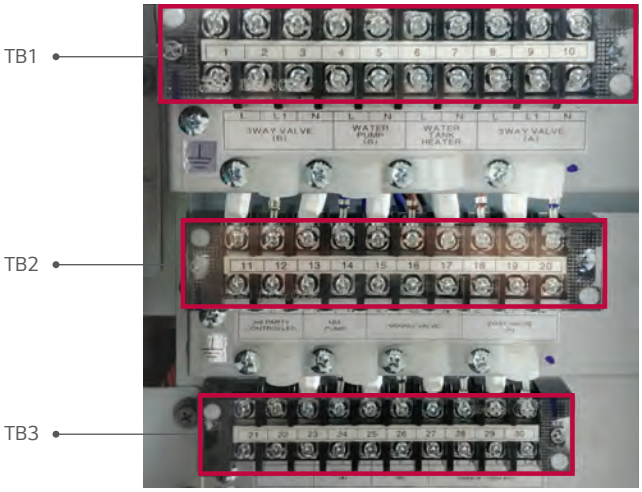
• Terminal Block : TB4

21	22
A	B
3rd PARTY CONTROLLER (5V DC)	

• Terminal Block : TB5

23	24	25	26	27
L	N	L1	L2	N
MIXING PUMP		MIXING VALVE		

Terminal Block Information : R32 Monobloc



• Terminal Block : TB1

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

• Terminal Block : TB2

11	12	13	14	15	16	17	18	19	20
BK	WH	BR	BL	BR	BR	BL	BR	WH	BL
A	B	L	N	L1	L2	N	L	L1	N
3rd PARTY CONTROLLER		MIXING PUMP		MIXING VALVE			2WAY VALVE (A)		

• Terminal Block : TB3

21	22	23	24	25	26	27	28	29	30
		BR	BL	BR	BL	BR	BL	WH	BK
L	N	L	N	L	N	L	N	L1	L2
		HEATER (A)		HEATER (B)		THERMOSTAT (DEFAULT : 230V AC)			

• Terminal Block : TB4 (Accessory)

31	32
BK	BK
A	B
E/HEATER OUT SENSOR (5V DC)	

APPLICATION

Air Temp Sensor
Thermostat
Dry Contact
External Water Pump
2nd Heating Circuit
Installation in Parallel

Hot Water Booster Heater
Auxiliary Boiler
Back up Heater for Monobloc
Anti-Freezing Solution

Meter Interface
Solar Panel for DHW
LG Central Controller
2Way Valve for Cooling
Wi-Fi
2 Remocons

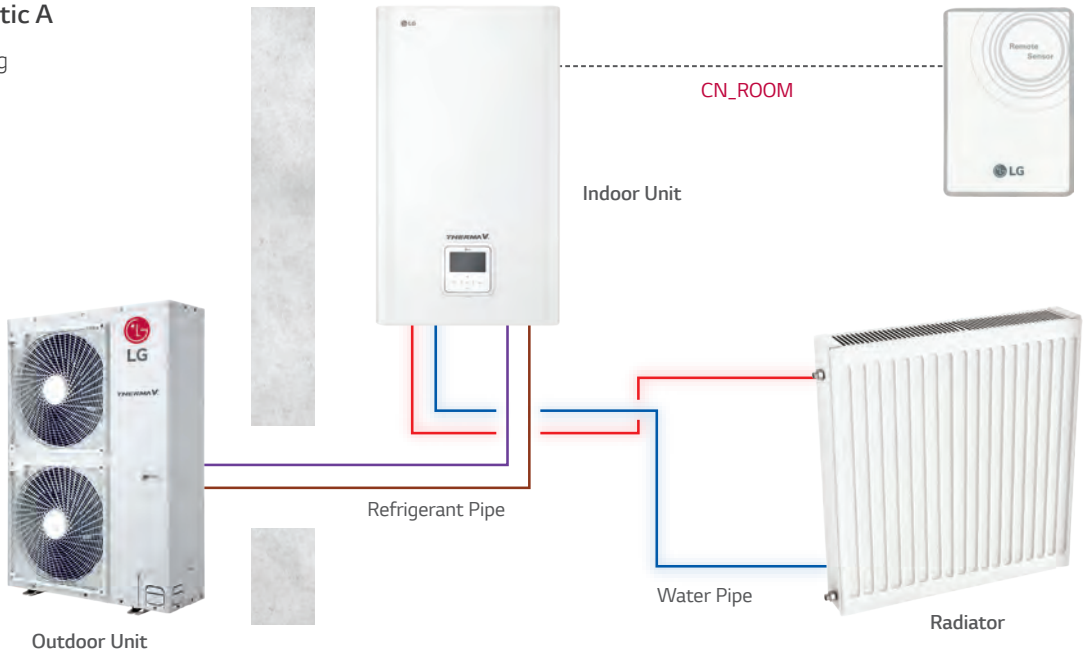
AIR TEMP SENSOR

1. Design Purpose

Controlled by room air temperature.

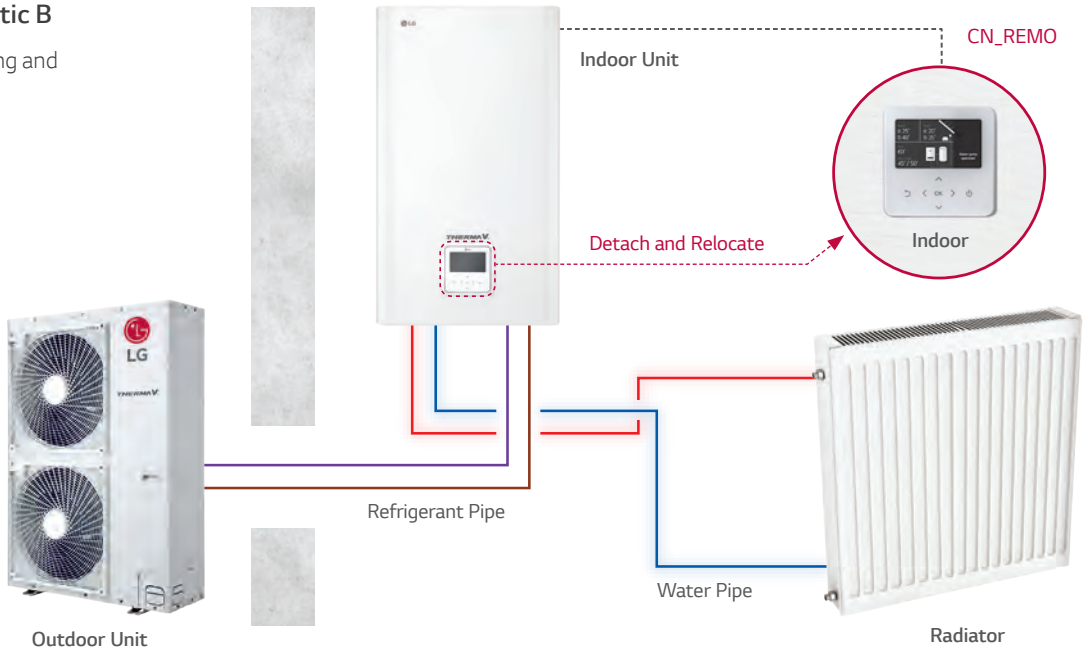
• System Schematic A

- In case of installing air temp sensor.



• System Schematic B

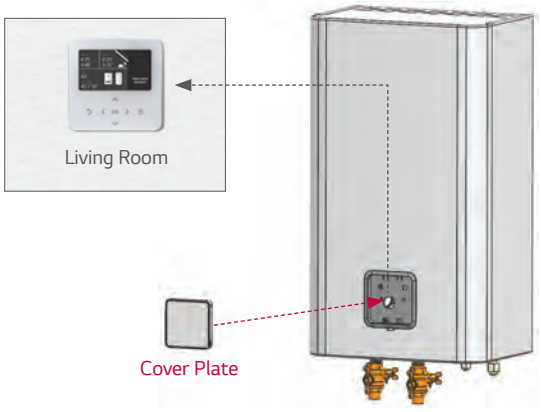
- In case of detaching and install inside.



	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

2. Necessary Configuration and Feature

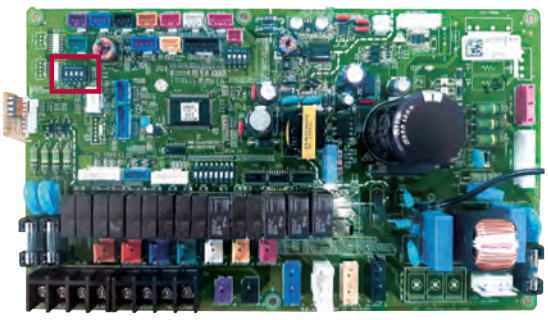
		Necessary Configuration	Additional Information
Dip s/w		• In case of A, change dip 1 to "On" in switch 2, keep the others. • In case of B, no changes.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Choose control way by either Air or Air + Water. • Choose which device to use. (RS3 or Air temp sensor)	• 3 Control standard options are available. (Water / Air / Air + Water) • Air temp sensor is integrated in RS3 for R32 Split and Monobloc.
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
Accessory (Option)	LG Accessory	• If user doesn't use RS3 for air temp control, need to buy air temp sensor as optional part and should be installed separately.	• Part No. : PQRSTA0
	Cover Plate	• When installing RS3 from IDU to indoor location, Cover plate can be used to block empty space in IDU.	• Part No. : PDC-HK10

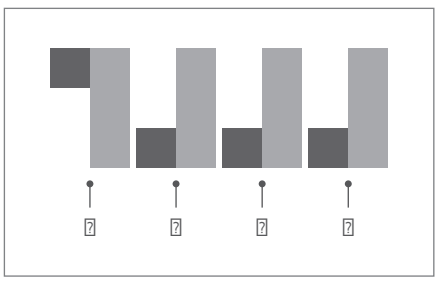


3. Dip s/w Setting

In case of A, change dip 1 to "On" in switch 3.

In case of B, no changes, keep defaults.





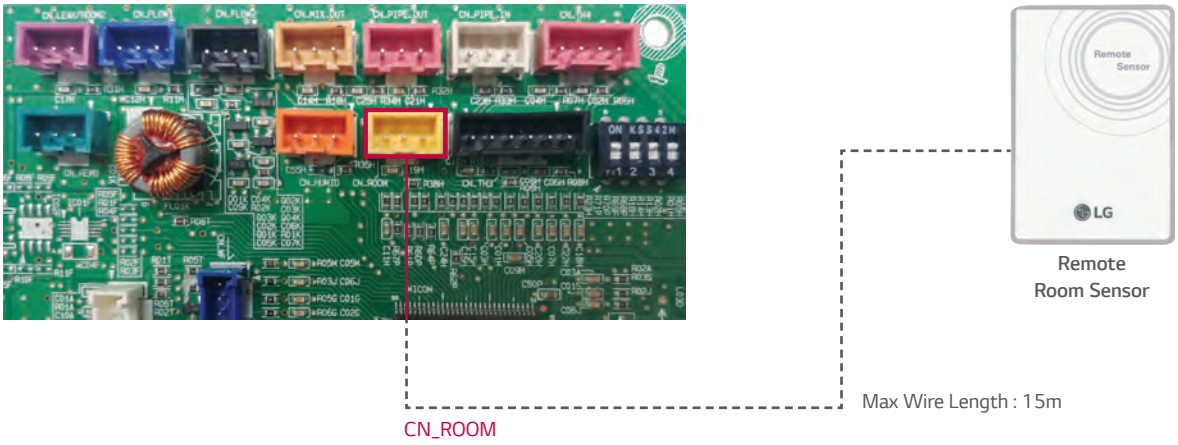
SW3

For more information of Dip switch, please refer to the page 11.

AIR TEMP SENSOR

4. Installing Remote Temperature Sensor

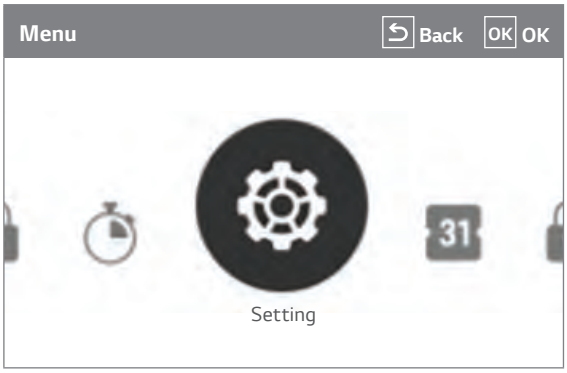
Remote temperature sensor can be installed any place a user wants to detect the temperature.
Distance between the indoor unit and the remote air temperature sensor should be less than 15m due to length of the connection cable of remote air temperature sensor.
Connect the wire between CN_ROOM in PCB and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



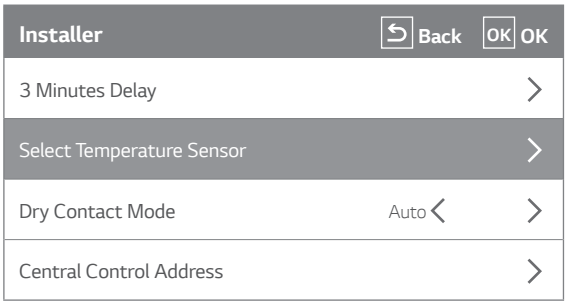
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

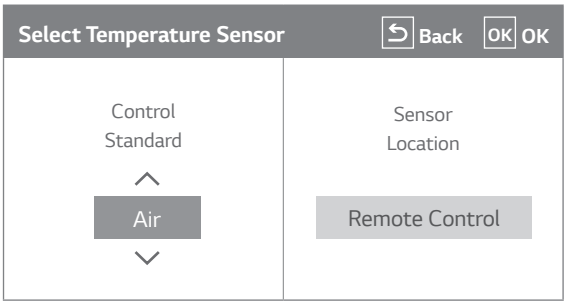
5. Installer Setting

• Enter installer set up mode, then set "Select Temperature Sensor".



Press 'up' for 3 sec



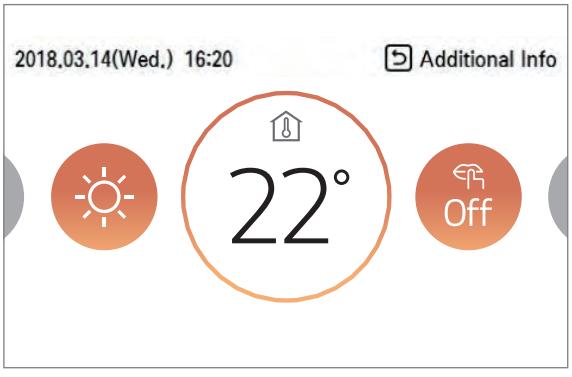


Select : Remote Control / Indoor Unit

• Selection of "Control standard"

- Air
- Water (Default)
- Air + Water

• Set target room temperature in RS3.



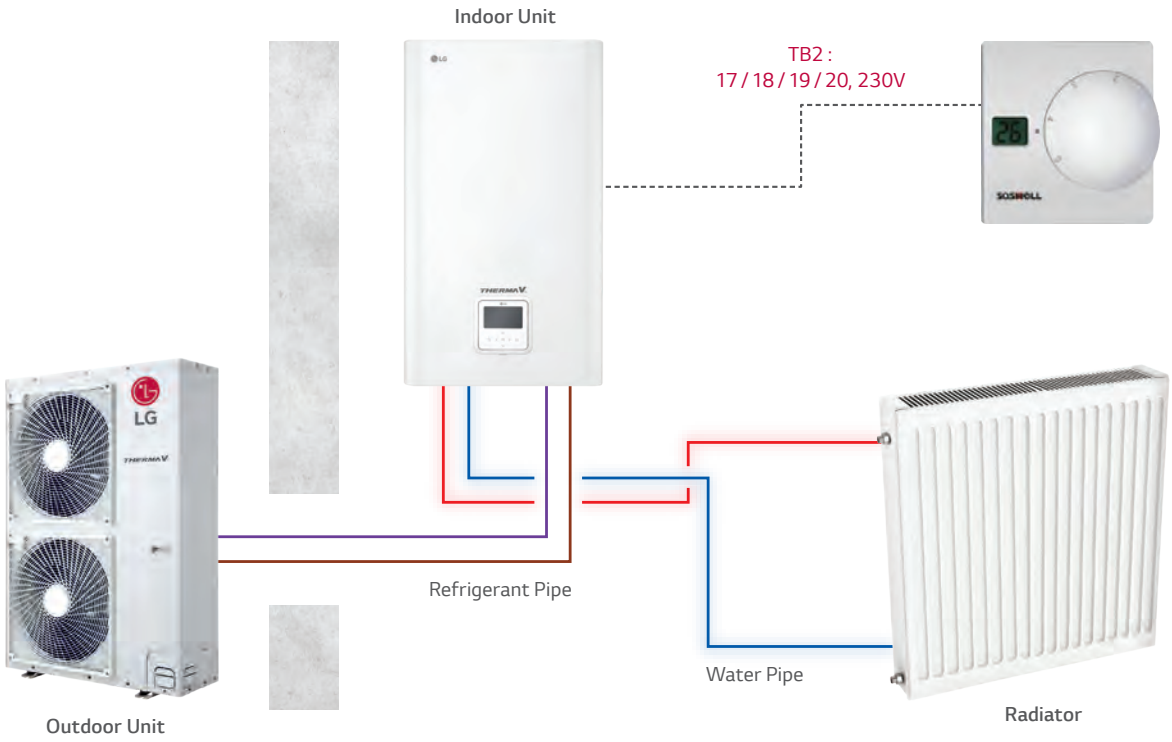
(Heating Range : 16 ~ 30°C)

THERMOSTAT

1. Design Purpose

Controlled by Thermostat.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 8 to "On" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Not required to adjust the setting in RS3 to use Thermostat.	-
Control	THERMA V On/Off	• Controlled by Thermostat. • On/Off control of Heating / Cooling is not possible by RS3.	• On/Off control of DHW operation can be controlled by RS3.
	Target Water / Air Temp	• Controlled by RS3.	-
Required Accessory	LG Accessory	N/A	-
	Field Scope (3rd party)	• Thermostat is an option and needs to be purchased and installed separately.	• Spec : 230V

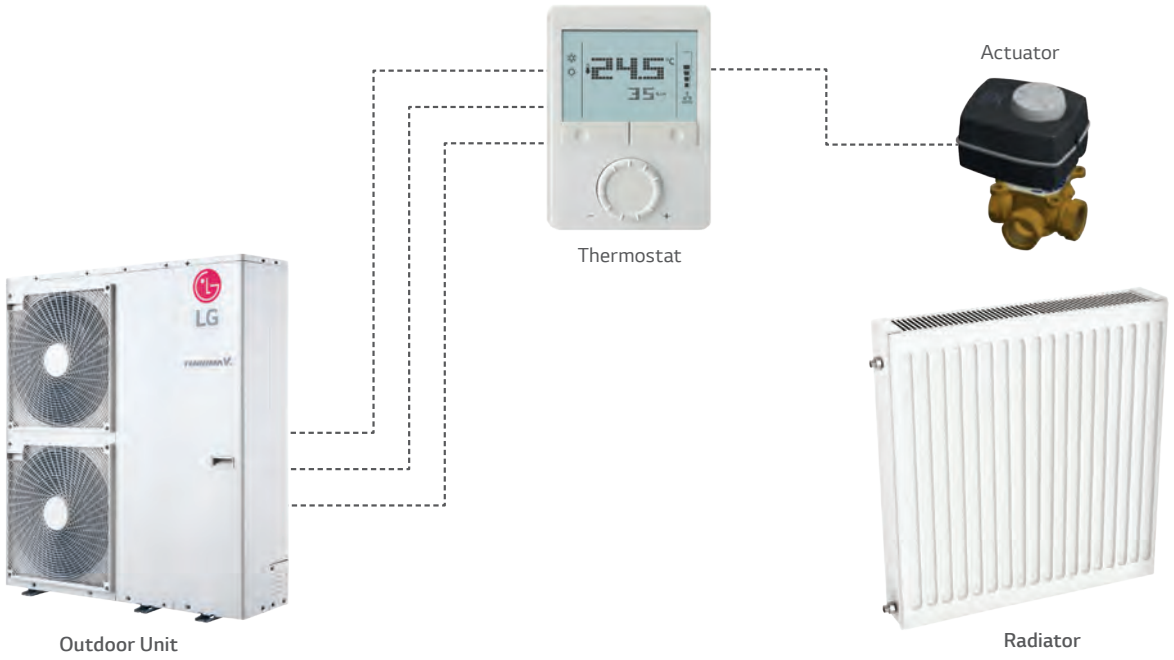
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Thermostat (Accessory)

Model Name	Feature
Thermostat (3rd Party)	• 230V AC signal • Mode : Cooling / Heating

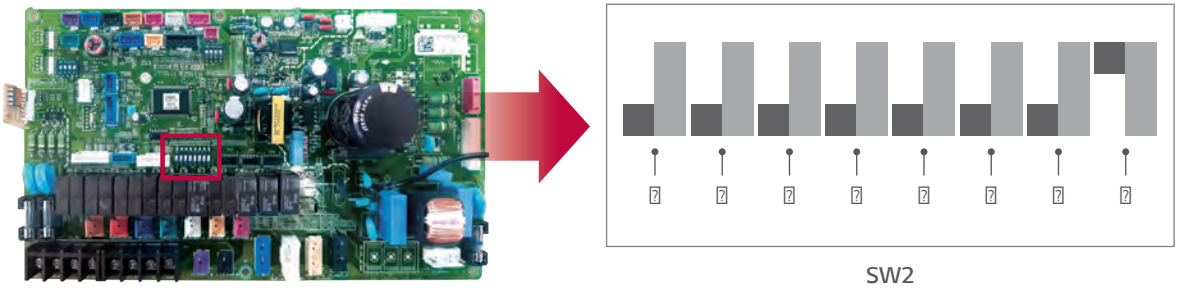
※ Not applicable for wireless thermostat.

• Application



4. Dip s/w Setting

Change dip 8 to "On" in switch 2.



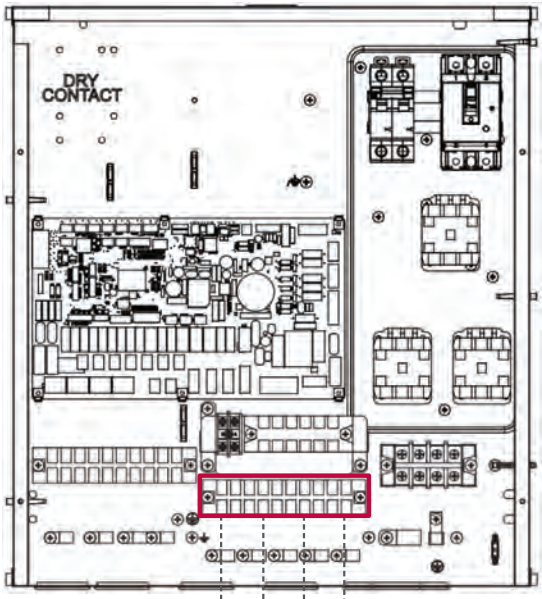
THERMOSTAT

5. Installing Thermostat

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.

• System Schematic



17	18	19	20
L	N	L1	L2

17	18	19	20
L	N	L1	L2

THERMOSTAT (DEFAULT : 230V AC)

(L) (N) (C) (H)

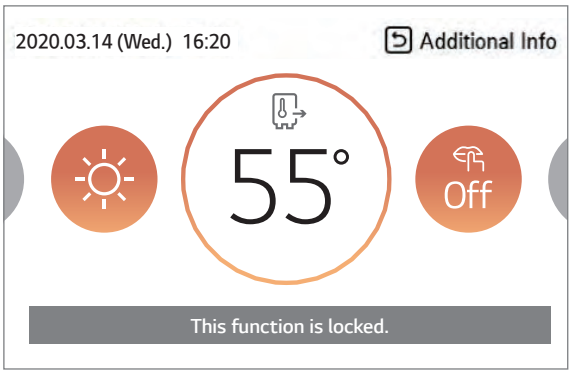
Thermostat

(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

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

6. RS3 Setting

When Thermostat function is active, On/Off control is only possible by Thermostat, not by RS3.
Target temperature should be set by RS3.



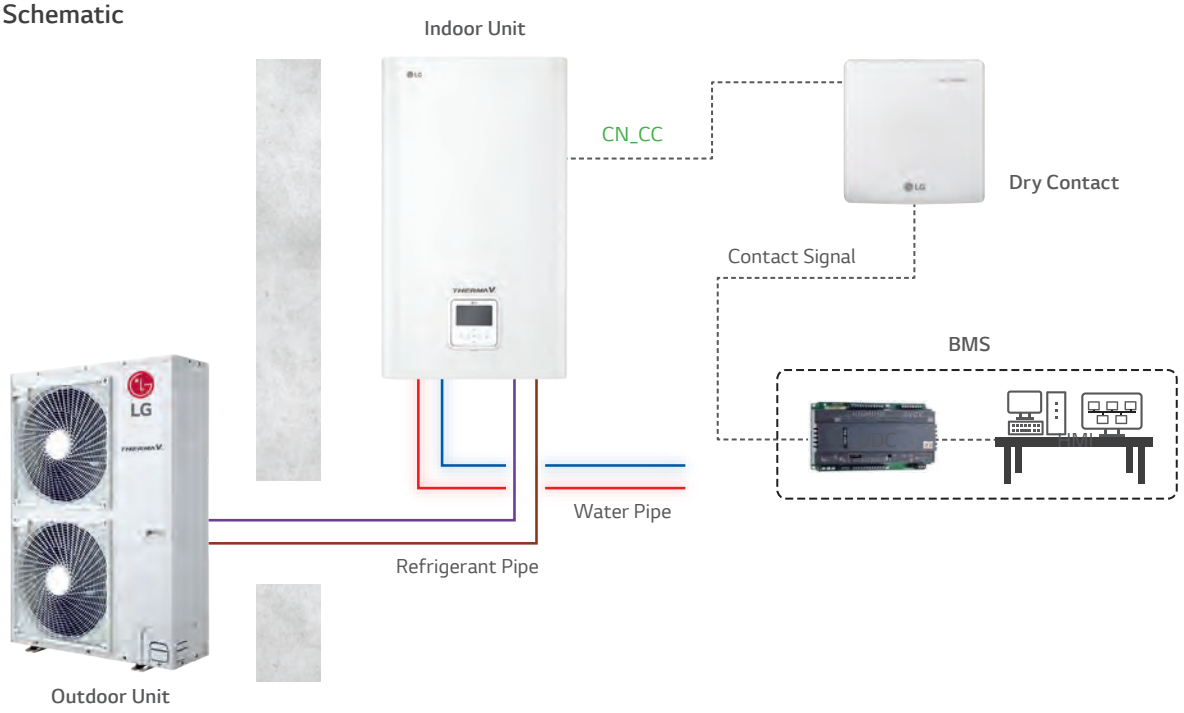
Possible On/Off for DHW Mode in RS3 with Thermostat.

DRY CONTACT

1. Design Purpose

Product operation using dry contact and external controller.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Select dry contact mode either Auto or Manual in installer setting.	• Auto : Automatically, operation on with release hard lock. • Manual : Keep operation off with release hard lock.
Dry Contact Switch Setting (for PDRYCB300)	Temp_SW	• Must Set "F"	• For Thermostat mode of Thermal V.
	Setting SW (Oper_SW)	• Set "Setting SW" for Priority.	• Normal (0) : Possible to controlled by RS3. • Forced (1) : Not possible to controlled by RS3.
Control	THERMA V On/Off	• Controlled by RS3.	• Normal mode : Possible by RS3. • Forced mode : Not possible by RS3.
Required Accessory	Target Water / Air Temp	• Controlled by RS3.	-
	LG Accessory Field Scope (3rd party)	• Dry contact is an option and needs to be purchased and installed separately.	• Spec & Part No. : AC 220 ~ 240V (PDRYCB000) DC 12V / AC 24V (PDRYCB300)

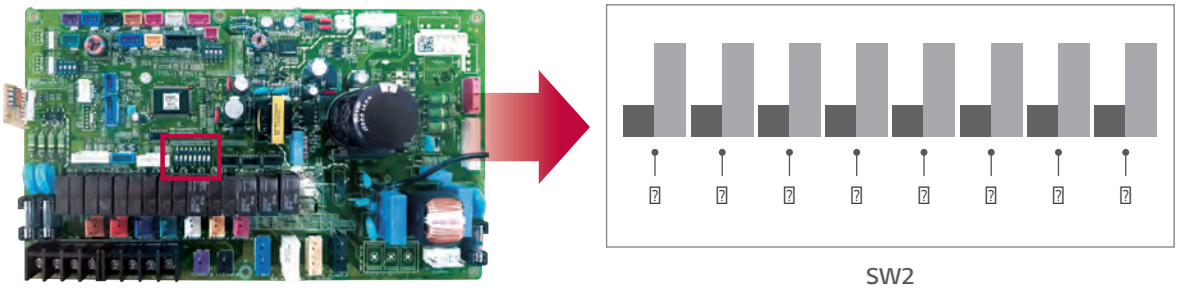
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Dry Contact (Accessory)

Model Name	Feature	
Simple Dry Contact (PDRYCB000) 	• 1 Set per 1 unit • 1 Input contact for turning On/Off • Input power : 220 ~ 240V	• 2 Output contacts - Operation status - Error status
Dry Contact for Thermostat (PDRYCB300 / 320) 	• 1 Set Per 1 Unit • Non Voltage or 12 ~ 24V • 1 Analog input for Set point (Only 320) • 8 Digital Input Contacts for Thermostat - On/Off, Operation mode, DHW heating - Emergency mode, Silent mode	• 2 Output contacts - Operation status - Error status

4. Dip s/w Setting

No changes.

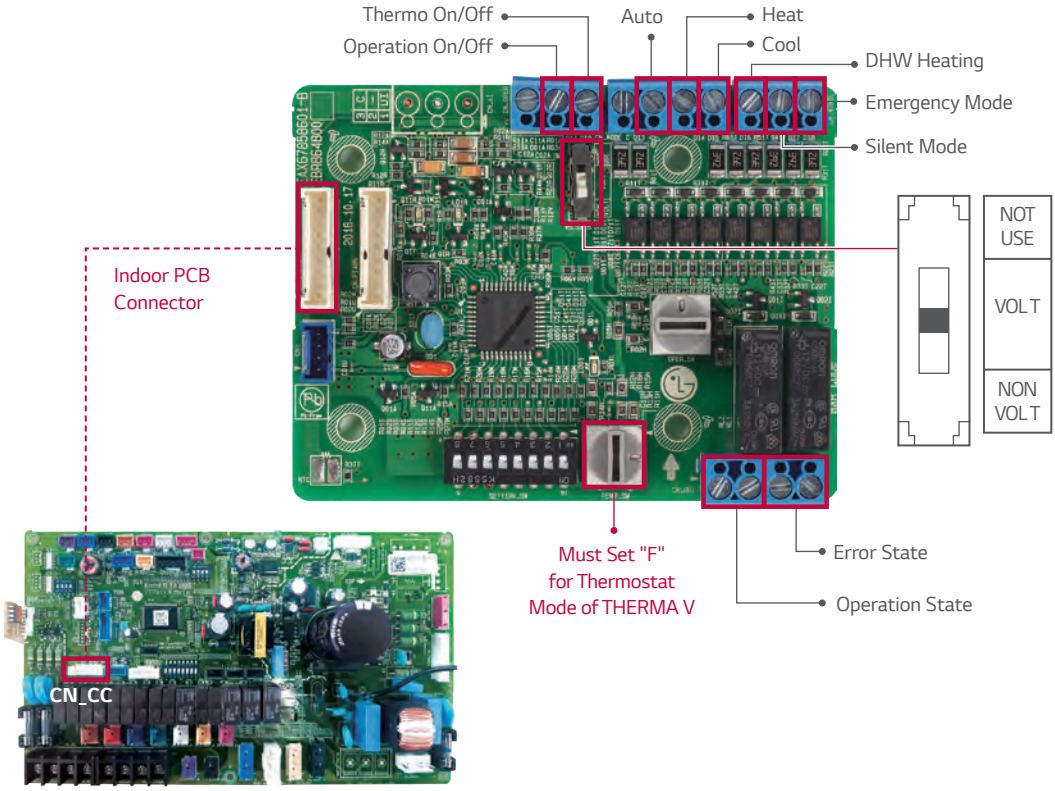


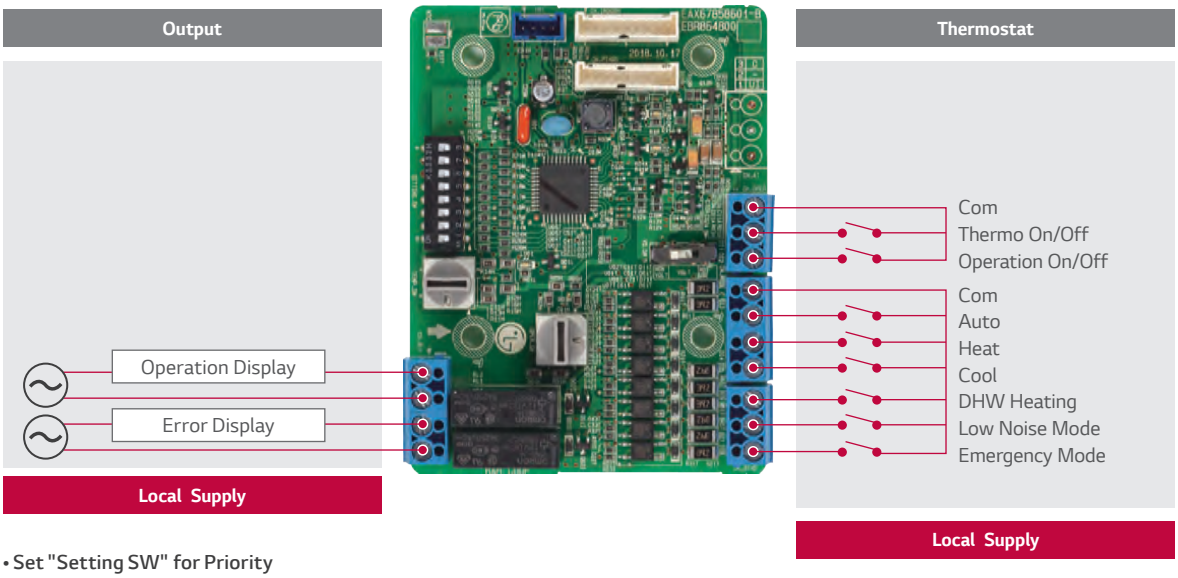
SW2

DRY CONTACT

5. Dry Contact

• PDRYCB300





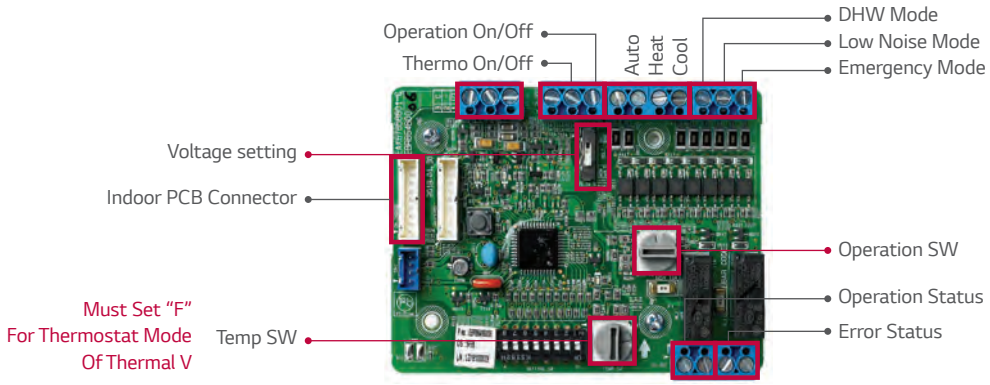
• Set "Setting SW" for Priority

- Forced (1) : Not possible to controlled by RS3.
- Normal (0) : Possible to controlled by RS3.

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

6. RS3 Setting

• Dry Contact (PDRYCB320)

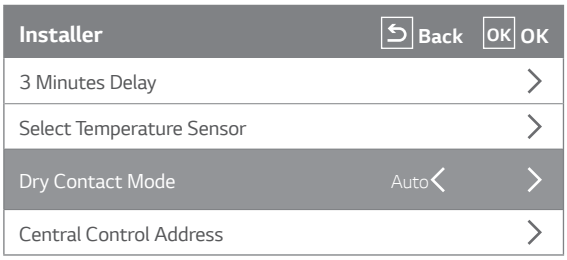


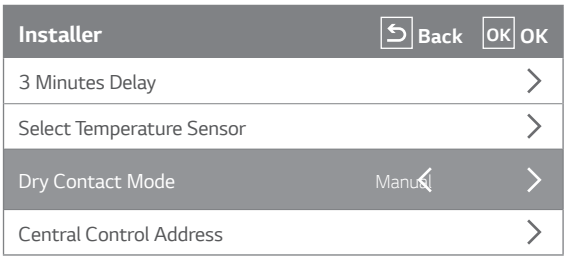
• Setting up operation status when dry contact on : Auto / Manual (Default : Auto)

- Auto : Automatically, operation on with release hard lock.
- Manual : Keep operation off with release hard lock.

※ Dry Contact Off : Operation Off + Hard Lock

※ With 300 model, the unit will operated by the signal from dry contact regardless of setting either Auto or Manual.





• List of Function by Dry Contact

Model Code		PDRYCB300	PDRYCB320
Quantity of Point		8	8
Power		from Indoor unit	from Indoor unit
Control	Operation On/Off	※ (Auto / Manual mode)	※ (Auto / Manual mode)
	Thermo On/Off	※	※
	Cool Mode	※	※
	Heat Mode	※	※
	Auto Mode	※	※
	DHW Heating	※	※
	Silent Mode	※	※
	Emergency Mode	※	※
Output	Operation Status	※	※
	Error	※	※

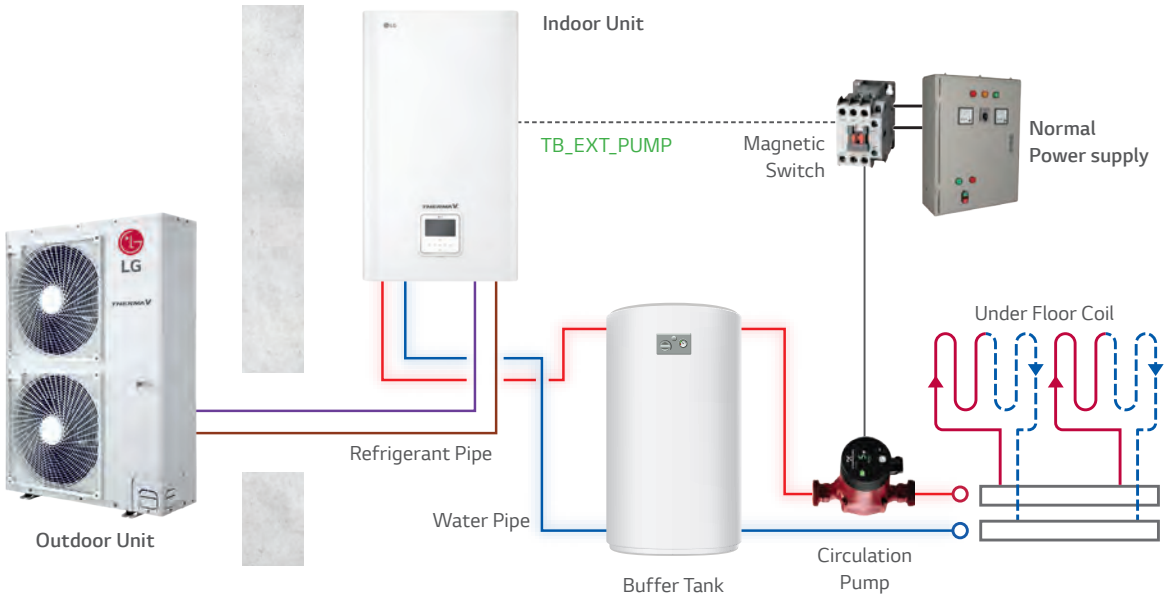
* Available 320 Model (`20 2Q)

EXTERNAL WATER PUMP

1. Design Purpose

- If auxiliary circulation pump is required. (with Buffer tank)
- When pressure drop lifts beyond the area covered by Integrated water pump.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Change the "Use external pump" menu to "Use" in installer setting.	-
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	
	Ext. Water Pump On/Off	• Ext. pump will be automatically operated same as integrated water pump in AWHP.	-
Required Accessory	LG Accessory	N/A	-
	Field Scope (3rd party)	• Depending on the model, MCC, Magnet and Relay are required on field scope, not provided by LG.	• Check the output signal from each model.

3. Signal for External Water Pump

Model Name	Pump Signal
THERMA V Split, R32 Mono	• Contact signal
Hydro Kit	• 220V AC output (Main) • Contact signal (Ext)
IWT	• 220V AC output

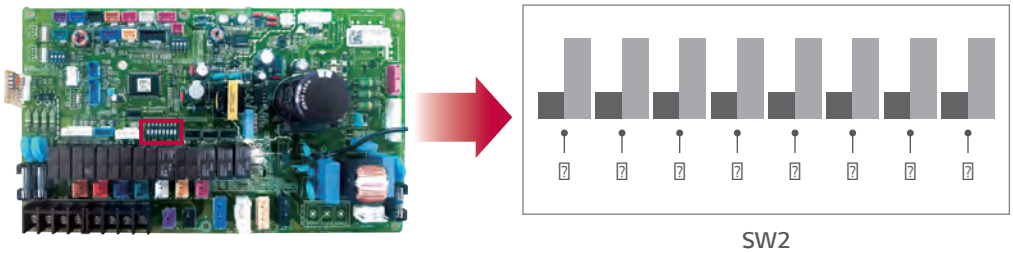
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

4. Field Scope

- External pump
- MCC
- Relay / Magnet

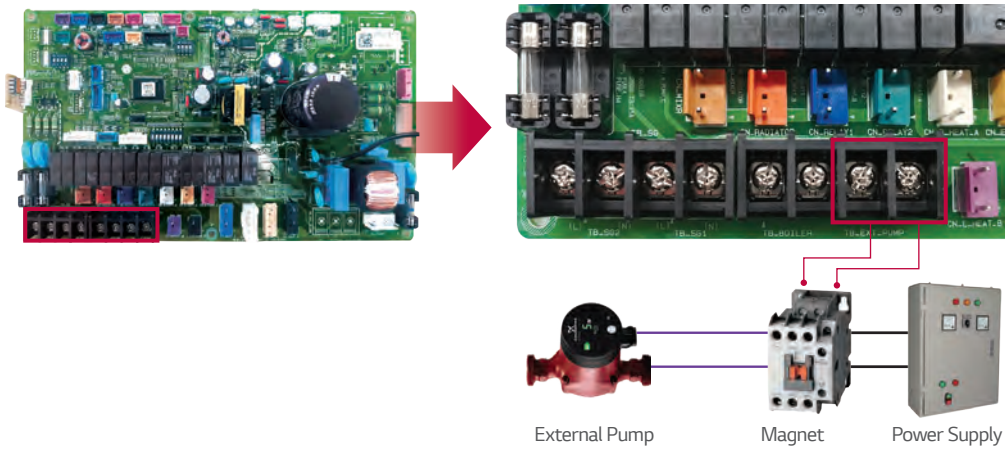
5. Dip s/w Setting

No changes. (Switch 2)



SW2

6. Connecting External Water Pump (IDU PCB)



External Pump Magnet Power Supply

7. RS3 Setting

Installer	Back OK OK
Modbus Address	>
CN_EXT	>
Add Zone	>
Use External Pump	Not Use >

Installer	Back OK OK
Modbus Address	>
CN_EXT	>
Add Zone	>
Use External Pump	Use >

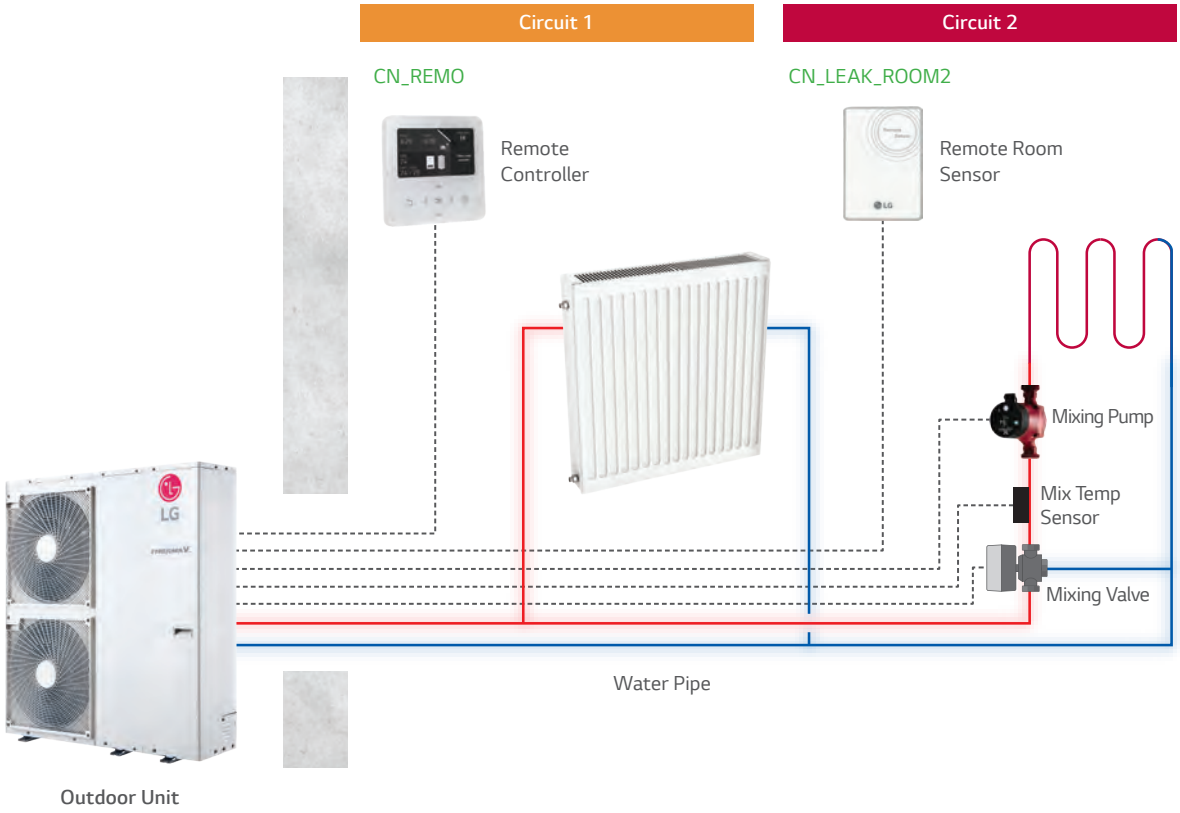
Operation logic for external pump is same as integrated pump in indoor unit.

2nd HEATING CIRCUIT

1. Design Purpose

If need to design two different set temperatures.

- **System Schematic**
  - Circuit 2 (Room 1) : Mixed zone, low temperature than circuit 1.
  - Circuit 1 (Room 2) : High temperature zone.



	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Change the added zone menu to "Use" in installer setting. • Set the values for "Valve closing time" and "Hysteresis".	• After adjusting "Use", valve closing time and hysteresis are active. • Range of valve closing time : 60 ~ 999 sec (Default : 240 sec) • Range of hysteresis : 1 ~ 5°C (Default : 2°C)
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Can be adjusted by RS3 for individual circuits. (Circuit 1/2)	-
Required Accessory	LG Accessory (Necessary)	• Mix temp sensor is a required purchase part and installed separately. • Air temp sensor is an option and needs to be purchased and installed separately, if user wants to control THERMA V based on room air temperature.	• Part No. : PRSTAT5K10 (Mix temp sensor) • Part No. : PQRSTA0 (Remote air temp sensor)
	Field Scope (3rd party)	• Mixing water pump, 3way mixing valve are required purchase parts on field scope, not provided by LG.	• Spec for mixing water pump : 220V output signal from PCB • Spec for 3way mixing valve : 220V input signal, full open time default 240 sec.

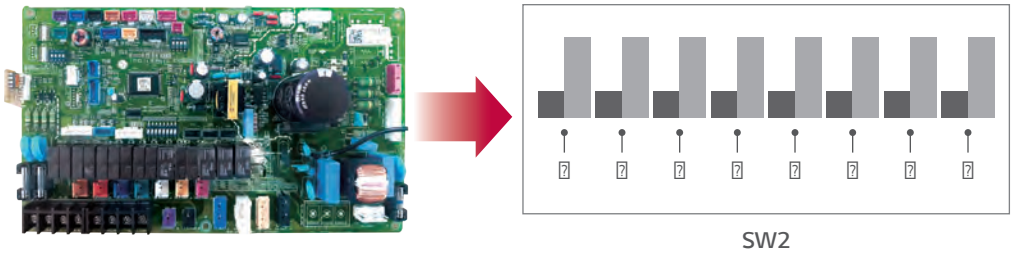
3. Accessory

Model Name	Feature
Mix Temp Sensor (PRSTAT5K10)	• Accessory (5kΩ Thermistor) • PRSTAT5K10, 10m
Mixing Pump	• Field scope • 220V output signal from PCB
3Way Mixing Valve 	• Field scope • 220V input signal • Full open time default 240 sec

※ In case of 2nd heating circuit mode based on air temp control, air temp sensor must be installed in circuit 2. If not, error will occur.

4. Dip s/w Setting

No changes. (Switch 2)

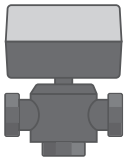


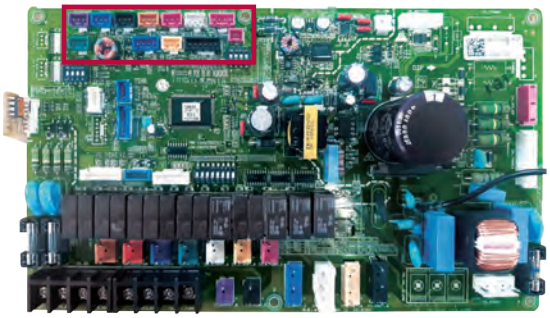
SW2

2nd HEATING CIRCUIT

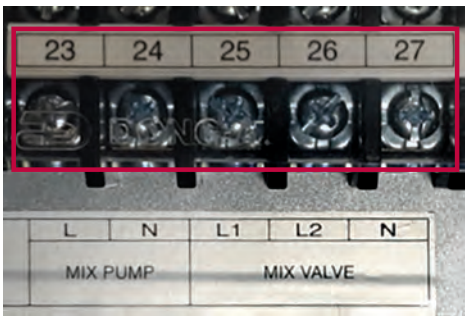
5. Wiring

In case of air temp control for 2 rooms.

RS3	Air Temp Sensor	Mixing Pump	Mixing Valve
CN_REMO	CN_LEAK_ROOM2 (Circuit 2)	23 / 24	25 / 26 / 27
			

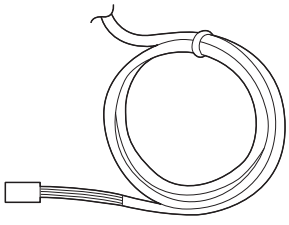


IDU PCB

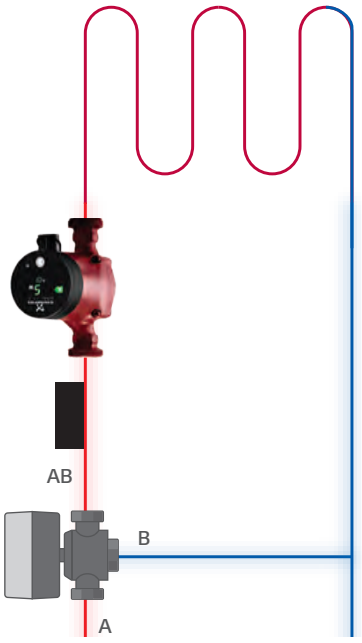


TB5

CN_MIX_OUT



Temp sensor for mixing zone



26 / 27 – Opening "B", Mixing.

25 / 27 – Opening "A", No mixing.

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

6. RS3 Setting

Installer	Back	OK OK
CN_EXT		>
Add Zone		>
Use External Pump		>
3rd Party Boiler		>

Add Zone	Back	OK OK
Use Added Zone	Use<	>
Valve Closing Time		>
Hysteresis		>

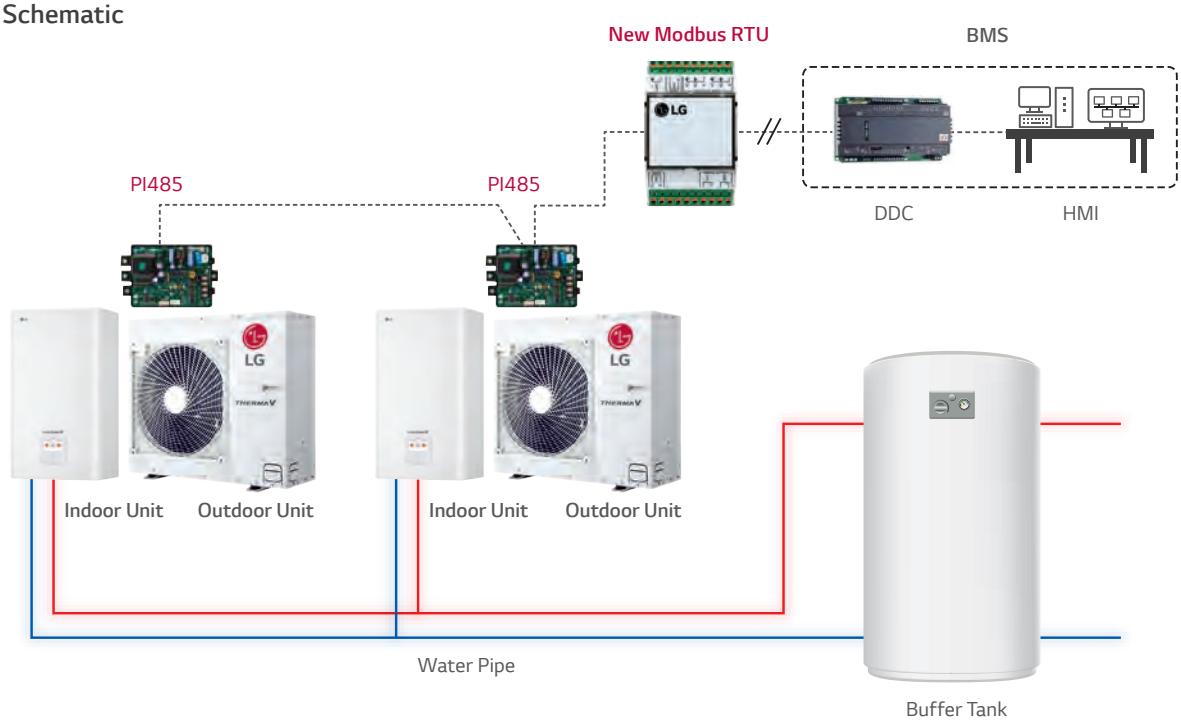
※ After adjusting "Use", valve closing time and hysteresis are active.

INSTALLATION IN PARALLEL

1. Design Purpose

If need to install more over 2 units in system.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 1 to "On" in switch 1.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• No need to set modbus address.	• After setting dip 1 to "On" in switch 1, modbus address menu will be shown in installer setting.
PI485 Dip Switch Setting (for PMNFP14A1)	Dip SW	• Set 1, 4 and 5 On, all others Off.	-
	THERMA V On/Off	• Controlled by RS3 or 3rd party controller.	-
Control	Target Water / Air Temp	• Controlled by RS3 or 3rd party controller.	-
Required Accessory	LG Accessory (Necessary)	• Modbus RTU and PI485 are required purchase parts and installed separately. • PI485 shall be installed in ODU.	• Part No. : PMBUSB00A (Modbus RTU) • Part No. : PMNFP14A1 (PI485)
	Field Scope (Necessary, 3rd party)	• 3rd party control system (ex. DDC, HMI, etc)	• Use modbus protocol.

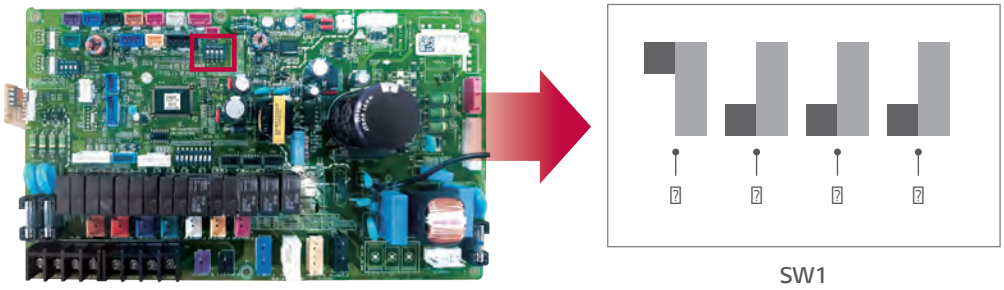
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

Model Name	Feature
Modbus RTU (PMBUSB00A) 	• Accessory - Size (W x H x D) : 53.6 x 89.7 x 60.7 - Max 16 IDUs with single module / Max 64 IDUs with 4 modules - Power : DC 12V
PI485 (PMNFP14A1)	• Accessory • To connect LG central controller / Modbus

4. Dip s/w Setting

Change dip 1 to "On" in Switch 1.

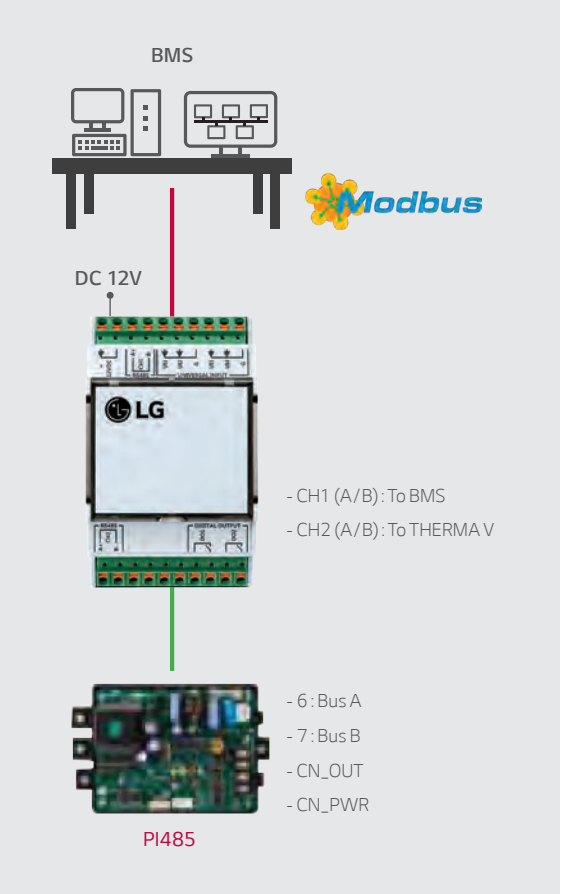


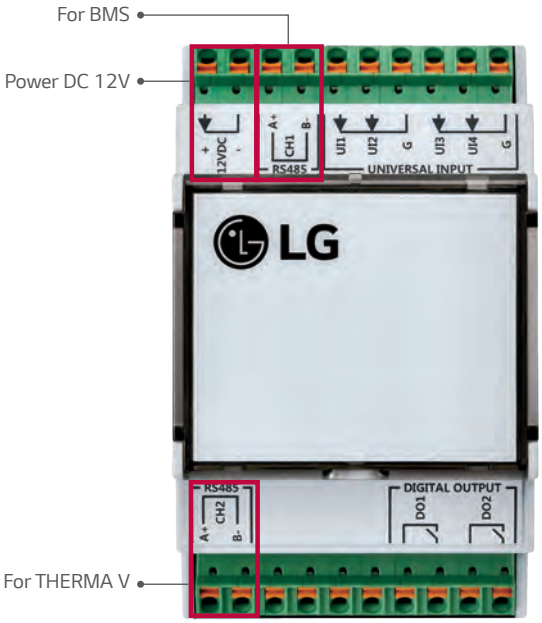
SW1

INSTALLATION IN PARALLEL

5. Modbus Memory Map

• System Schematic





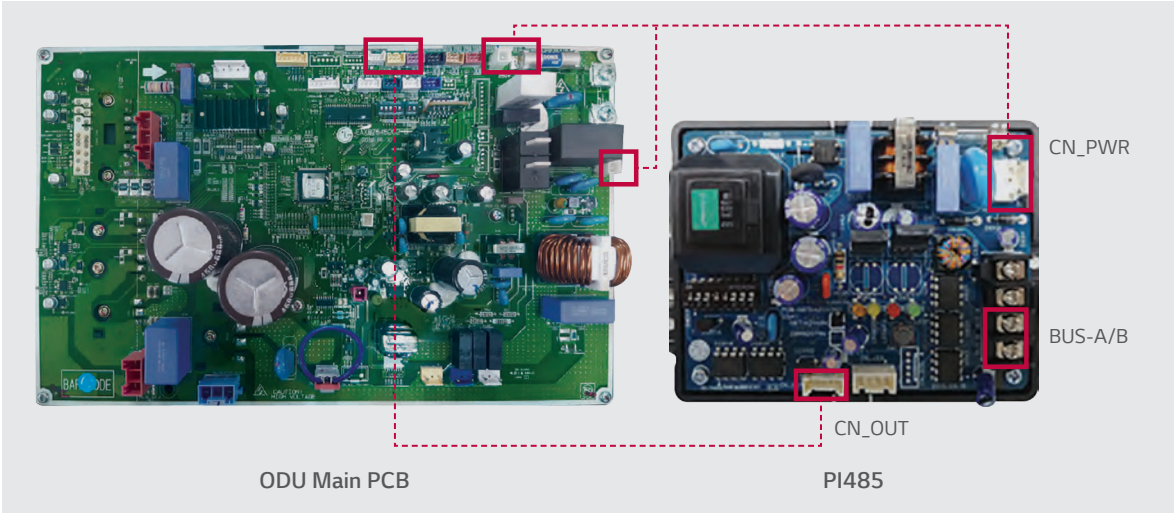
Coil Register	Discrete
Operate (On/Off)	Connect IDU
Hot water mode	Alarm
Lock remote controller	Target temp select

Input	Holding
Error code	Operate mode
Room temp	Target temp, DHW
Water inlet temp	Target temp
Water outlet temp	
Sanitary temp	
Solar temp	

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

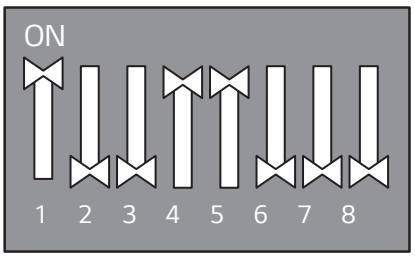
• Connect PI485 to Outdoor unit

- Connect CN_CP_L & CN_CP_N to CN_PWR in PI485.
- Connect CN_CENTRAL to CN_OUT in PI485.



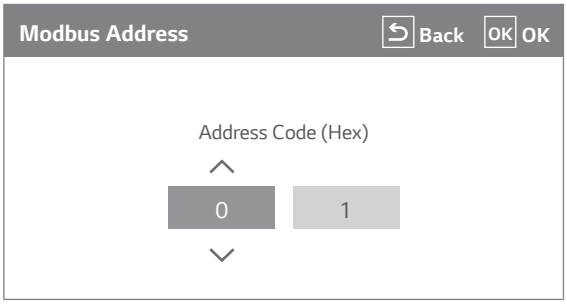
• Set dip s/w in PI485

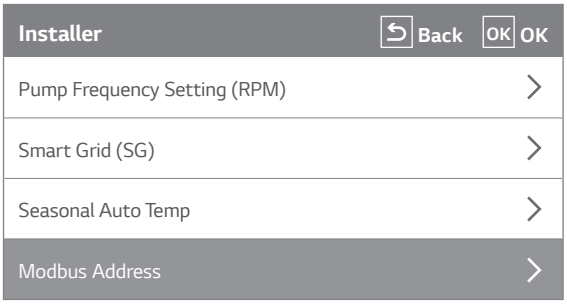
- 1, 4 and 5 On, All others Off :
  MULTI V products (Except CRUN products) or
  MPS inverter product + Central controller (All types) - Using LGAP



6. RS3 Setting

No need to set Modbus Address.





INSTALLATION IN PARALLEL _ MODBUS MEMORY MAP

• Coil Register (0 x 01)

Register	Data Bit			Function
	Air Conditioner	Ventilator	Hydro Kit & AWHP	
1	Operate (On/Off)	Operate (On/Off)	Operate (On/Off)	0 : Stop / 1 : Run
2	Auto swing	Aircon operate (On/Off)	Hot water mode (On/Off)	0 : Disable / 1 : Enable
3	Filter alarm release	Filter alarm release[1)]	-	0 : Normal / 1 : Alarm release
4	Lock remote controller	Lock remote controller	Lock remote controller	0 : UnLock / 1 : Lock
5	Lock operate mode	Lock operate mode[1)]	-	0 : UnLock / 1 : Lock
6	Lock fan speed	Lock fan speed[1)]	-	0 : UnLock / 1 : Lock
7	Lock target temp	Lock target temp[1)]	-	0 : UnLock / 1 : Lock
8	Lock IDU address	Lock IDU address[1)]	-	0 : UnLock / 1 : Lock
9	-	Quick ventilate	-	0 : Disable / 1 : Enable
10	-	Energy save	-	0 : Disable / 1 : Enable

Note[1)] : This register value is applied 'DX Ventilator' ONLY.

• Discrete Register (0 x 02)

Register	Data Bit			Function
	Air Conditioner	Ventilator	Hydro Kit & AWHP	
10001	Connected IDU	Connected IDU	Connected IDU	0 : Disconnected / 1 : Connected
10002	Alarm	Alarm	Alarm	0 : Normal / 1 : Alarm
10003	Filter alarm	Filter alarm[1)]	Hot water only[2)]	0 : Normal / 1 : Alarm Hydro Kit - 0 : Normal / 1 : Hot water only
10004	-	-	Target temp select	0 : Air / 1 : Water
10005	-	-	Error division[2)]	0 : CH type error / 1 : BC type error

Note[1)] : This register value is applied 'DX Ventilator' ONLY.

Note[2)] : This register value is applied 'Hydro Kit' ONLY.

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

• Input Register (0 x 04)

Register	Data Bit			Function
	Air Conditioner	Ventilator	Hydro Kit & AWHP	
30001	Error code	Error code	Error code	0 ~ 255[3)]
30002	Room temp	RA temp	Room temp	-99.0 ~ 99.0 (℃) x 10
30003	Pipe In temp	OA temp[1)]	Water inlet temp	-99.0 ~ 99.0 (℃) x 10
30004	Pipe Out temp	SA temp[1)]	Water outlet temp	-99.0 ~ 99.0 (℃) x 10
30005	-	Pipe in temp[1)]	Sanitary tank temp	-99.0 ~ 99.0 (℃) x 10
30006	-	Pipe out temp[1)]	Solar temp[2)]	-99.0 ~ 99.0 (℃) x 10

Note[1)] : This register value is applied 'DX Ventilator' ONLY.

Note[2)] : This register value is applied 'AWHP' ONLY.

Note[3)] : Please refer to the product error table.

• Holding Register (0 x 03)

Register	Data Bit			Function
	Air Conditioner	Ventilator	Hydro Kit & AWHP	
40001	Operate mode	Operate mode	Operate mode	0 : Cooling, 1 : Dehumid, 2 : Fan, 3 : Auto, 4 : Heating
				Hydro kit (Middle temp DHW) / AWHP - 0 : Cooling, 3 : Auto, 4 : Heating
				Hydro kit (High temp DHW) - 3 : Auto, 4 : Heating
40002	Fan speed	Fan speed	Target temp DHW[2)]	1 : Low, 2 : Mid, 3 : High, 4 : Auto
40003	Target temp	Target temp[1)]	Target temp[2)]	16.0 ~ 30.0 (℃) x 10
40004	Target temp limit (Upper)	Target temp limit (Upper)[1)]	-	16.0 ~ 30.0 (℃) x 10
40005	Target temp limit (Lower)	Target temp limit (Lower)[1)]	-	16.0 ~ 30.0 (℃) x 10
40006	-	Vent. operate mode	-	(0 : Hex, 1 : Auto, 2 : Normal)

Note[1)] : This register value is applied 'DX Ventilator' ONLY.

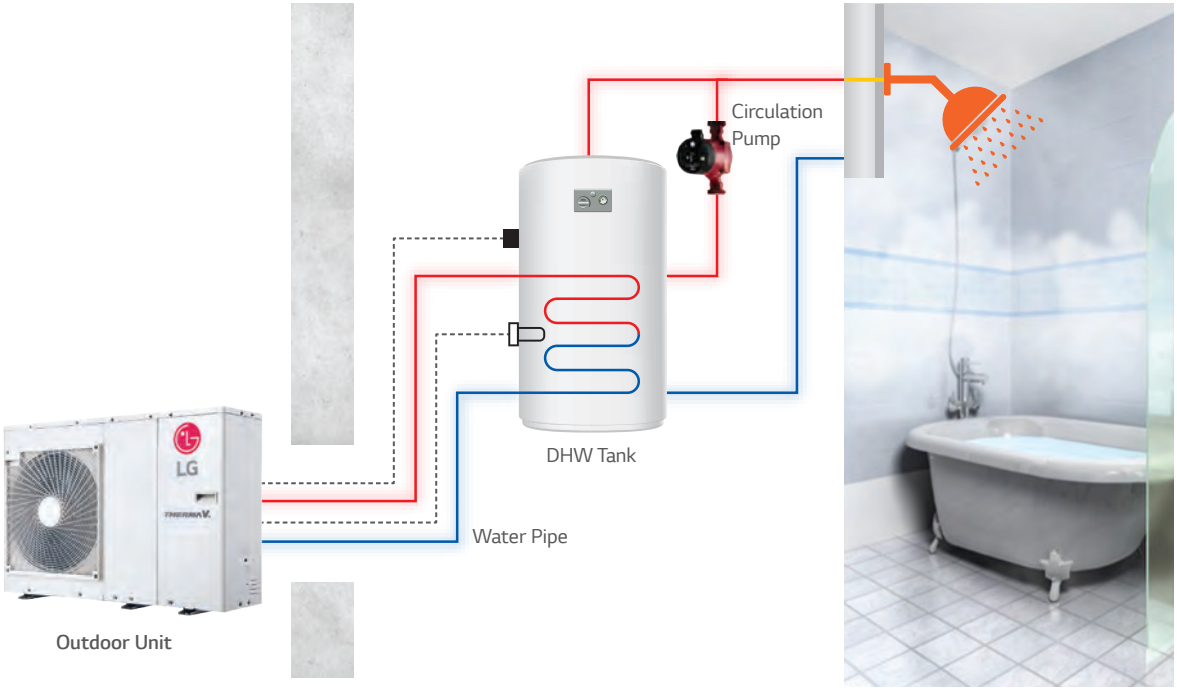
Note[2)] : This value range can be between 0 ~ 127 (°C) and it would be limited by upper & lower value according to the setting of remote controller.

HOT WATER WITH BOOSTER HEATER

1. Design Purpose

For hot water operation with a back up solution.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 3 "On" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Need to set installer setting.	• Choose heater priority.
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	• Default Set temp range for DHW : 40 ~ 58°C (Min 30°C / Max 80°C) • 58 ~ 80°C of DHW is achievable only when the booster heater is on operation.
Required Accessory	LG Accessory (Necessary)	• DHW kit and Sensor holder are required purchase parts and installed separately.	• Part No. for DHW kit : PHLTA (Split 1p) / PHLTB (Mono) / PHLTC (Split 3p) • Part No. for sensor holder : MEG61846101
	Field Scope (Necessary, 3rd party)	• Coballes tanks provided by LG have integrated booster heater. • For other brands for DHW tanks, need to check having integrated with electric heater. (Booster heater)	• For other brands for DHW tanks, need to buy DHW temp sensor (PHRSTA0) and install it into DHW side.

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

Model Name	Feature
DHW Kit (Relay, Sensor)	• Accessory : PHLTA (Split 1p) PHLTB (Mono) PHLTC (Split 3p)
DHW Temp Sensor (PHRSTA0)	• Accessory : 5kΩ, 7PI, 12m
DHW Sensor Holder (MEG61846101)	• Accessory

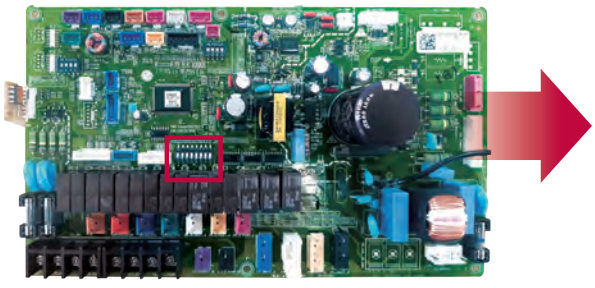
※ Need to purchase the DHW tank integrated with electric heater.

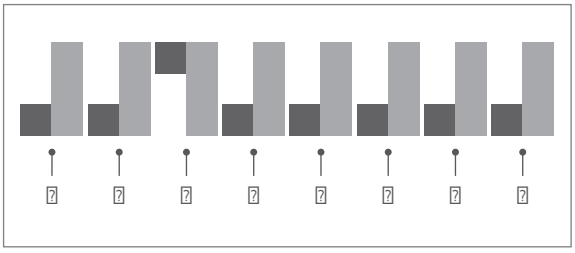
Heater Element

DHW Tank

4. Dip s/w Setting

Change dip 3 to "On" in switch 2.





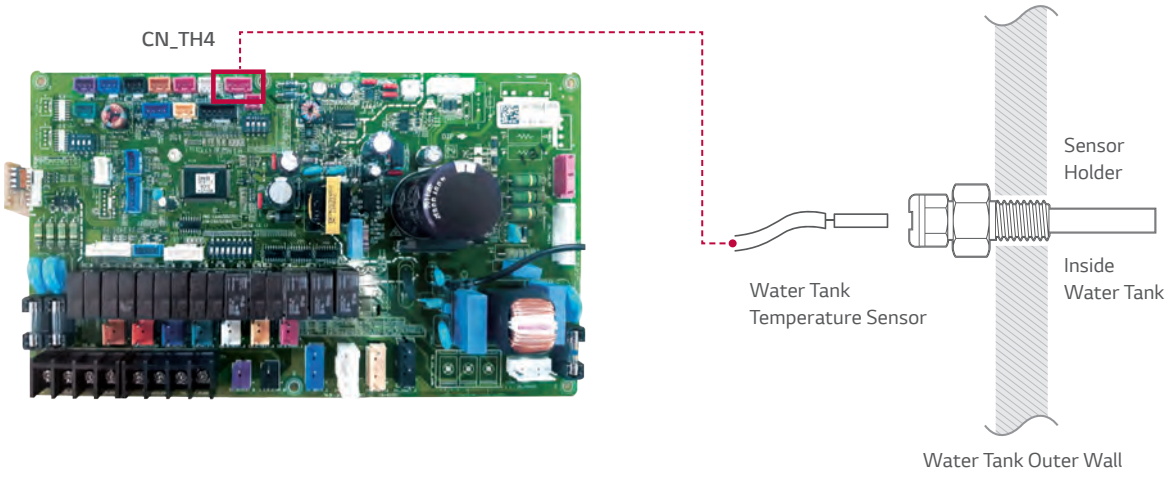
SW2

HOT WATER WITH BOOSTER HEATER

5. DHW Temp Sensor Installation

Length of DHW temperature sensor : 12m (Provided as default)

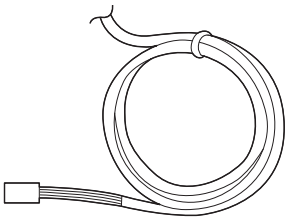
Connect DHW temperature sensor to PCB CN-TH4 and insert sensor in the temperature sensor pocket in tank.



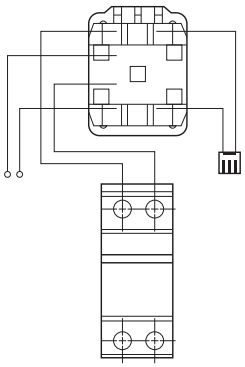
6. Tank Kit

• **Split (PHLTA/PHLTC)**

- Tank kit consist of Relay, Holder, Sensor.



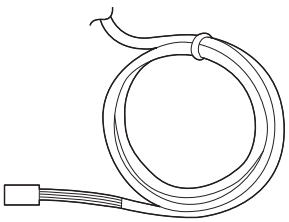
Thermistor Sensor 12m (1EA)



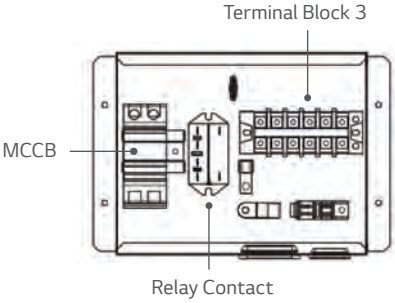
ELB & Relay Contactor

• **Monobloc (PHLTB)**

- Tank kit consist of sensor, water tank kit, wire.
  (between TB1 and PCB)



Thermistor Sensor 12m (1EA)

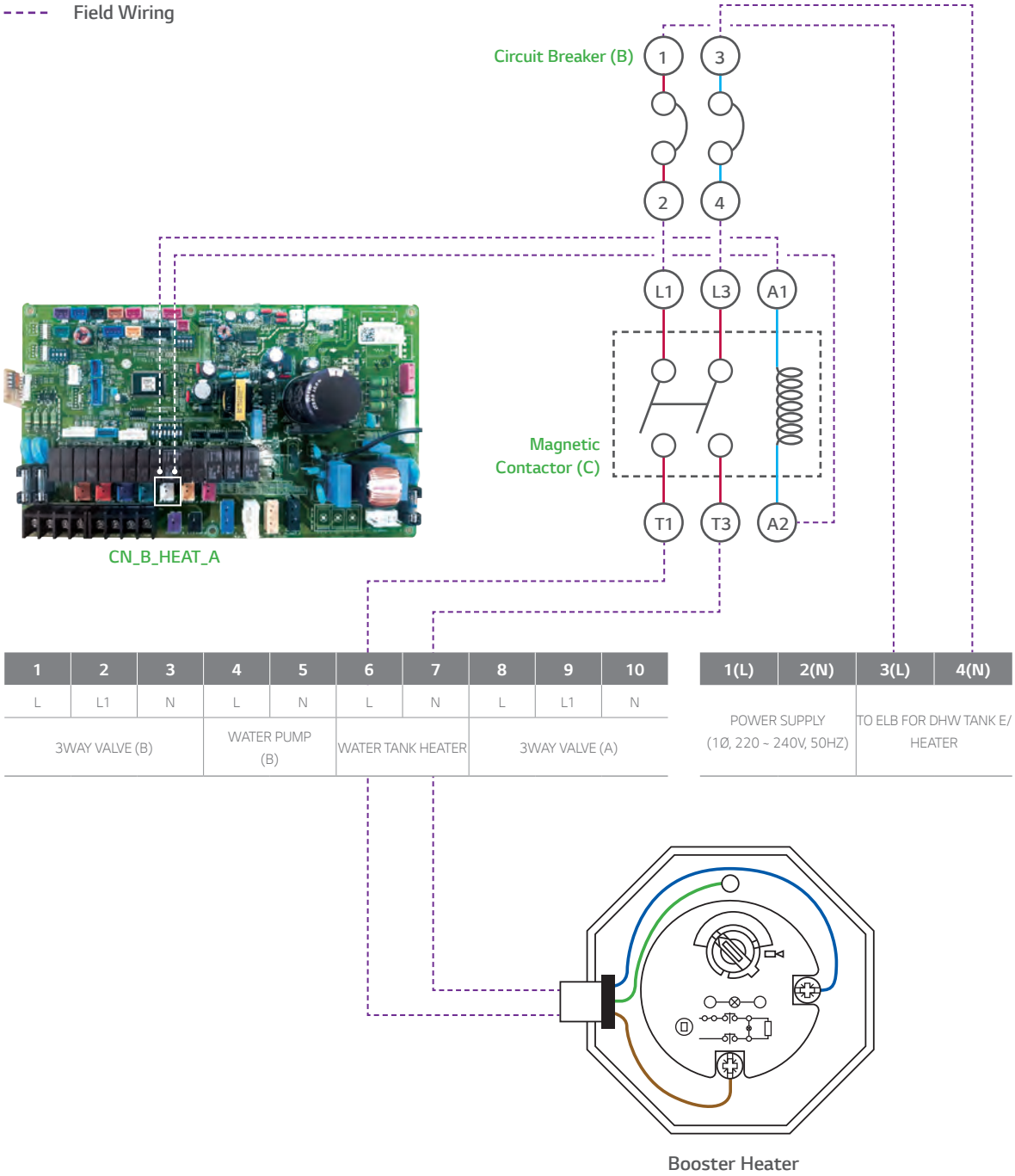


	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

7. Wiring

• **Split**

- Circuit Breaker (B) and Magnetic Contactor (C) shall be installed in field scope.



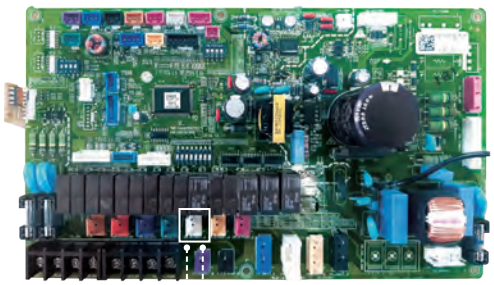
HOT WATER WITH BOOSTER HEATER

• Monobloc

- Circuit Breaker (B) and Magnetic Contactor (C) shall be installed in field scope.

Factory wiring

Field Wiring



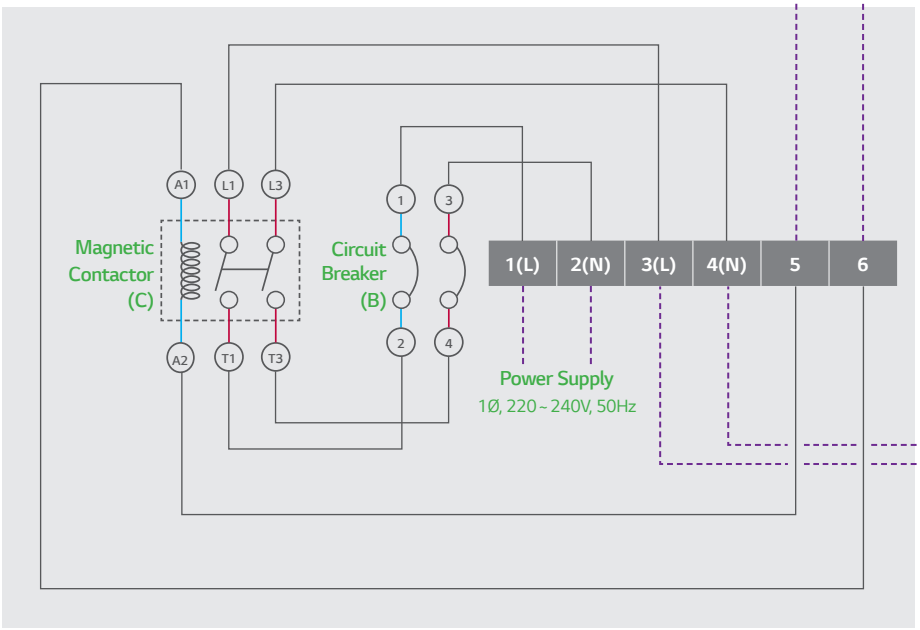
CN_B_HEAT_A

This wire is provided with DHW kit. (PHLTB)

• TB1 (Monobloc)

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

• PHLTB



APPLICATION

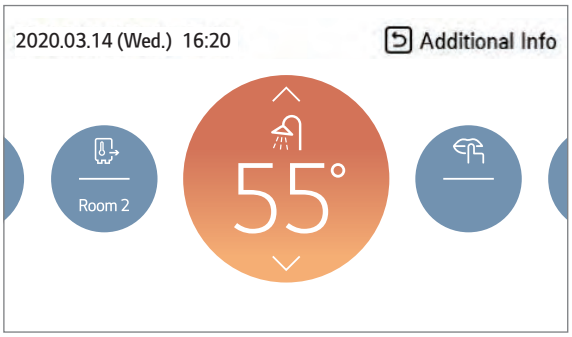
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

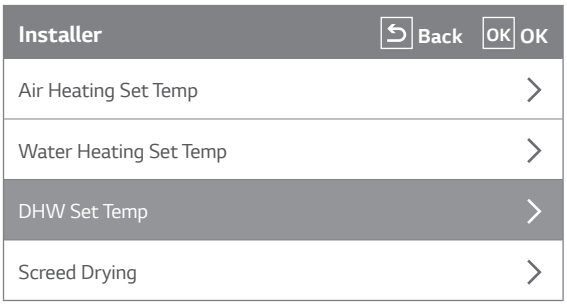
HOT WATER WITH BOOSTER HEATER

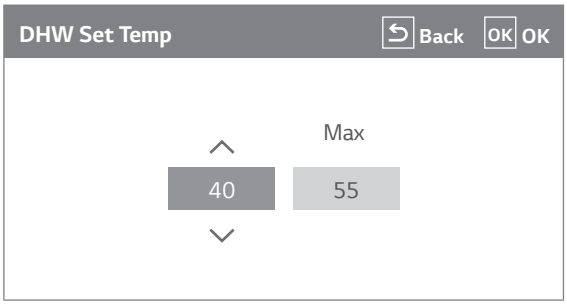
8. RS3 Setting

• Temperature Range

- Temperature range for DHW is 30 ~ 80°C.
- Min / Max values can be changed in DHW set temp menu.



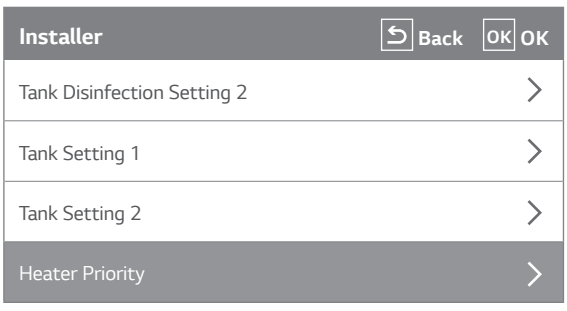


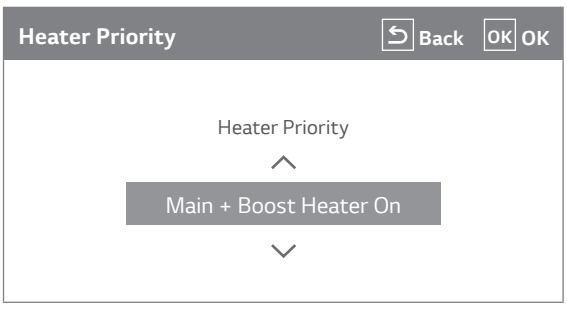


Value	Range
Max	80 ~ 50
Min	40 ~ 30

• Heater Priority

- Selection : Main + Boost heater On / Boost heater only On
- Main + Boost heater On : When DHW is on demand, the operation will be done by Back up heater and booster heater.
- Boost heater only On : When DHW is on demand, the operation will be done only by booster heater.

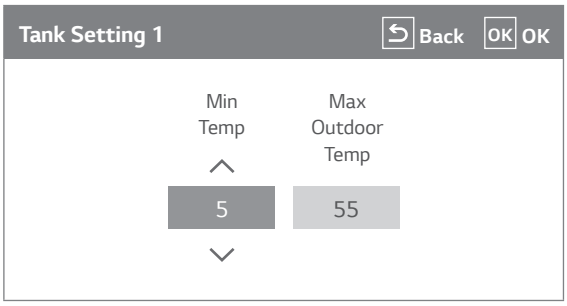


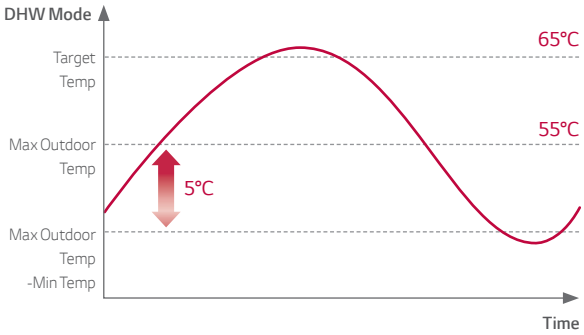


	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

• Tank Setting 1

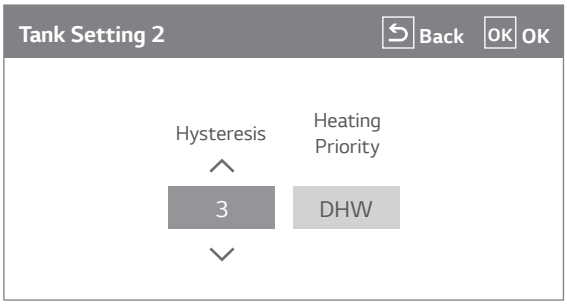
- Min Temp : Temperature gap form max outdoor temp
- Max Outdoor Temp : Max possible temperature for outdoor unit operation by compressor.





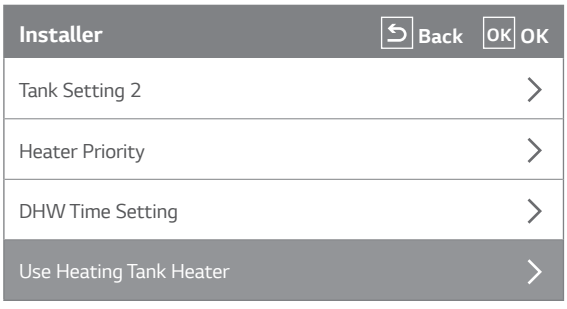
• Tank Setting 2

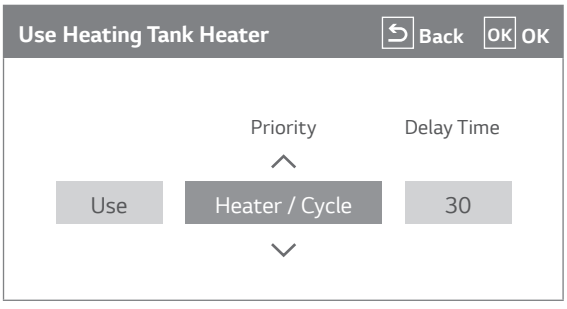
- Selection : DHW / Floor heating
- DHW : When either DHW or Floor heating operation is required.
- Floor heating : Only floor heating operation required with heat pump cycle. (Hot water in DHW will be produced by booster heater)



• Use Heating Tank Heater

- Selection : Heater, Cycle / Cycle.
- Heater / Cycle : Combined operation using booster heater and heat pump cycle.
- Cycle : Only heat pump operation, no usage with booster heater.
- Delay time : Time for turning on booster heater from starting compressor on.



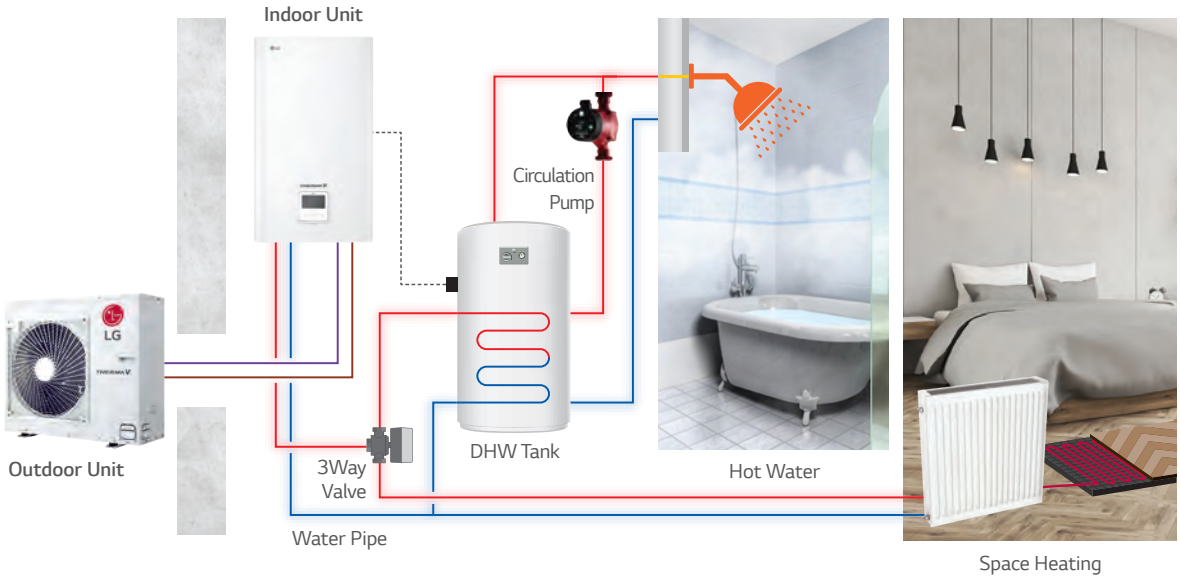


HOT WATER WITH 3WAY VALVE

1. Design Purpose

For hot water operation.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 3 "On" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Need to set installer setting.	• Select DHW in tank setting 2.
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	• Default set temp range for DHW : 40 ~ 55°C (Min 30°C / Max 80°C) • 55 ~ 80°C of DHW is achievable only when the booster heater is on operation.
Required Accessory	LG Accessory (Necessary)	• For using booster heater, DHW kit and Sensor holder are required purchase parts and installed separately. • For using combination hot water without booster heater and space heating, only DHW temp sensor is a required purchase part.	• Part No. for DHW kit : PHLTA (Split 1p) / PHLTB (Mono) / PHLTC (Split 3p) • Part No. for Sensor holder : MEG61846101
	Field Scope (Necessary, 3rd party)	• A 3way valve is required purchase part on field scope, not provided by LG.	• Spec for 3way valve : 230V

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

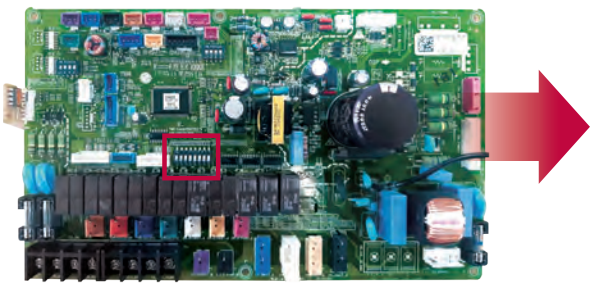
Model Name	Feature
DHW Kit (Relay, Sensor, Holder)	• Accessory : PHLTA (Split 1p) PHLTB (Mono) PHLTC (Split 3p)
DHW Temp Sensor (PHRSTA0)	• Accessory : 5kΩ, 7PI, 12m
DHW Sensor Holder (MEG61846101)	• Accessory
3Way Valve	• Field scope • AC 220V signal from PCB

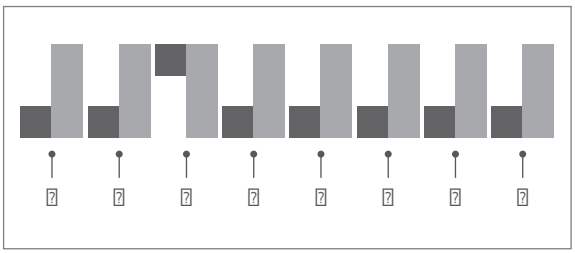
3Way Valve

Voltage	Protection Class	Operating Time (Angle of Rotation 90°)	Temperature
230V (±10%) - 50 ~ 60Hz	IP42	40 s	-40 ~ 70℃

4. Dip s/w Setting

Change dip 3 to "On" in switch 2.





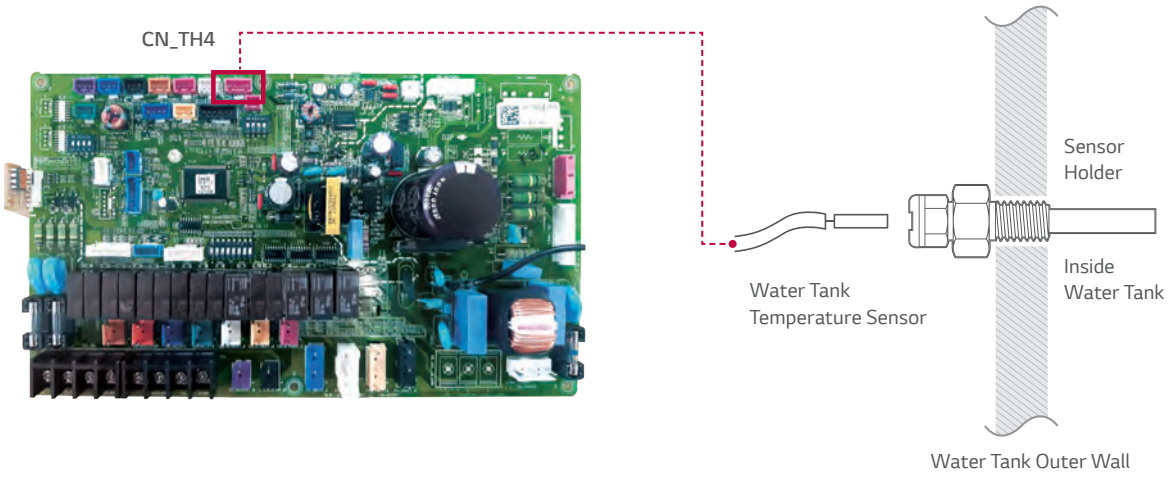
SW2

HOT WATER WITH 3WAY VALVE

5. DHW Temp Sensor Installation

Length of DHW temperature sensor : 12m (Provided as default)

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



• **Terminal Block 1**

- 9/10 : Space direction
- 8/10 : DHW direction

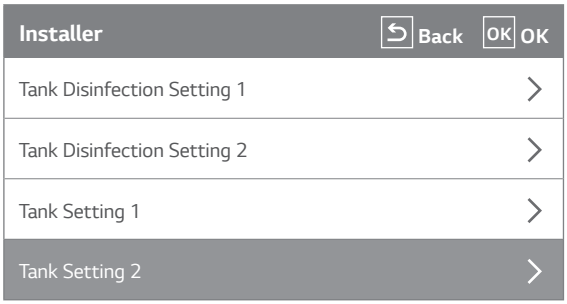
6	7	8	9	10
L	N	L	L1	N
WATER TANK HEATER		3WAY VALVE (A)		

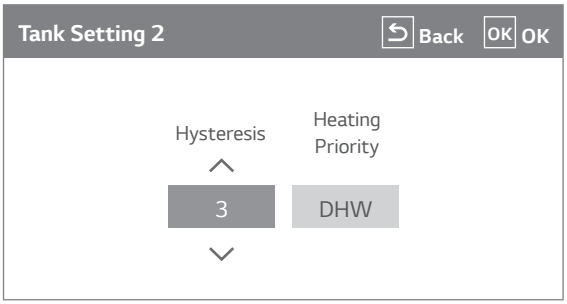
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

6. RS3 Setting _ Priority

• Tank Setting 2

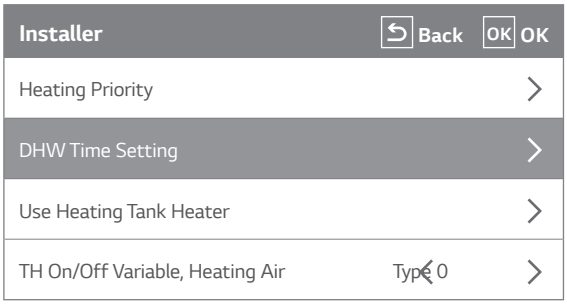
- Selection : DHW / Floor heating.
- DHW : When either DHW or Floor heating operation is required.
- Floor heating : Only floor heating operation required with heat pump cycle.
  (Hot water in DHW will be produced by booster heater)

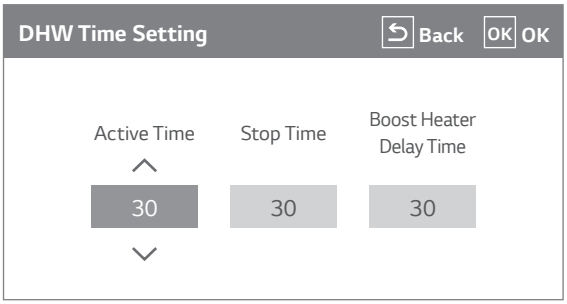




• DHW Time Setting

- Active time : Time for DHW operation.
- Stop time : Stop for DHW operation and switch time to floor.
- Booster heater delay time : Delay time to turn on booster heater.





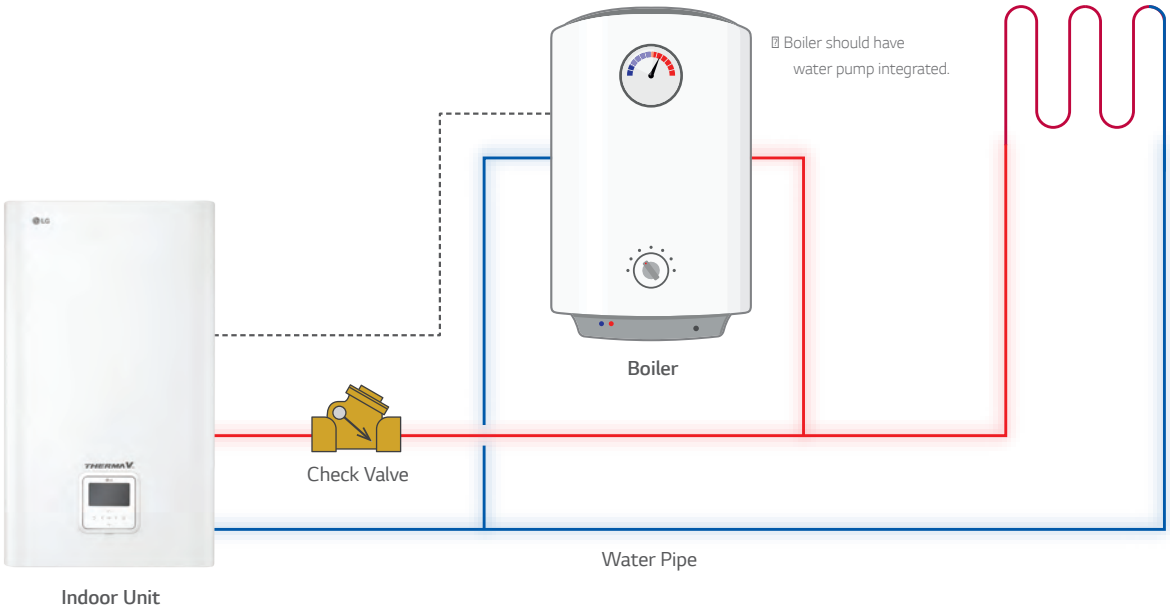
Function	Value	Setting Range (min)	Default (min)
DHW Time Setting	Active Time	5 ~ 95 (Step : 5)	30
	Stop Time	0 ~ 600 (Step : 30)	30
	DHW Heater Delay Time	10 / 20 / 30 / 40 / 50 / 60 / 90 / 120 / 1,440	30

AUXILIARY BOILER

1. Design Purpose

- In case of insufficient capacity due to the decrease of ambient temperature in winter.
- When the temperature of the heat pump in winter is frequently exceeded.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Change the "3rd party boiler" menu to "Use" in installer setting and determine the "Operation mode (Auto / Manual)", "Base ambient temperature" and "Hysteresis".	• Manual : 3rd party boiler can be manually turned on and off using RS3. • Auto : 3rd party boiler is automatically turned on and off depends on base ambient temp (Default -7°C)
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
	Auxiliary Boiler On/off	• Can be controlled by RS3 (in Manual mode) or by control logic. (in Auto mode)	-
Required Accessory	Field Scope (3rd party)	• Auxiliary boiler, Check valve and Other parts are required purchase parts on field scope, not provided by LG.	-

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

Model Name	Feature
Auxiliary Boiler	• Field scope • Contact signal from PCB

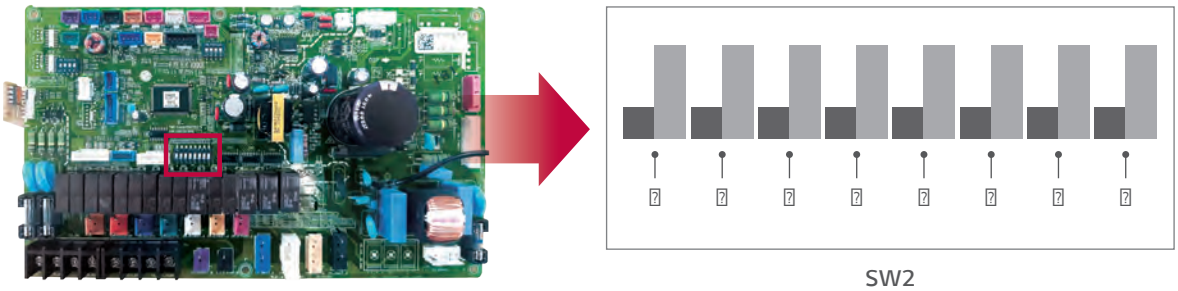
• Cautions

- If the boiler has not pump integrated, there is no flow and impossible to heat up the room.
- If the boiler has pump integrated, the setting of temperature should be lower than 57°C.

When water heated by the boiler is entered into a heat pump, an error occurs. It's mandatory to use a check valve or the like to prevent water from flowing backward.

4. Dip s/w Setting

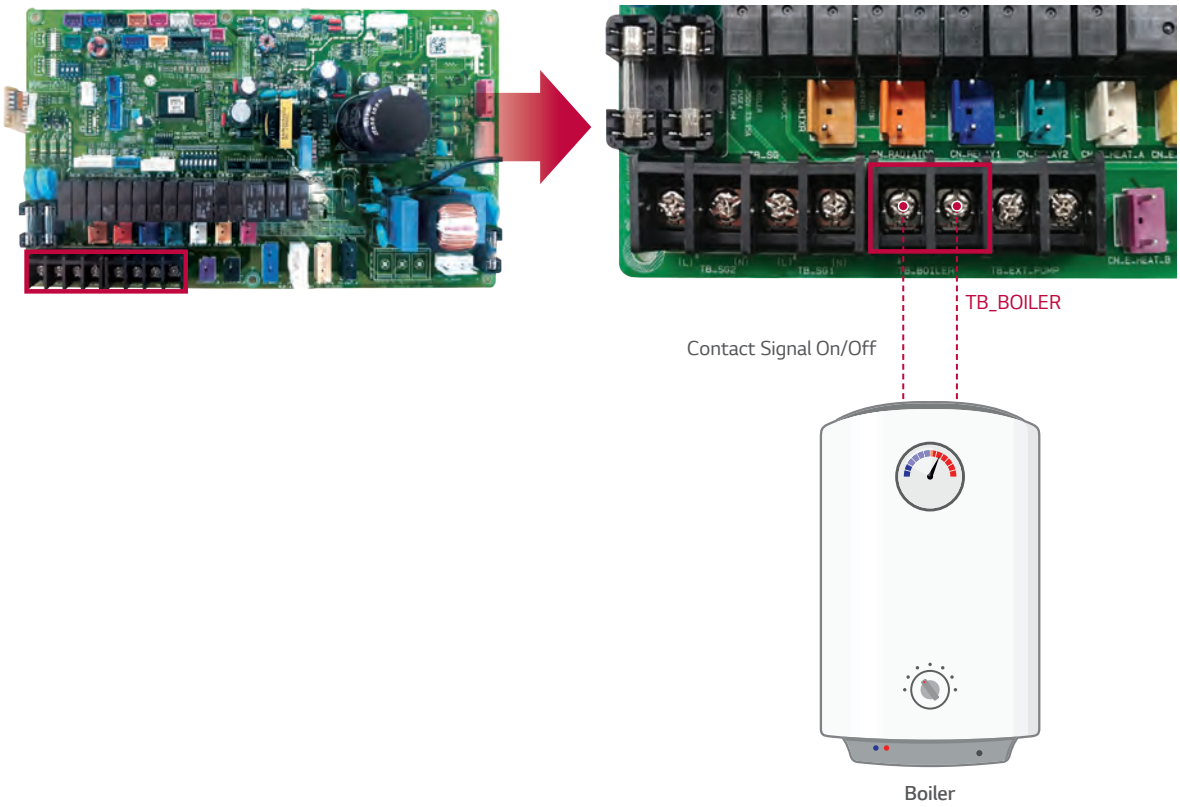
No changes.



SW2

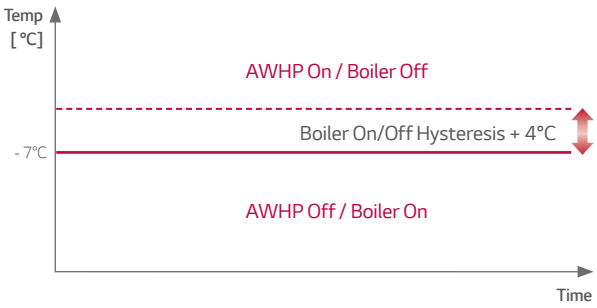
AUXILIARY BOILER

5. Connecting Auxiliary Boiler



6. Control Mode

Function	Control	
Manual	Run / Stop	
Auto	Ambient Temp	-25 ~ 25℃ (Default : -7℃)
	Hysteresis	2 ~ 10℃ (Default : 4℃)



※ 3Way valve will be changed to direction of DHW tank.

APPLICATION

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

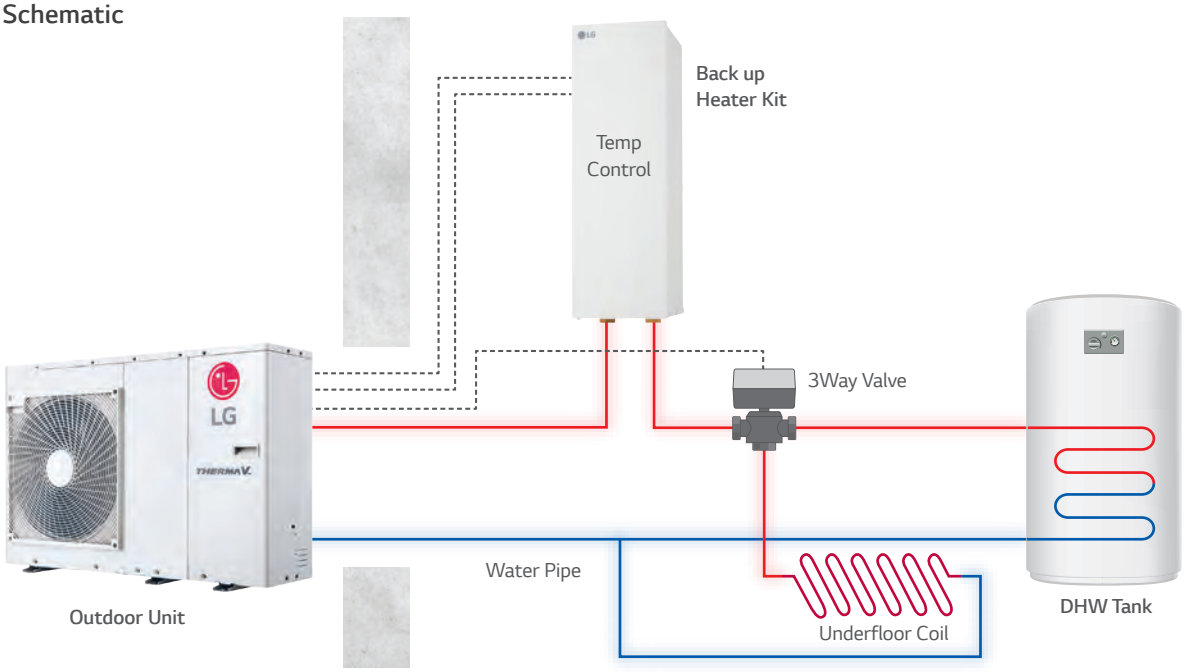
BACK UP HEATER FOR MONOBLOC

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

- In case of insufficient capacity due to the decrease of ambient temperature in winter.
- When the temperature of the heat pump in winter is frequently exceeded with operating range.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 6 / 7 to "On" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Not required.	-
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
	Back up Heater On/Off	• Back up heater basically operates according to the THERMA V control logic. • In case of slight trouble or heavy trouble, the back up heater will operate in emergency mode and user can decide to operate it.	The purpose of back up heater is for space heating, not DHW.
Required Accessory	LG Accessory (Necessary)	• Back up heater is a required purchase part and installed separately.	• Part No. for back up heaters : AHEH036A (1Ø, 3kW) / AHEH066A (1Ø, 6kW) / AHEH068A (3Ø, 6kW)
	Field Scope (3rd party)	• Considering water heating or cooling, 3way valve can be considered and 3way valve is on field scope, not provided by LG.	• Spec for 3way valve : 230V

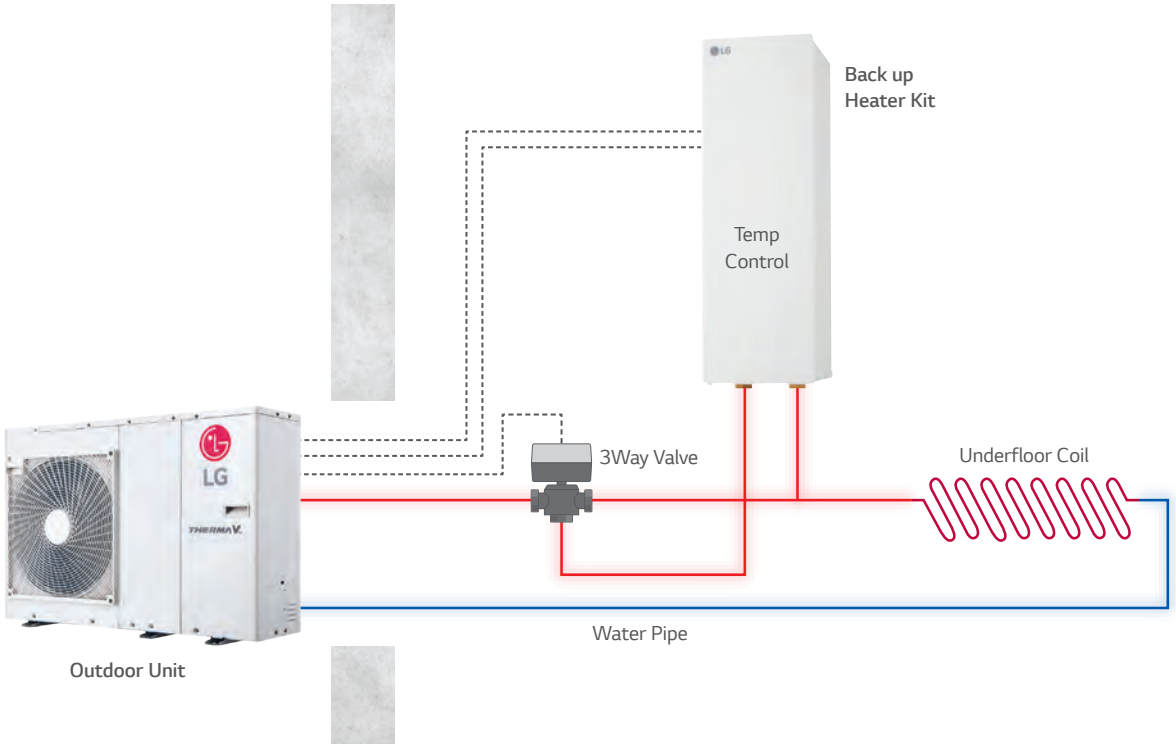
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory (Back up Heater)

Electrical Specification		HA031M E1(AHEH036A)	HA061M E1(AHEH066A)	HA063M E1(AHEH068A)
Type	-	Sheath	Sheath	Sheath
Number of Heating Coil	EA	1	2	3
Capacity Combination	kW	3.0	3.0 + 3.0	2.0 + 2.0 + 2.0
Heating Steps	Step	1	2	1
Power Supply	V, Ø, Hz	220 ~ 240, 1, 50	220 ~ 240, 1, 50	380 ~ 415, 3, 50
Maximum Current	A	12.0	24.0	8.7

Model Name	Feature	
Back up Heater Temp Sensor	• 0.75mm^2 x 4C (H05RN-F)	• Field scope
Wire for Back up Heater Signal	• 0.75mm^2 x 2C (1Ø 3kW, 3Ø 6kW) • 0.75mm^2 x 4C (1Ø 6kW) (H05RN-F)	• Field scope
3Way Valve	• AC 220V Signal from PCB	• Field scope

• System Schematic



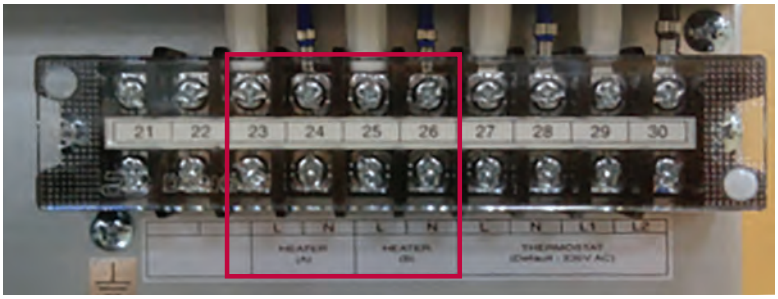
BACK UP HEATER FOR MONOBLOC

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

4. Connecting Wiring

• Connect Signal

• Terminal Block 3 in Monobloc

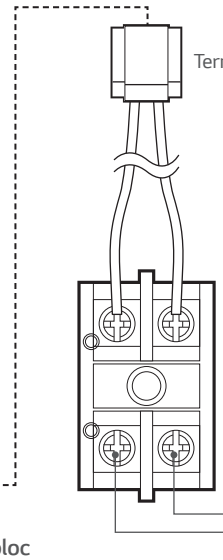


• TB2 in Back up Heater

		23 / 24 Heater A Signal		25 / 26 Heater B Signal	
		L	N	L	N
1(L)	2(N)	3	4	5	6
L	N	A (A1)	A (A2)	B (A1)	B (A2)
POWER SUPPLY 50Hz, 220 ~ 240V ~		ELECTRIC HEATER A (SIGNAL)		ELECTRIC HEATER B (SIGNAL)	

• Connect Temps Sensor

- Install Terminal block kit (TB 4, Accessory) additionally and connect it with E/Heater out in Monobloc.



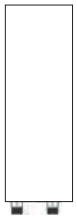
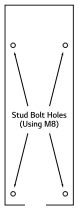
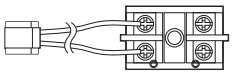
Terminal Block Kit

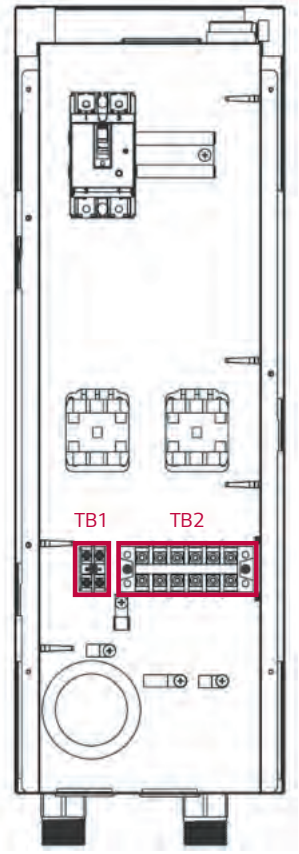
Monobloc

• [TB1] In Back up Heater

E/HEATER OUT SENSOR (5V DC)	
7	8
A	B

- Back up heater consists of Terminal block kit for connecting temperature sensor.

Back up Heater Box		
Item	**Item**	**Quantity**
Back up Heater		1
Installation Manual		1
Installation Sheet		1
Terminal Block Kit		1
Screw		1

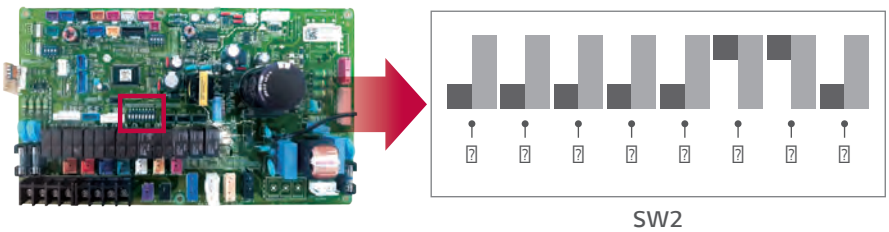


• Connect Power

1(L)	2(N)	3	4	5	6
L	N	A (A1)	A (A2)	B (A1)	B (A2)
POWER SUPPLY 50Hz, 220 ~ 240V ~		ELECTRIC HEATER A (SIGNAL)		ELECTRIC HEATER B (SIGNAL)	

5. Dip s/w Setting

Change dip 6 / 7 in switch 2.
Full capacity : 6 / 7 On
Half capacity : 6 On, 7 Off
Not used : 6 / 7 Off



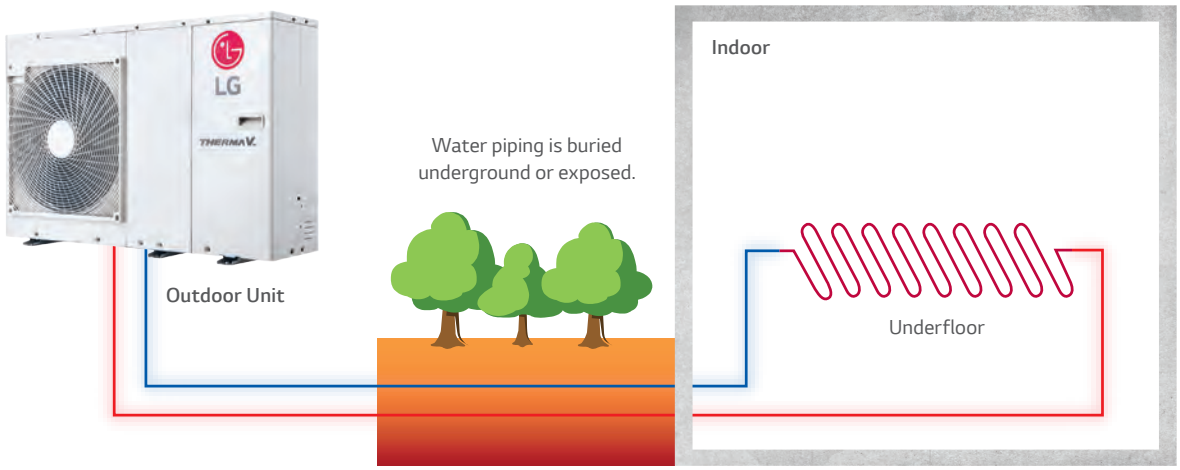
SW2

ANTI-FREEZING SOLUTION

1. Design Purpose

- When water temperature is low at commissioning work.
- When concerning about freezing in water system.

• **System Schematic**



2. Logic

Value setting is made on RS3. Operating temperature related with protection logic goes down by anti-freeze set temperature according to the concentration.
(Dip switch set and CN_FLOW2 open are required.)
- Temperature : -5 / -10 / -15 / -20 / -25°C (Default : -5°C)

3. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 2 "On" in switch 3.	• Required to set in IDU PCB.
Short Key Removal in IDU PCB		• Remove the short key from CN_FLOW2 connector of IDU PCB.	• After Dip s/w setting and short key removal, Anti-freezing temperature menu will be shown in installer setting.
Installer or User Setting	Remote Controller	• Set the "Anti-freeze solution temperature" according to the concentration.	• Anti-freeze solution temperature option : -5 / -10 / -15 / -20 / -25°C (Default : -5°C)
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
Required Accessory	Field Scope (3rd party) (Necessary)	• Anti-freeze fluid is on field scope, not provided by LG.	-

4. Preparation

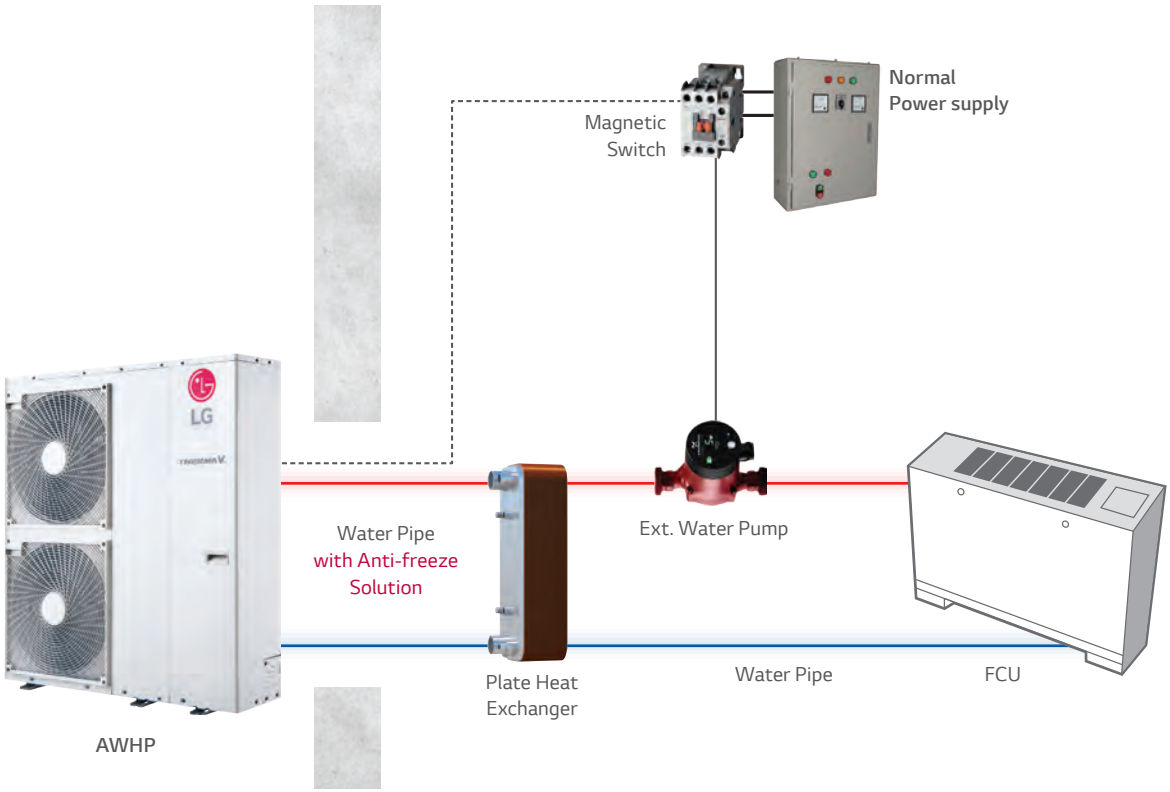
Anti-freeze fluid (Field scope)

	Anti-freezing Mixing Ratio (by Volume)					
Freezing Point	0°C	-5°C	-10°C	-20°C	-20°C	-25°C
Ethylene Glycol	0	12.8	22	29	33.5	38
Propylene Glycol	0	15.5	26	33	39	44
Ethanol	0	14	24.8	32	37.2	42.2

※ Pay attention to maintain the concentration of fluid.

• With PHE

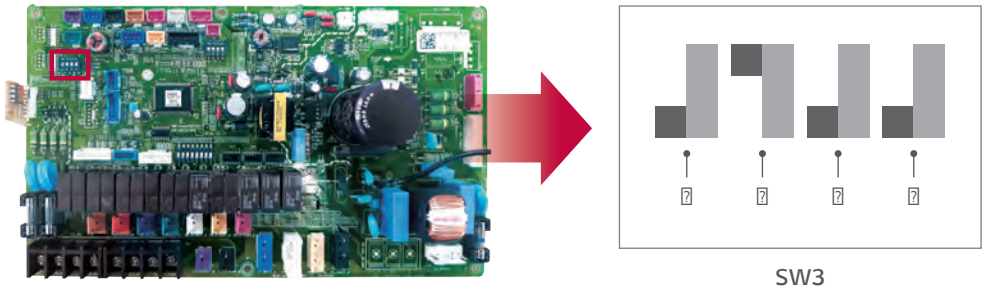
- Water piping applied anti-freezing solution can be minimised if additional plate heat exchanger is installed on water circuit for segregation.



ANTI-FREEZING SOLUTION

5. Dip s/w Setting

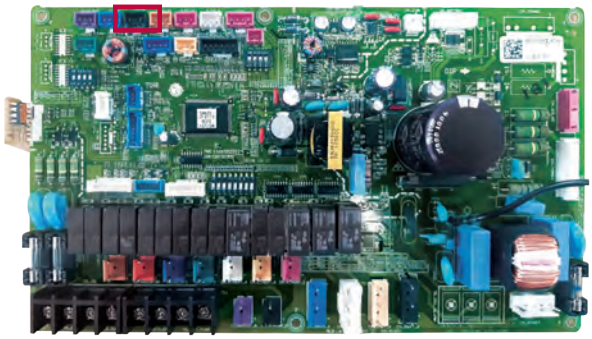
Change dip 2 to on in switch 3.



SW3

6. Opening Short Pin

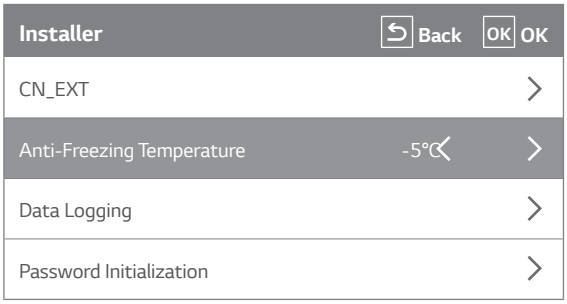
Eliminate short pin in CN_FLOW2.



IDU-PCB

7. RS3 Setting

- **Anti-freezing Temperature**
  - The mode will be shown after completing setting of dip switch and removing the short pin. (CN_FLOW2)
  - Temperature : -5 / -10 / -15 / -20 / -25°C (Default : -5°C)



APPLICATION

	Back up Heater for Monobloc	**Anti-Freezing Solution**	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

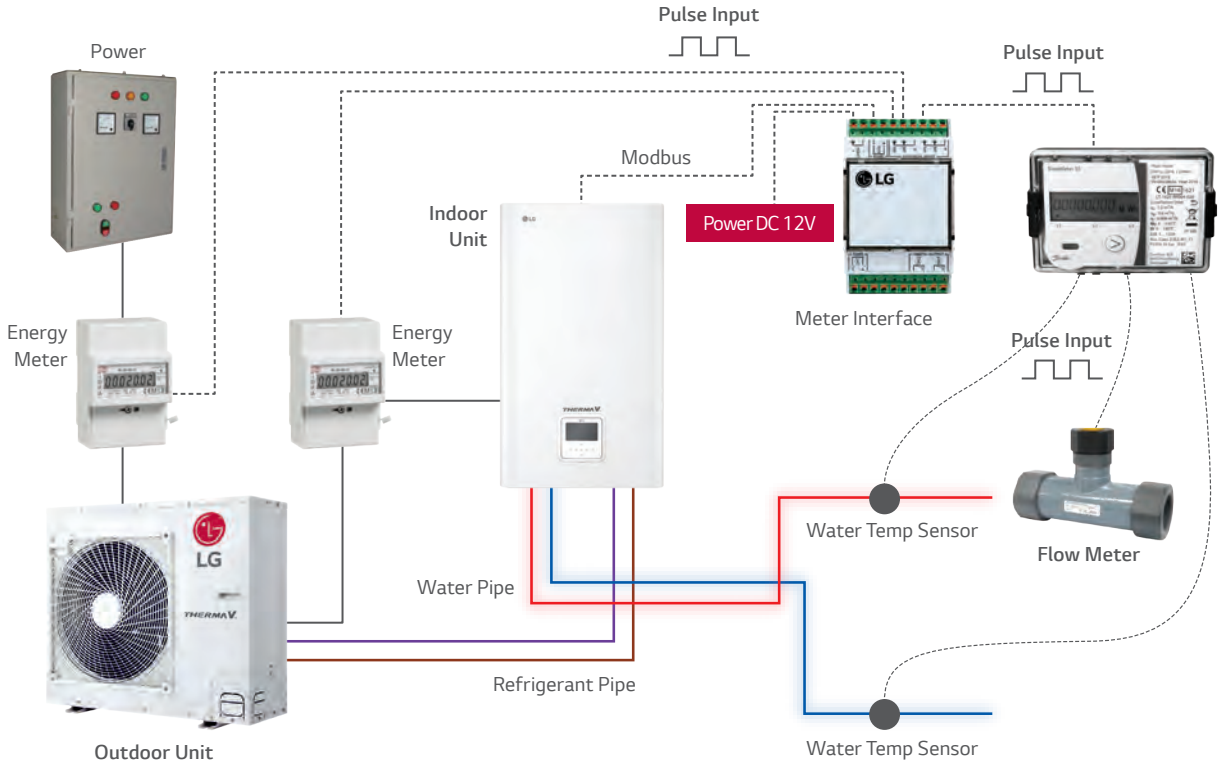
METER INTERFACE

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

To monitor energy consumption and heat production.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Set the "Meter interface" menu in installer setting. 1. Choose the modbus address either B0 or B1 for single connection. 2. Set the port and specification of meters in range of 0000.0 ~ 9999.9 (Pulse/kW).	-
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
Required Accessory	LG Accessory (Necessary)	• Meter interface is a required purchase part and installed separately.	• Part No. : PENKTH000
	Field Scope (3rd party)	• Heat meter with temp sensor, flow meter and energy meter are on field scope, not provided by LG.	-

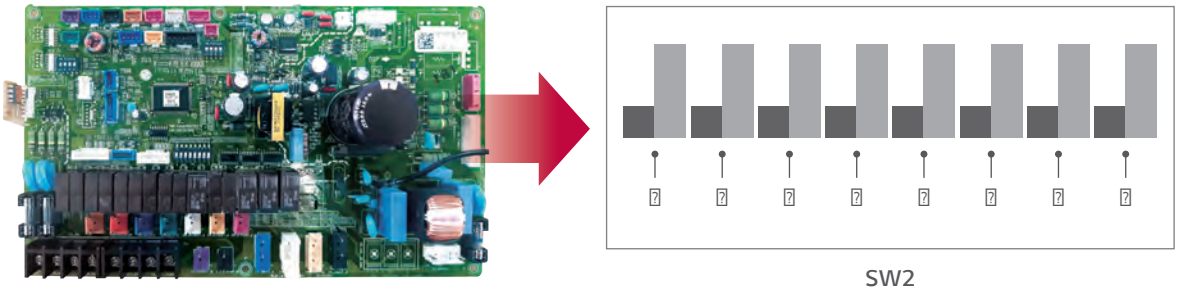
	Back up Heater for Monobloc	Anti-Freezing Solution	**Meter Interface**	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

Model Name	Feature
Meter Interface (PENKTH000)	• Accessory • To monitor heat energy and power consumption.
Heat Meter with Temp Sensors	• Field scope • To monitor heat production energy.
Flow Meter	• Field scope • To check water flow rate.
Energy Meter	• Field scope • To check power consumption.

4. Dip s/w Setting

No changes.



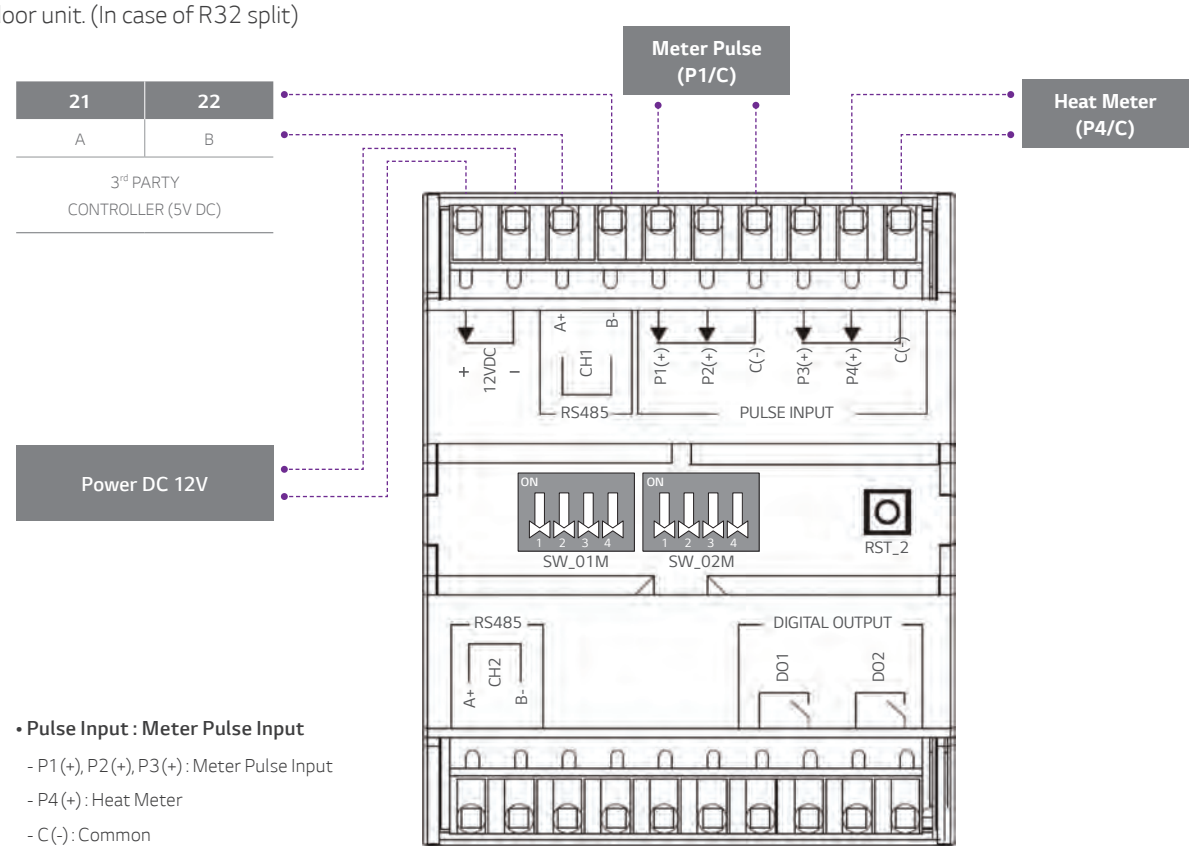
SW2

METER INTERFACE

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

5. Connecting Wiring

TB4 in Indoor unit. (In case of R32 split)



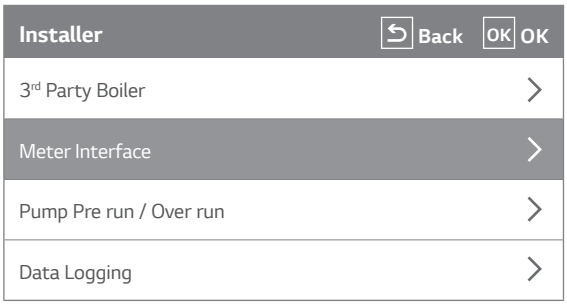
- **Pulse Input : Meter Pulse Input**
  - P1(+), P2(+), P3(+) : Meter Pulse Input
  - P4(+) : Heat Meter
  - C(-) : Common

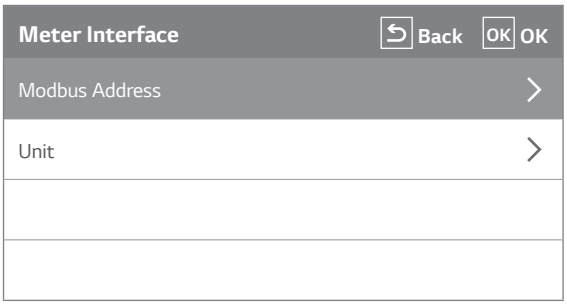
SW_01M	Function	DIP Switch Setting	
1	Address setting	Off	Address value : B0
		On	Address value : B1
2	Watt hour meter interlock type setting	Off	Comm. (Modbus RTU)
		On	Pulse input
3	Communication type	Off	Modbus
		On	LGAP
4	Not used	-	-

SW_02M				Function
1	2	3	4	Watt Hour Meter Unit Setting (When setting up interworking by communication)
Not Used		Off	Off	1Wh
Not Used		Off	On	10Wh
Not Used		On	Off	100Wh
Not Used		On	On	1,000Wh

6. RS3 Setting

- Selection : Not use / B0 / B1
- Set either B0 or B1 for single connection.





7. Specification

Model Code			PENKTH000
Dimension (W x H x D)			54mm x 90mm x 61mm
Measuring	Energy Meter	Pulse Input	3EA (Input 1 / 2 / 3), Input 3 : DHW Only
			0.1Wh ~ 10kWh / 1Pulse
		Modbus (Master)	3EA
			Communication with Rayleigh RI-78-80-C meter (Slave)
	Heat Meter	Pulse Input	1EA (Input4)
			0.1 ~ 9999 Pulse/kWh
Status Output	Operation	Operation	Close
		Stop	Open
	Error	Occurred	Close
		Normal	Open

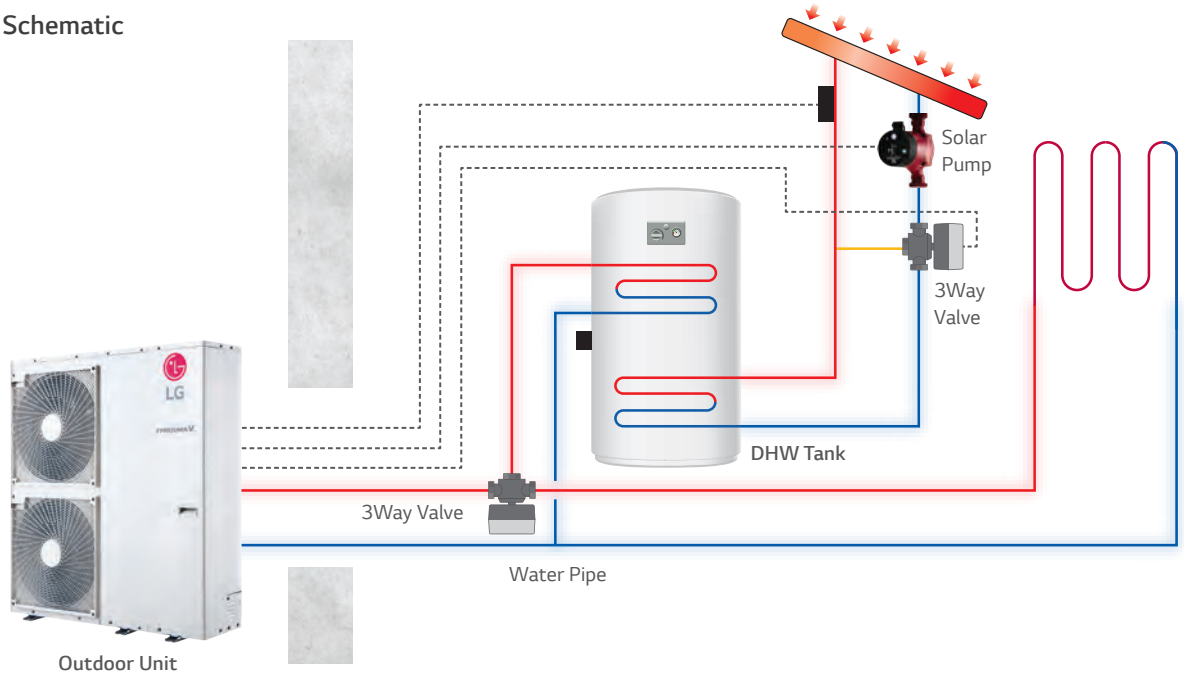
SOLAR PANEL FOR DHW

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

If necessary to use solar panel for DHW.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 2 "On" and dip 3 "Off" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Define the detailed setting for solar thermal system in installer setting.	• Solar collector set temp, DHW set temp, Solar pump flush setting and so on.
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air temp	• Controlled by RS3.	-
	Solar Pump On/Off	• Solar pump operates according to the THERMA V control logic.	• By comparing DHW tank temp and solar system temp, the solar pump and 3way valve are operated correspondingly.
Required Accessory	LG Accessory (Necessary)	• Solar thermal kit and DHW kit and Sensor holder are an option and needs to be purchased and installed separately.	• Part No. for solar thermal kit : PHLLA • Part No. for DHW kit : PHLTA (Split 1p) / PHLTB (Mono) / PHLTC (Split 3p)
	Field Scope (3rd party)	• Solar panel, Solar pump, 3Way valve for solar and DHW tank are on field scope, not provided by LG.	• Spec for solar pump : 230V • Spec for 3way valve : 230V • Spec for DHW tank : Double coil type

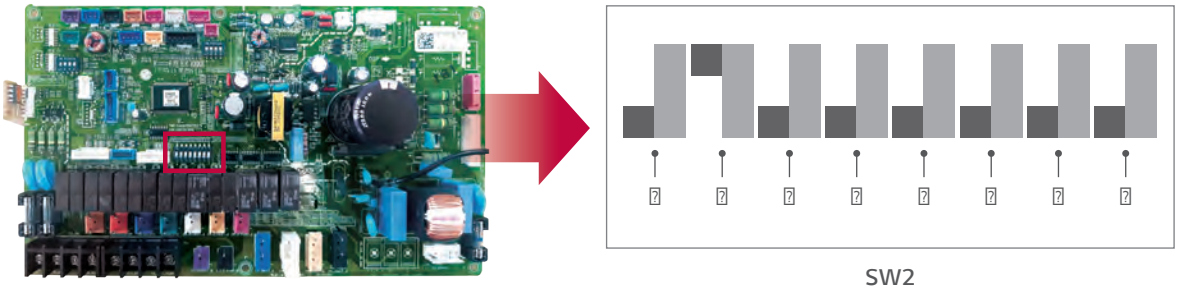
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	**Solar Panel for DHW**	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

3. Accessory

Model Name	Feature
Solar Thermal Kit (PHLLA)	• Accessory 
3Way Valve for Solar	• Field scope • AC 220V signal from PCB
Solar Pump	• Field scope • AC 220V signal from PCB

4. Dip s/w Setting

Change 2 "On", 3 "Off" in switch 2.



SW2

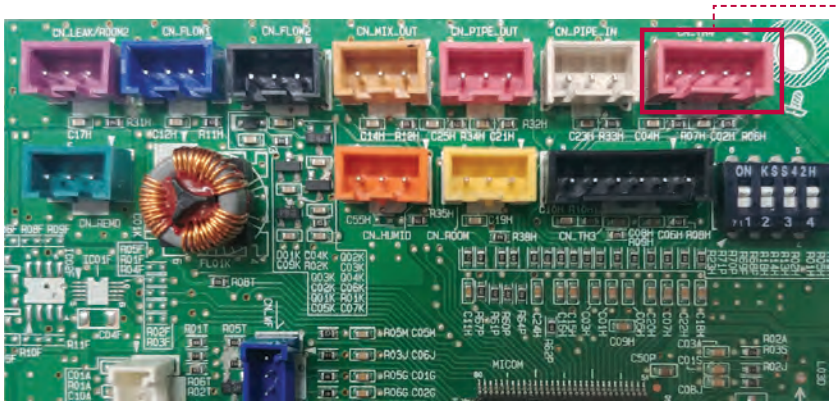
SOLAR PANEL FOR DHW

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

5. Connecting Wiring

• Connect CN_TH4 in Indoor PCB

- Connect CN_TH4 with solar temperature sensor installed in direction of Coil-In.



Solar Temp Sensor

• Connect 3Way Valve and Solar Pump in TB 1

- Connect 3way valve to terminal block 1 (1 / 2 / 3)
  : 2 (L1) / 3 (N) - Direction to coil for solar heating
  : 1 (L) / 3 (N) - Bypass Direction

- Connect solar pump to terminal block 1 (4 / 5)
  : PCB will send power signal to turn on the pump.

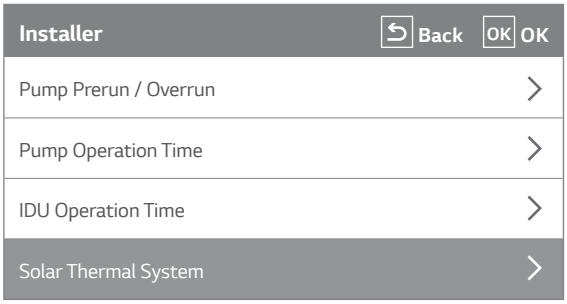
1	2	3	4	5
L	L1	N	L	N
3WAY VALVE (B)			WATER PUMP (B)	

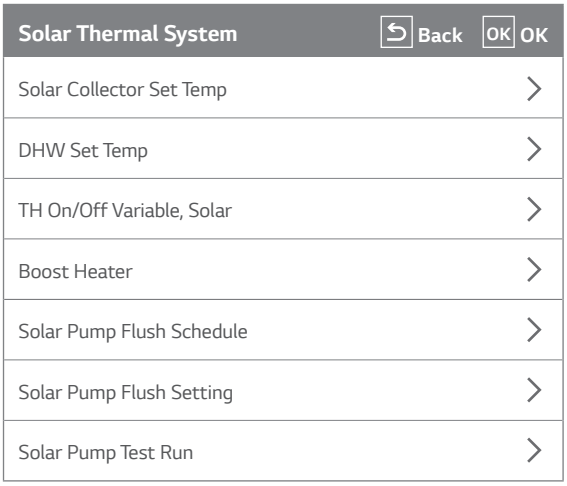
• Specification of 3Way Valve and Solar Pump

3Way Valve (B)	Water Pump (B)
230V AC, Diverting type	230V AC, On/Off control

6. RS3 Setting

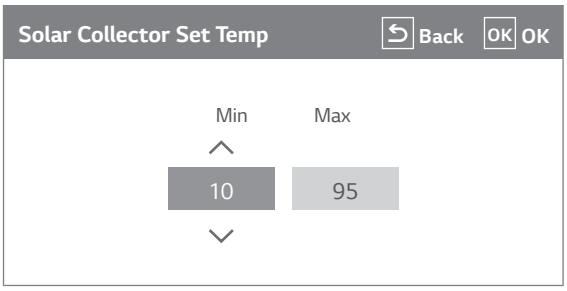
- After completing setting of dip switch, the menu will be shown in RS3.





• Solar Collector Set Temperature

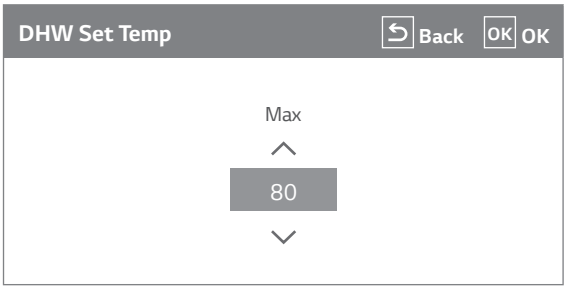
- Min : The solar pump will start above the Min collector temperature. (5 ~ 50°C)
- Max : Max allowable temperature for solar fluid to heat up DHW.
  If solar fluid temperature is higher than Max, water pump for solar will be stop and 3way valve direction will be on bypass.
  (60 ~ 105°C)



Range		Default	
Min	Max	Min	Max
5°C ~ 50°C	60°C ~ 105°C	10°C	95°C

• DHW Set Temperature

- Max : Max set temperature that can be reached by solar thermal system.



Range	Default
20 ~ 90°C	80°C

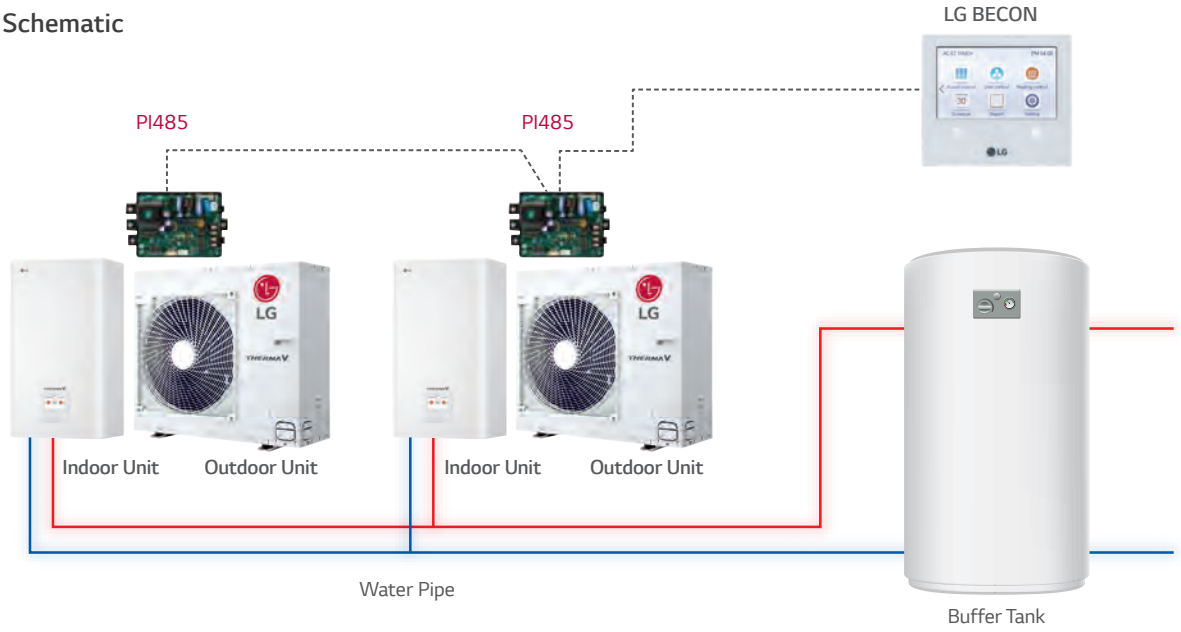
LG CENTRAL CONTROLLER

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

If need to install more over 2 units in system.

• System Schematic



2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Set up each address code to connect central controller.	• Central control address : 00 ~ FF (Default : 00)
	LG central Controller	• Put device information on the LG central controller and select heating product in the menu.	-
PI485 Dip Switch Setting (for PMNFP14A1)	Dip SW	• Set 1, 4 and 5 On, All others Off	-
Control	THERMA V On/Off	• Can be controlled by RS3 or LG central controller.	-
	Target Water / Air Temp	• Can be adjusted by RS3 or LG central controller.	-
Required Accessory	LG Accessory (Necessary)	• LG central controller and PI485 are an option and needs to be purchased and installed separately. • PI485 shall be installed in ODU.	• Part No. of applicable controller : - AC Ez touch (PACEZA000) - AC Smart IV/5 (PACS4B000 / PACS5A000) - ACP IV/5 (PACP4B000 / PACP5A000) - AC Manager IV/5 (PACM4B000 / PACM5A000) : ACP, AC Smart, ACP BACnet or ACP Lonworks is needed. • Part No. : PMNFP14A1 (PI485)
	Field Scope (3rd party)	N/A	-

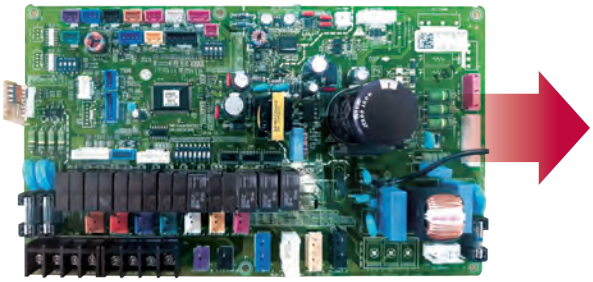
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	**LG Central Controller**	2Way Valve for Cooling	Wi-Fi	2 Remocons

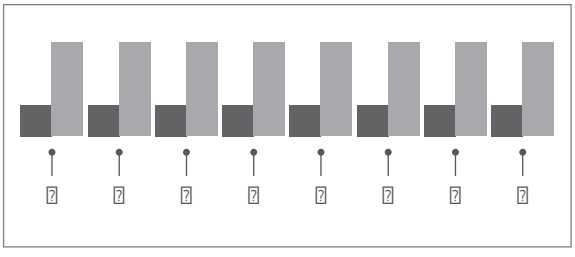
3. LG BECON

Model Name	Feature
AC Ez Touch 	• PACEZA000
AC Smart 	• PACS4B000 (Smart 4) • PACS5A000 (Smart 5)
ACP 	• PACP4B000 (ACP4) • PACP5A000 (ACP5) • PLNWKB000 (ACP Lonworks)
ACP Manager	• PACM4B000 (Manager 4) • PACM5A000 (Manager 5)
PI485 	• PMNFP14A1 • To connect LG central controller

4. Dip s/w Setting

No changes.





SW2

LG CENTRAL CONTROLLER

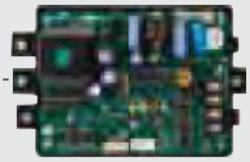
Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

5. Connecting Wiring

LG BECON

- Bus A
- Bus B

PI485

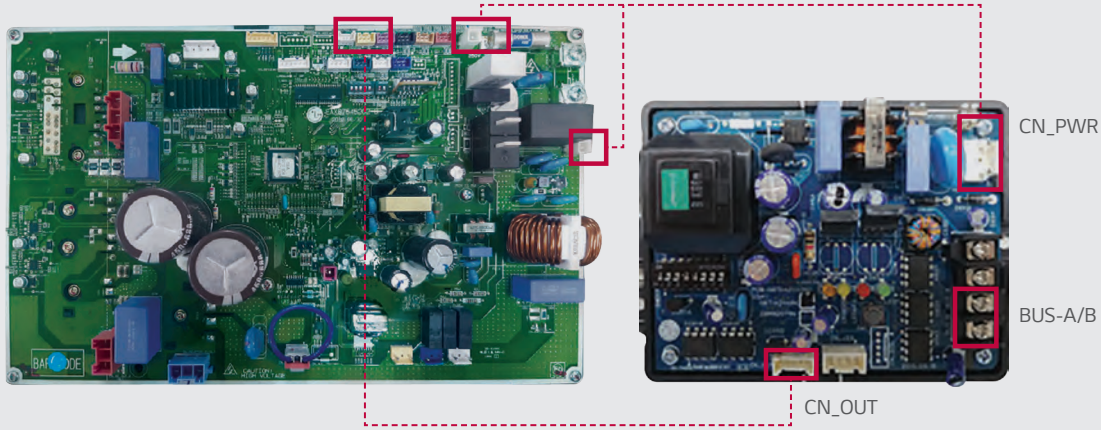


- 6 : Bus A
- 7 : Bus B
- CN_OUT
- CN_PWR

To be installed in ODU.

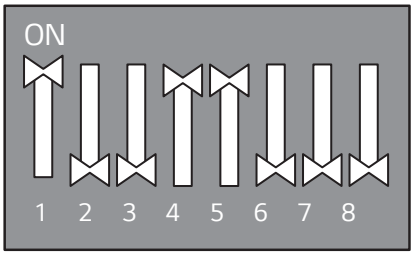
• Connect PI485 to Outdoor Unit

- Connect CN_CP_L & CN_CP_N to CN_PWR in PI485.
- Connect CN_CENTRAL to CN_OUT in PI485.



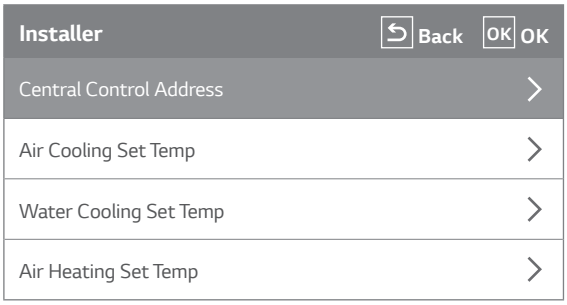
• Set Dip s/w in PI485

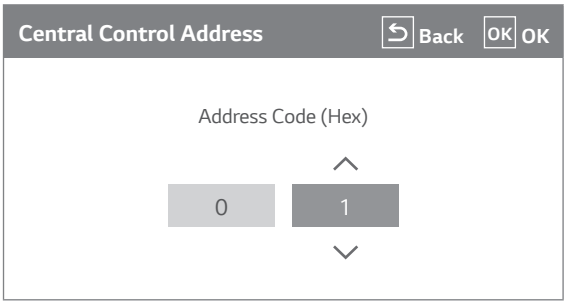
- 1, 4 and 5 On, All others Off :
  MULTI V products (Except CRUN products) or
  MPS inverter product + Central controller (All types) - Using LGAP



6. RS3 Setting

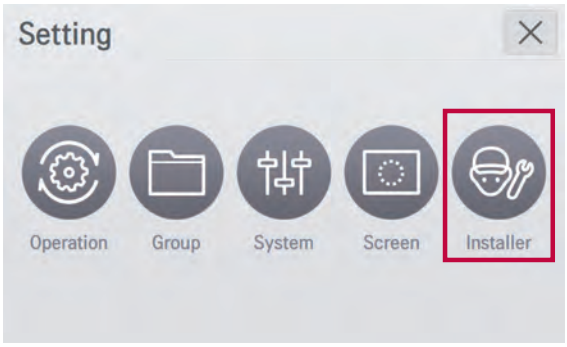
- Set up each address code for connect central controller : 00 ~ FF (Default : 00)

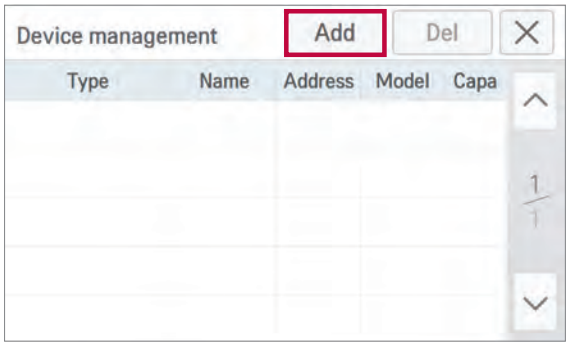


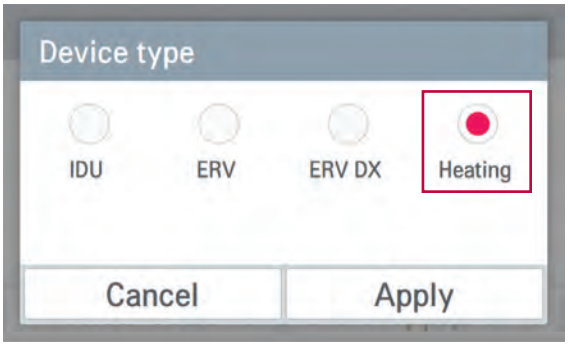


7. Setting AC EZ Touch

- Put device information and select heating product in the menu.







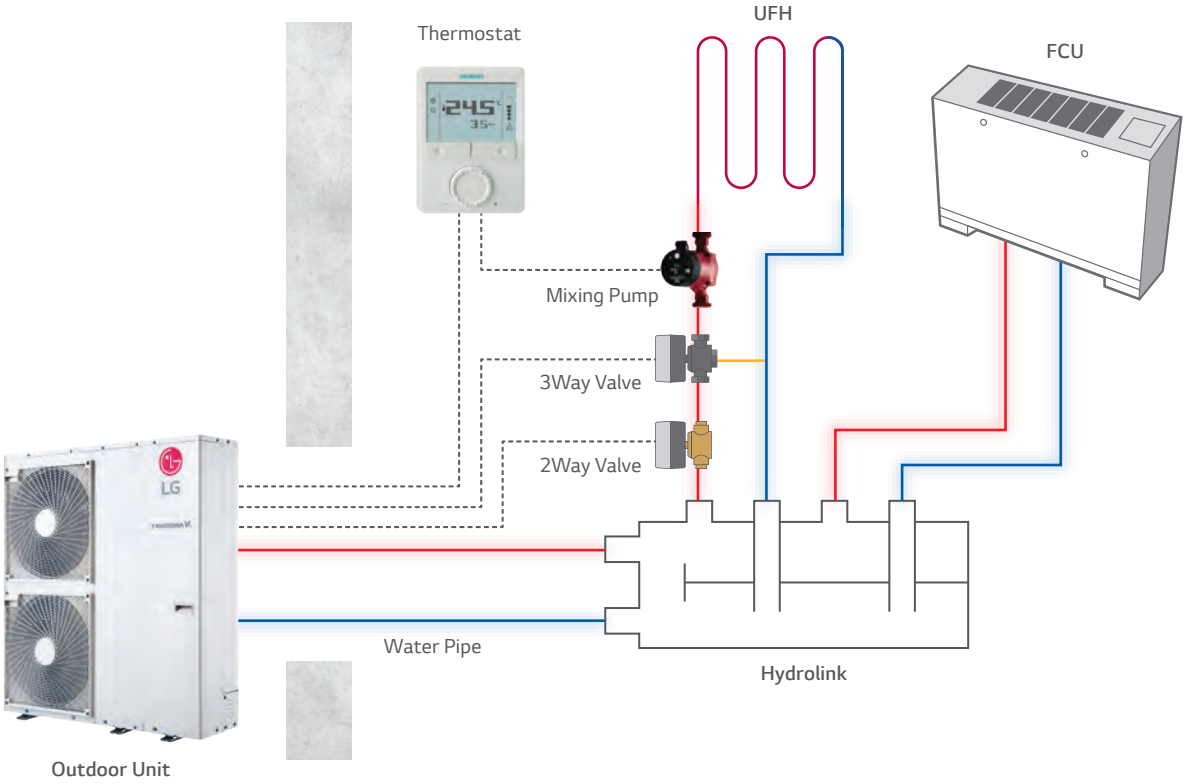
2WAY VALVE FOR COOLING

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

If fan coil unit and underfloor coil are installed in same system, 2way valve is used to prevent underfloor side condensation during cooling.

• System Schematic



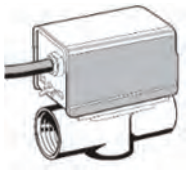
2. Necessary Configuration and Feature

		Necessary Configuration	Additional Information
Dip s/w		• Change dip 4 to "On" in switch 2.	• Required to set in IDU PCB.
Installer or User Setting	Remote Controller	• Set the "Water supply off temp during cooling" menu in installer setting.	-
Control	THERMA V On/Off	• Controlled by RS3.	-
	Target Water / Air Temp	• Controlled by RS3.	-
Required Accessory	Field Scope (3rd party) (Necessary)	• 2Way valve is field scope, not provided by LG.	• Spec : 230V

	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	**2Way Valve for Cooling**	Wi-Fi	2 Remocons

3. Accessory

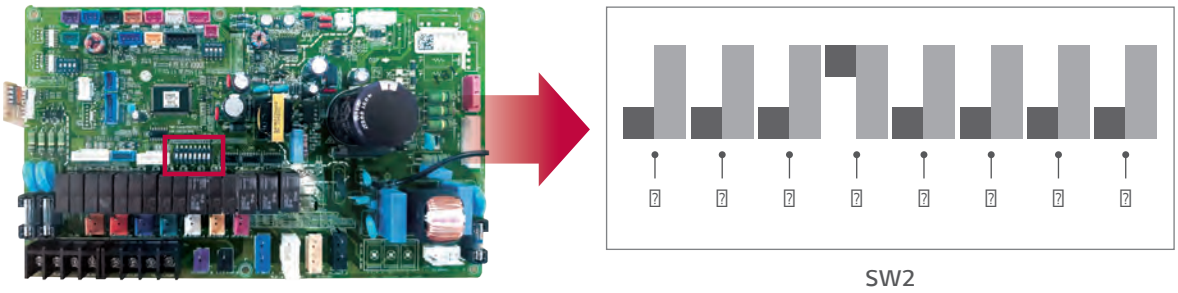
Model Name	Feature
2Way Valve	• Field scope • AC 230V signal from PCB



Voltage	Protection Class	Starting Position	Temperature
220 ~ 240V, 50Hz	IP20	Normally closed	-40 ~ 80°C

4. Dip s/w Setting

Change dip 4 to "On" in switch 2. (For cooling)



SW2

2WAY VALVE FOR COOLING

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

5. Connecting Wiring

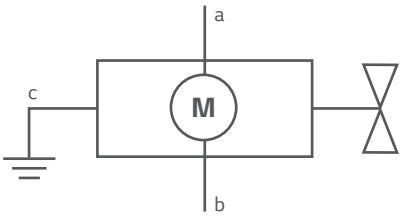
2Way valve is required to control water flow while cooling operation. Role of 2way valve is to cut off water flow into under floor loop in cooling mode when fan coil unit is equipped for cooling operation.
2Way valve comes with product and needs to be installed in strict compliance with installation 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.

In normal condition, 2way valve is always open.
Under stop temperature, 2way valve will be closed in condition of using FCU.

- **Normal Open Type : L1 / N for valve closing in cooling mode.**
- **Normal Close Type : L2 / 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

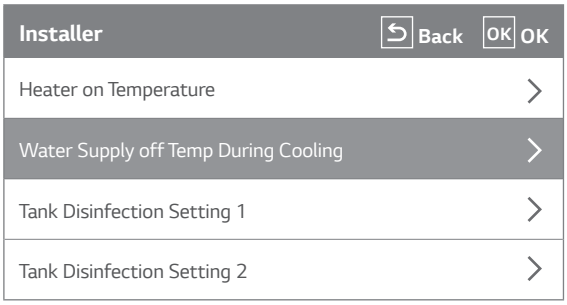
14	15	16
L1	L2	N
2WAY VALVE (A)		

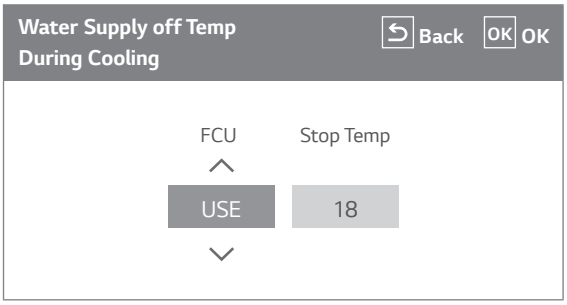


Wire	Function
a = Brown	Line (Power supply)
b = Blue	Neutral
c = Green / Yellow	Earth (Ground)

6. RS3 Setting

- Stop temperature range : 16 ~ 25°C (Default : 18°C)





• Controlled by Leaving Water Temp

- Target temp range : 5 ~ 27°C
- Maximum temp range : 22 ~ 27°C (Default : 24°C)
- Minimum temp range
  a) Use FCU : 5 ~ 20°C (Default : 5°C)
  b) Not use FCU : 16 ~ 20°C (Default : 18°C)

• Controlled by Entering Water Temp

- Target temp range : 10 ~ 27°C
- Maximum temp range : 22 ~ 27°C (Default : 24°C)
- Minimum temp range
  c) Use FCU : 10 ~ 20°C (Default : 10°C)
  d) Not use FCU : 20°C (Fixed)

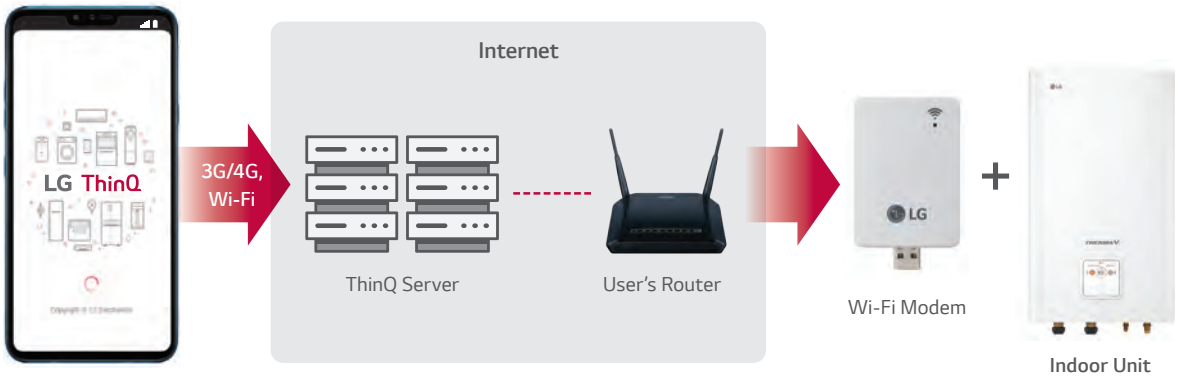
WI-FI

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

Enabling remote system operation from smartphone.
Available functions include selection of operation mode, DHW, temperature set up and scheduling.

• System Schematic



2. Necessary Configuration and Feature

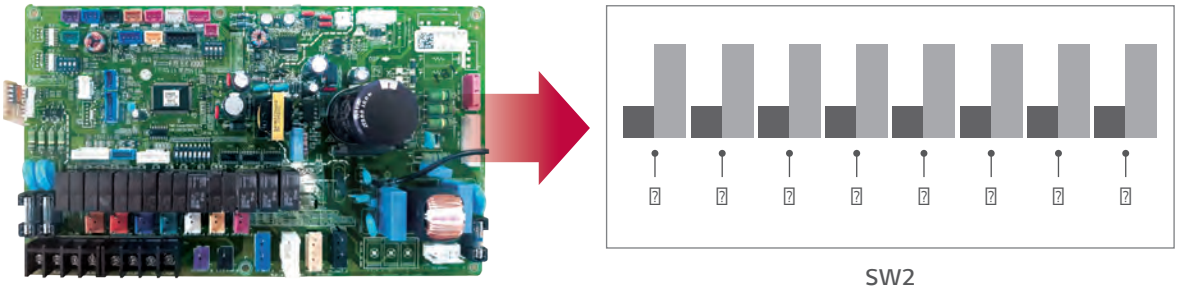
		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	-
Installer or User Setting	Remote Controller	• Pair the product after installing Wi-Fi modem.	• After paring with THERMA V, user should add THERMA V through LG ThinQ app.
Control	THERMA V On/Off	• Can be controlled by RS3 or LG ThinQ application.	-
	Target Water / Air Temp	• Can be adjusted by RS3 or LG ThinQ application.	-
Required Accessory	LG Accessory (Necessary)	• Wi-Fi modem is a required purchase part and installed separately. • An extension cable (10m) could be required depends on installation condition.	• Part No. : PWFMDD200 (Wi-Fi modem) • Part No. : PWYREW000 (10m extension cable)
	Field Scope (3rd party)	N/A	-

3. Accessory

Model Name	Feature
Wi-Fi Modem	• PWFMDD200 - USB Cable : 0.6m / Extension : 0.5m
Extension Cable	• PWFMDD000 - USB Extension cable : 10m

4. Dip s/w Setting

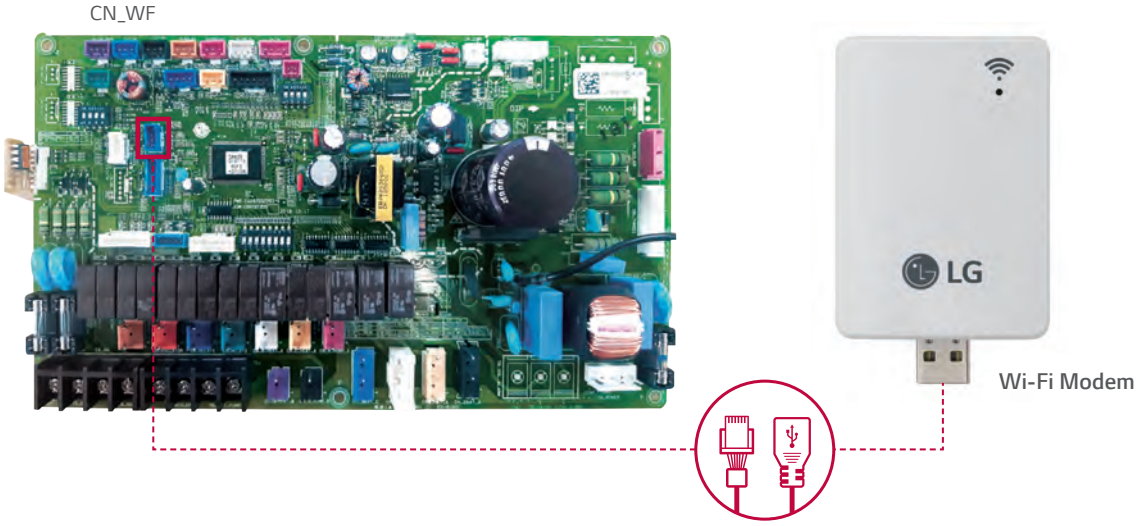
No changes.



SW2

5. Connecting Wiring

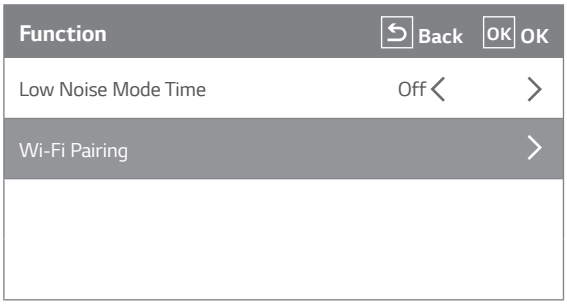
Connect CN_WF in IDU PCB to Wi-Fi modem with USB cable.



WI-FI

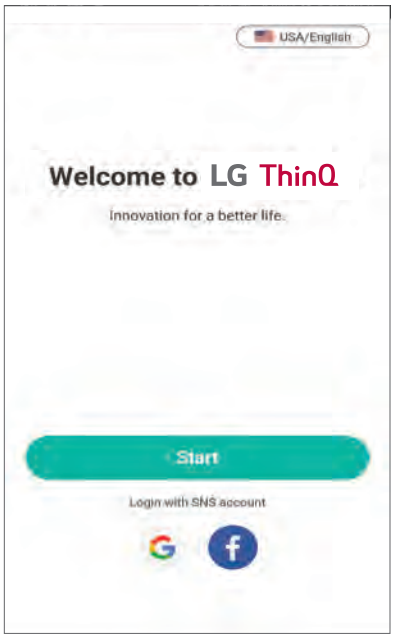
6. RS3 Setting

Pair the product after installing Wi-Fi modem. Tap "Settings" on menu and go to function for pairing.



7. Creating an Account

Install LG ThinQ app on smartphone and create an account.

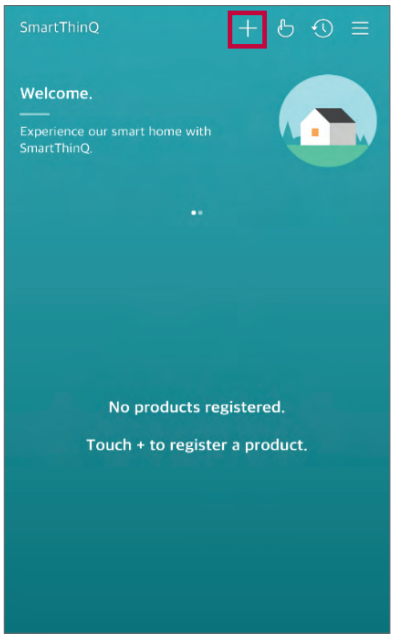


Tap "Create account" to make a new account.

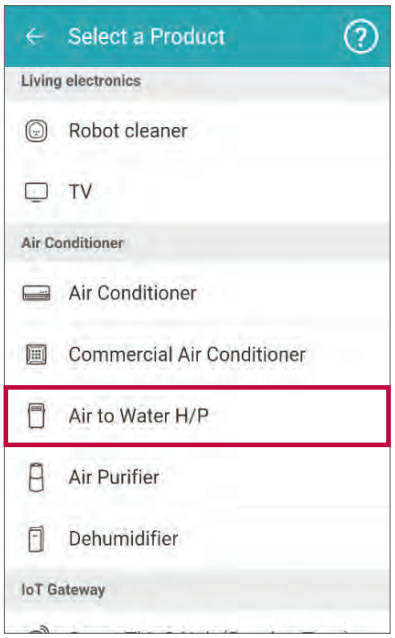
	Back up Heater for Monobloc	Anti-Freezing Solution	Meter Interface	Solar Panel for DHW	LG Central Controller	2Way Valve for Cooling	Wi-Fi	2 Remocons

8. Product Registration

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



Tap the " + " button.



Select a product to register.

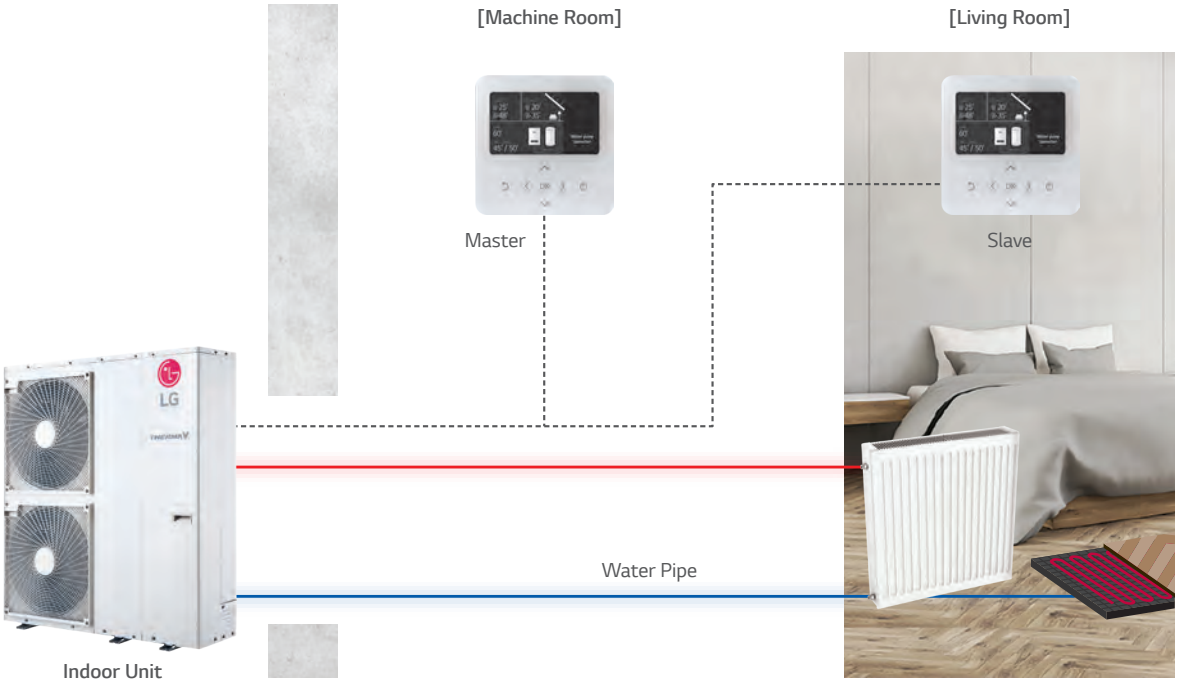
2 REMOCONS

Air Temp Sensor	Thermostat	Dry Contact	External Water Pump	2nd Heating Circuit	Installation in Parallel	Hot Water Booster Heater	Auxiliary Boiler	

1. Design Purpose

- When users want to control AWHP in living room with additional RS3.

• System Schematic



2. Necessary Configuration and Feature

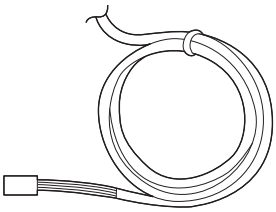
		Necessary Configuration	Additional Information
Dip s/w		• No changes, keep default.	• Set in IDU PCB
Installer or User Setting	Remote Controller	• Master / Slave setting	• Installation required.
	Leaving Water Temperature	• Set up by remote controller.	• Single temperature
	Control	• Leaving / Entering water temperature • Air temperature	• Set RS3
Required Accessory	LG Accessory	• Additional RS3 be purchased.	• P/N : PREMTW101
	Field Scope (3rd party)	• No	-

3. Accessory

Model Name	Feature
RS3	• Field scope • PREMTW101 (RS3, 2-Remo cable : PZCWRC2, Extension cable : PZCWRC1 included)

RS3

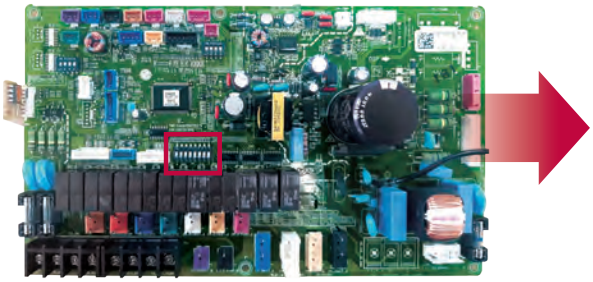
Cable -2 Remo

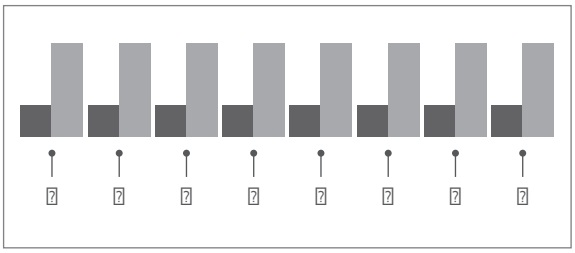


Cable Connector

4. Dip s/w Setting

No changes.





SW2

[Switch 1]

1 2 3 4

[Switch 2]

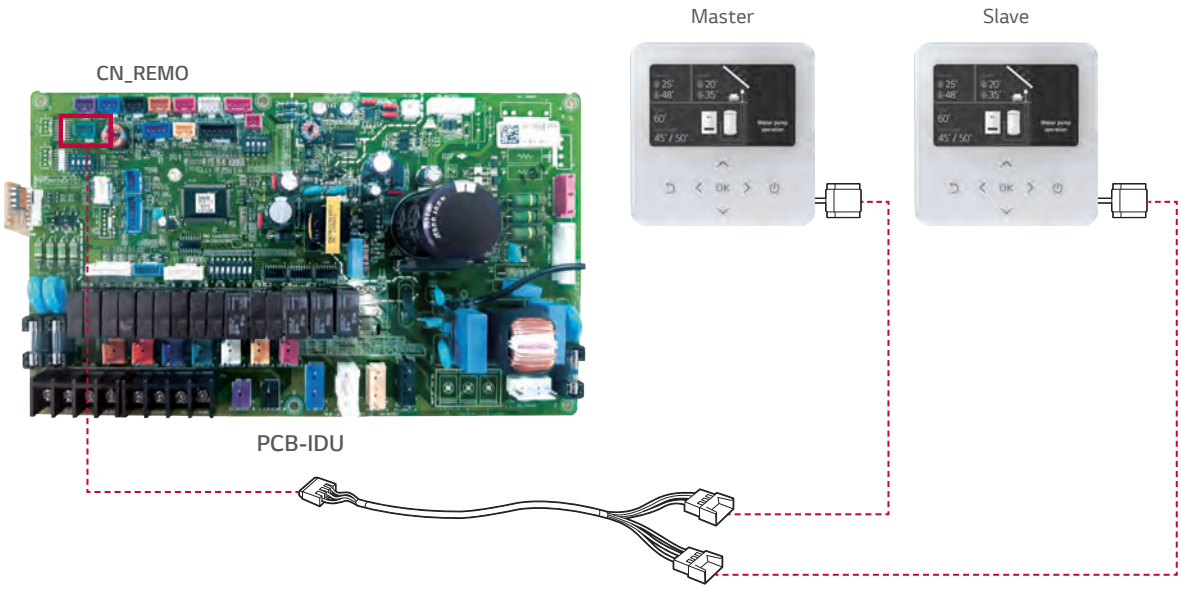
1 2 3 4 5 6 7 8

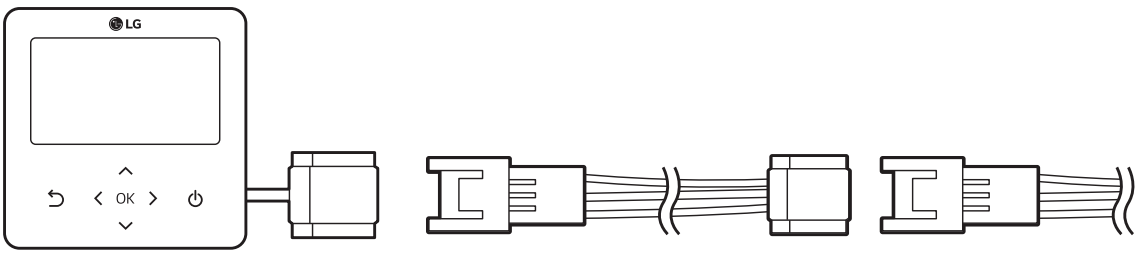
[Switch 3]

1 2 3 4

2 REMOCONS

5. Wiring





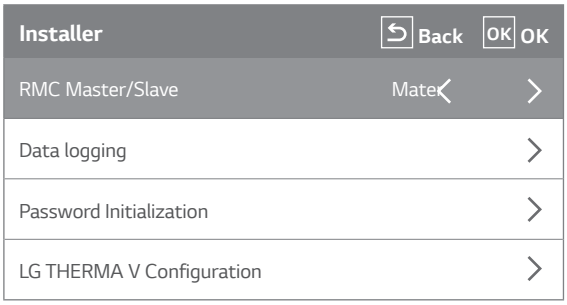
DC 12V	Red
Signal	Yellow
GND	Black

Do not install the cable over 50m. (It may cause communication issues.)

- If the distance between the wired remote controller and the indoor unit is 10 m or more :
  10m extension cable (Model name: PZCWRC1)

5. RS3 Setting (Master / Slave)

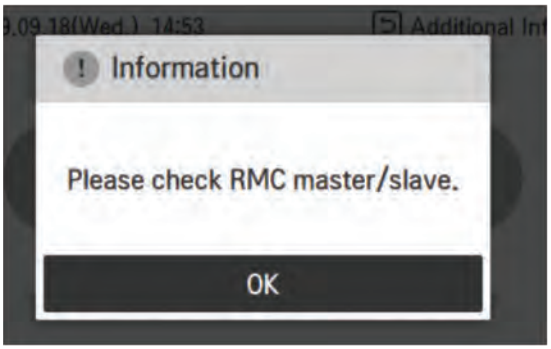
This function is to set master / slave to use two remote controllers in one indoor unit.



No dip s/w setting.

After completing the RMC master/slave setting, turn off the power of indoor unit and turn on the power after 1 minutes. If you set as Master-Master or Slave-slave for both remote controllers, the following pop-up is displayed once within 10 minutes after power-on.

If you use the 2-remo function, through the master remote controller you can check the temperature where the remote controller set as slave is installed. The room temperature icon changes.
This means that the value is detected by the slave remote controller.



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Web: www.lg.com/uk/business

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