

























GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Dry Contact	A control switch that enables turning THERMA V On/Off after receiving the signal from external control system.	PDRYCB000 PDRYCB320
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Direct Digital Controller	A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

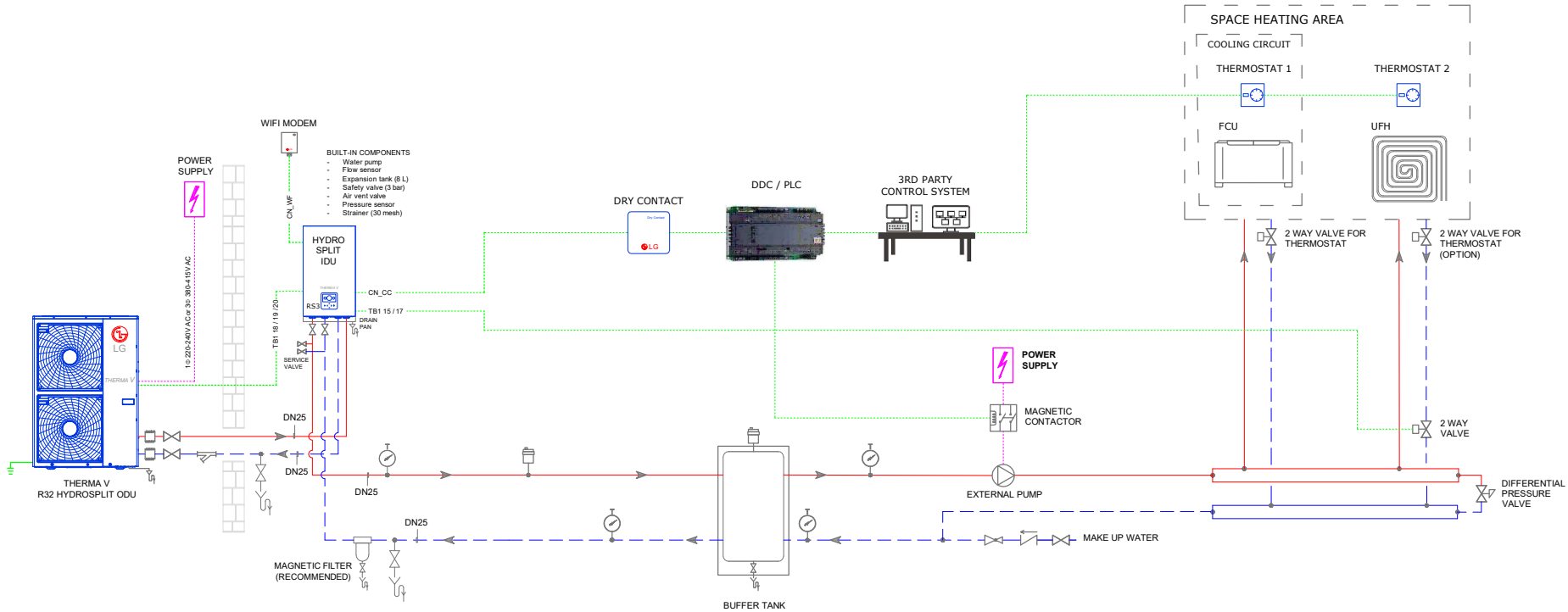
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Dry Contact
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	3rd Party Controller
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by 3rd Party Controller

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWV : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

Dry Contact (PDRCB000, PDRCB320)

A control switch that enables turning THERMA V On/Off after receiving the signal from external control system.

Drain Pan (PHDPC)

A device to collect condensation during cooling operation. Including several insulators.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.
Controlled by THERMA V with 230V power.
Required operating time : less than 90s.

DDC (Direct Digital Controller)

A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.

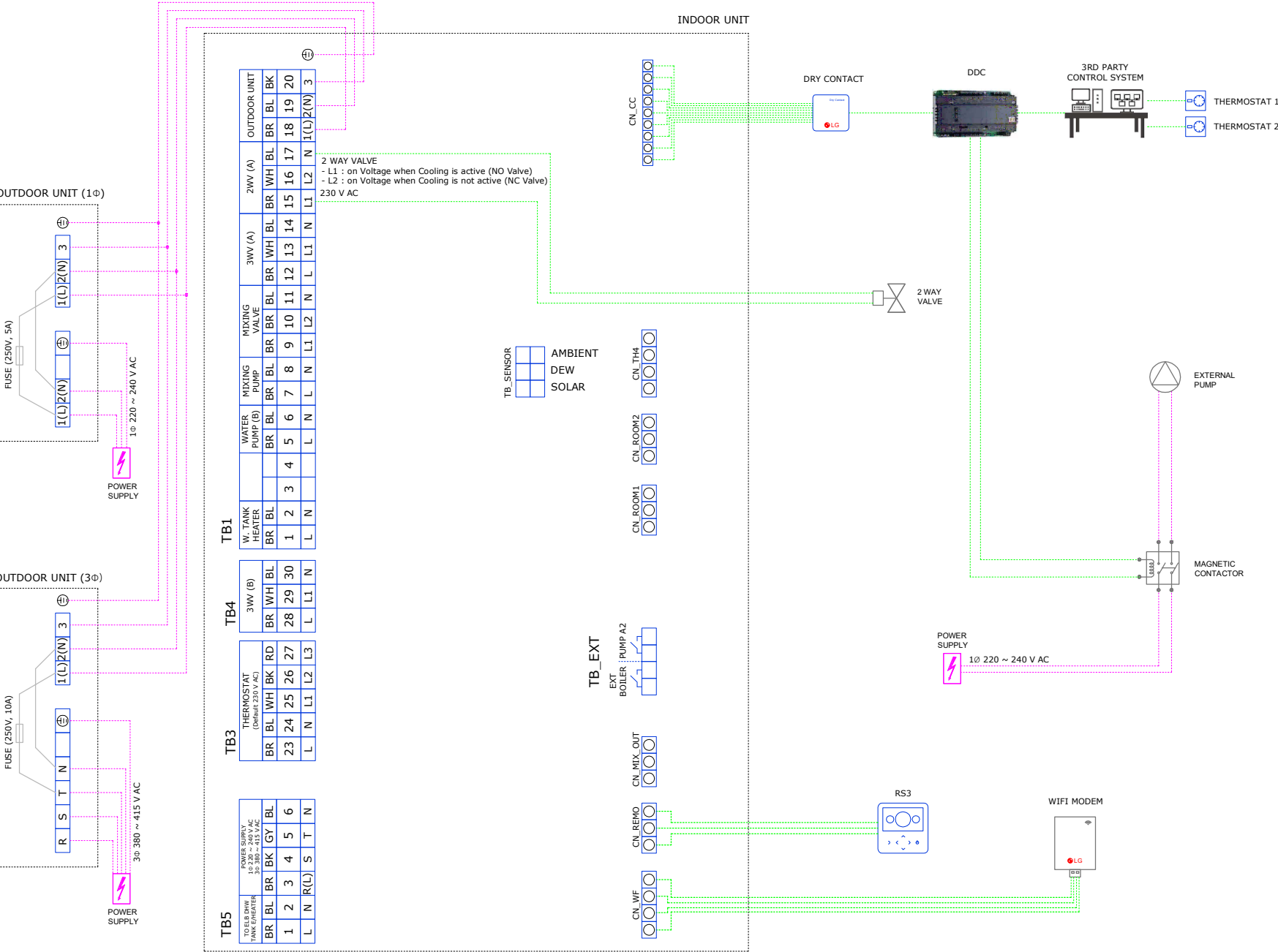
2 Way Valve for Thermostat

A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

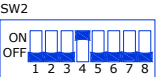
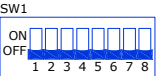
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



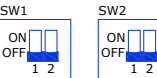
DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB



		X: OFF / O: ON							
		DIP SW1	1	2	3	4	5	6	7 8
MODBUS Communication Type	Master (Link to LC controller)	X							
	Slave (Link to 3rd party controller)	O							
MODBUS Function	REGINE		X						
	Unified Open Protocol		O						
Antifreeze Mode	Antifreeze is not applied								X
	Antifreeze is applied (Adjustable anti-freeze temp.)								O
default setting		X	X						X
		DIP SW2	1	2	3	4	5	6	7 8
Indoor Unit Type Setting for Group Control	As Master	X							
	As Slave	O							
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X					
	Heat pump + CHW tank are installed		X	O					
Heat Pump Cycle	Heating only				X				
	Heating and cooling			O					
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X				
	Remote room air sensor is installed				O				
Selecting Backup Heater Capacity	Backup heater is not used				X	O			
	Full capacity is used				O				
Thermostat Installation	Thermostat is not installed								O
	Thermostat is installed								X
default setting		X	X	X	X	X	O	O	X

OUTDOOR UNIT MAIN PCB



























		X: OFF / O: ON	
		DIP SW1	1 2
Low Noise Mode	Always mode: Maintain low noise mode for target temperature	X	
	Partial mode: Escape low noise mode for target temperature	O	
default setting		X	
		DIP SW2	1 2
Peak Control	Max mode	X	X
	Peak control Step 1: To limit maximum current (Power saving)	O	X
	Peak control Step 2: To limit maximum current (Super Power saving)	X	O
	default setting	X	X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.

























ACCESSORY LIST

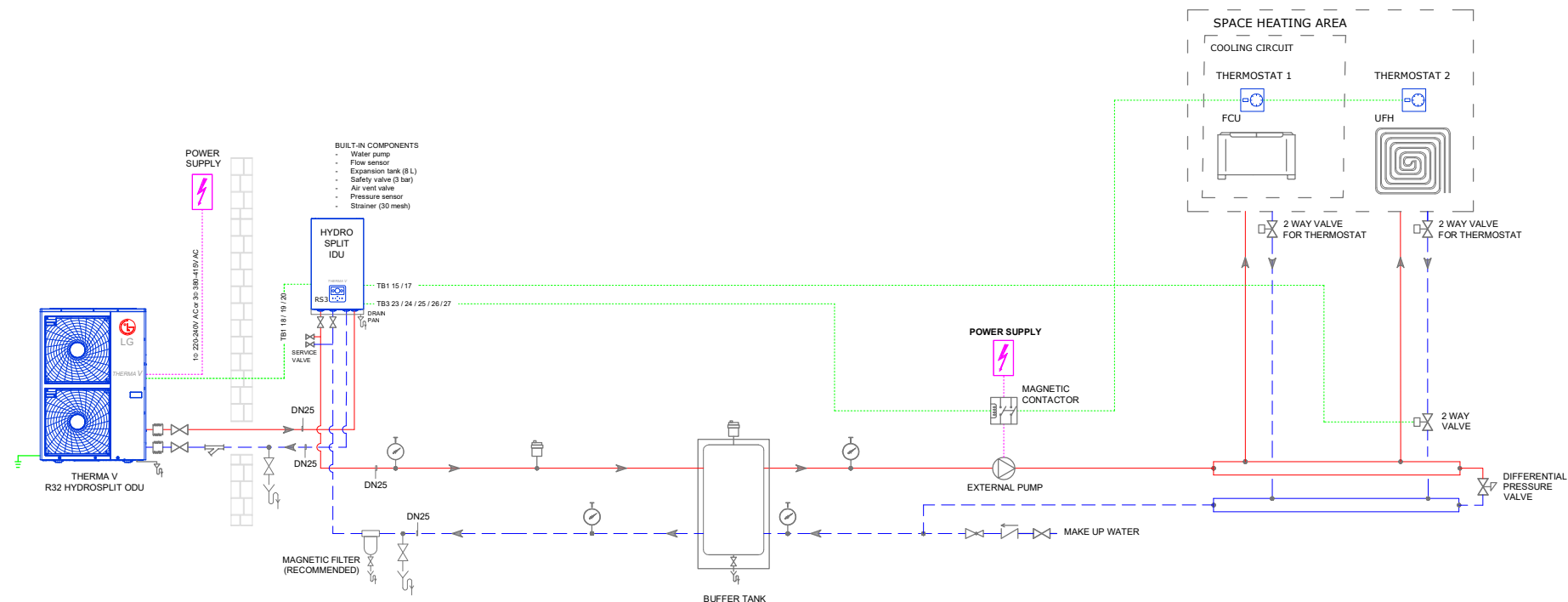
Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

SYSTEM SUMMARY

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Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
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External Pump	Controlled by Thermostat

SYMBOL & LEGENDS

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	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



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2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.

3. Must fit the insulations on the entire water piping including valves and connections.

4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Drain Pan (PHDPC)

A device to collect condensation during cooling operation, including several insulators.

3RD PARTY ACCESSORIES

External Pump

External Pump
An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

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A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

Buffer Tank
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

2 Way Valve
A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.
Controlled by THERMA V with 230V power.
Required operating time : less than 90s.

Thermostat

Thermostat
A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with each 2 Way Valve and FCU where applicable.

2 Way Valve for Thermostat

2 way valve for thermostat
A isolation valve paired with thermostat to allow whether water flows into the water circuit.

























Differential Pressure Valve

Differential Pressure Valve
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

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Buffer Tank	For IWT, OSHB-40KT	O	O
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Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

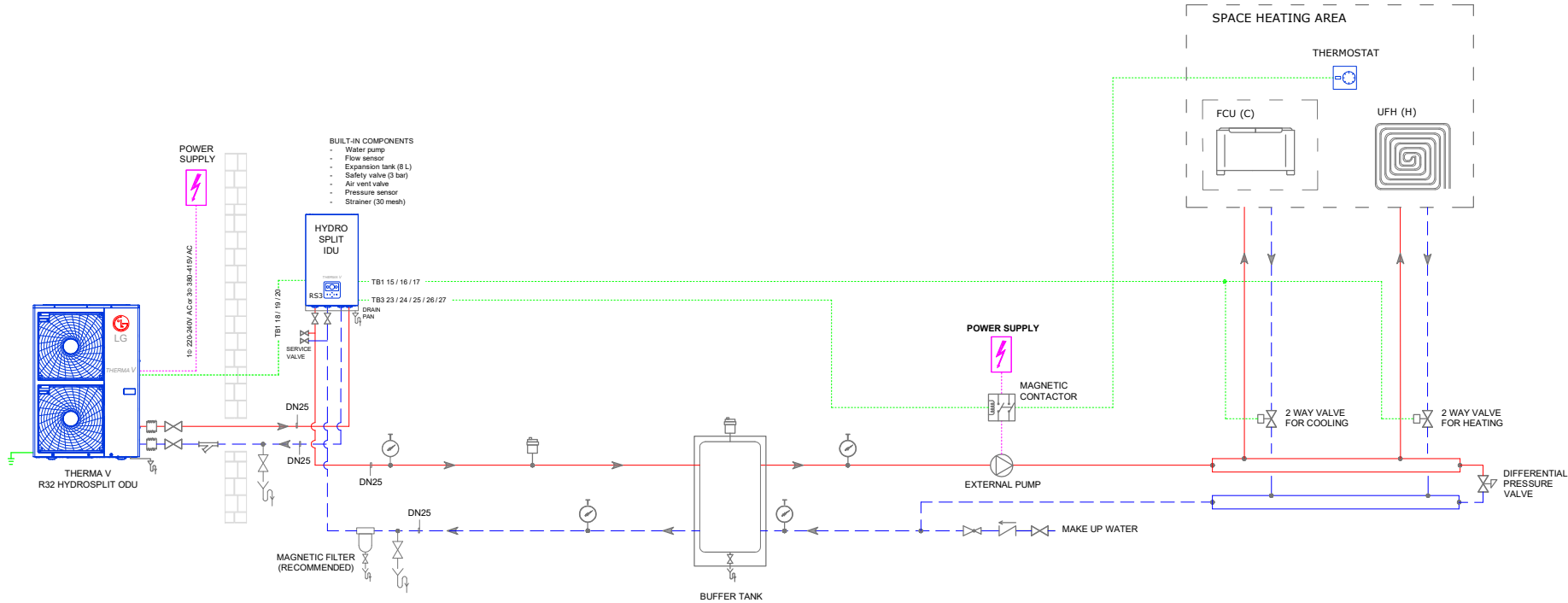
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External Pump	Controlled by Thermostat

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	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
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4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)
A wired remote controller with built-in temperature sensor.
Hydro Box & IWV : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Drain Pan (PHDPC)
A device to collect condensation during cooling operation. Including several insulators.

3RD PARTY ACCESSORIES

External Pump
An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)
A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve
A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.

Thermostat
A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. In this application, Thermostat must be connected with Therna V and interlocking operation with FCU is required.

Differential Pressure Valve
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

The diagram illustrates a water heating system configuration with three outdoor units (1Φ, 3Φ, and 3Φ) and one indoor unit. The system includes various components such as power supplies, control units, sensors, and valves.

Outdoor Unit (1Φ): This unit is connected to a 250V, 5A fuse and a 220V AC power supply. It features a 1(L)2(N)3 terminal block.

Outdoor Unit (3Φ): This unit is connected to a 250V, 10A fuse and a 380V AC power supply. It features a 1(L)2(N)3 terminal block.

Outdoor Unit (3Φ): This unit is connected to a 250V, 10A fuse and a 380V AC power supply. It features a 1(L)2(N)3 terminal block.

Indoor Unit: The indoor unit is connected to a 220V AC power supply. It includes a 1(L)2(N)3 terminal block and a 220V AC power supply.

Control and Sensing Components:

- TB1:** A terminal block with terminals for W. TANK HEATER, WATER PUMP, MIXING VALVE, and 2WV (A).
- TB4:** A terminal block with terminals for 3WV (B), BR, WH, BL, RD, L1, L2, L3, and 230 V AC / L3 DHW.
- TB5:** A terminal block with terminals for TOILET DHW TANK HEATER, BR, BL, BK, GY, BL, 1, 2, 3, 4, 5, 6, L, N, R(L), S, T, N, and 3Φ 380 ~ 415 V AC.
- TB_EXT:** A terminal block with terminals for EXT, BOILER, PUMP A2, CN MIX OUT, CN REMO, CN WF, and CN TH4.
- RS3:** A remote control unit.
- MECHANICAL THERMOSTAT (3rd party):** A thermostat with Mode (C/H) and DHW (On/Off) settings.
- MAGNETIC CONTACTOR:** A contactor for the DHW pump.
- EXTERNAL PUMP:** A pump for the DHW system.

























Wiring and Connections:

- Power supply lines (220V AC) connect the outdoor units to the indoor unit.
- Control lines (240V AC) connect the outdoor units to the indoor unit.
- 230V AC lines connect the indoor unit to the outdoor units.
- 230V AC lines connect the indoor unit to the external pump.
- 230V AC lines connect the indoor unit to the magnetic contactor.
- 230V AC lines connect the indoor unit to the thermostat.
- 230V AC lines connect the indoor unit to the RS3 remote control.

1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
3 Way Valve	A motorized 3-way diverting valve determining flow direction to underfloor coil or FCU. Controlled by THERMA V with 230V power. Operating time 3s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

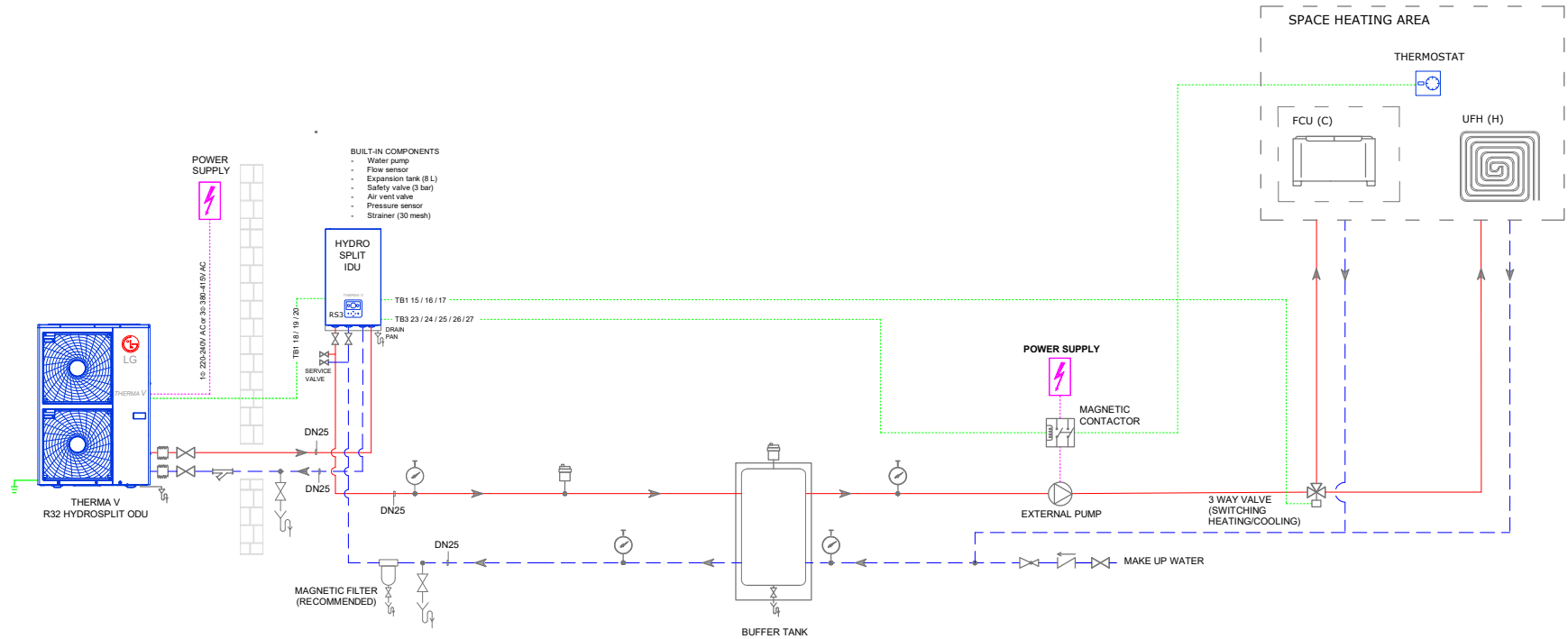
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Thermostat
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH(H) + FCU(C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWV : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Drain Pan (PHDPC)

A device to collect condensation during cooling operation. Including several insulators.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

3 Way Valve

A motorized 3-way diverting valve determining flow direction to underfloor coil or FCU. Controlled by THERMA V with 230V power. Operating time 3s.

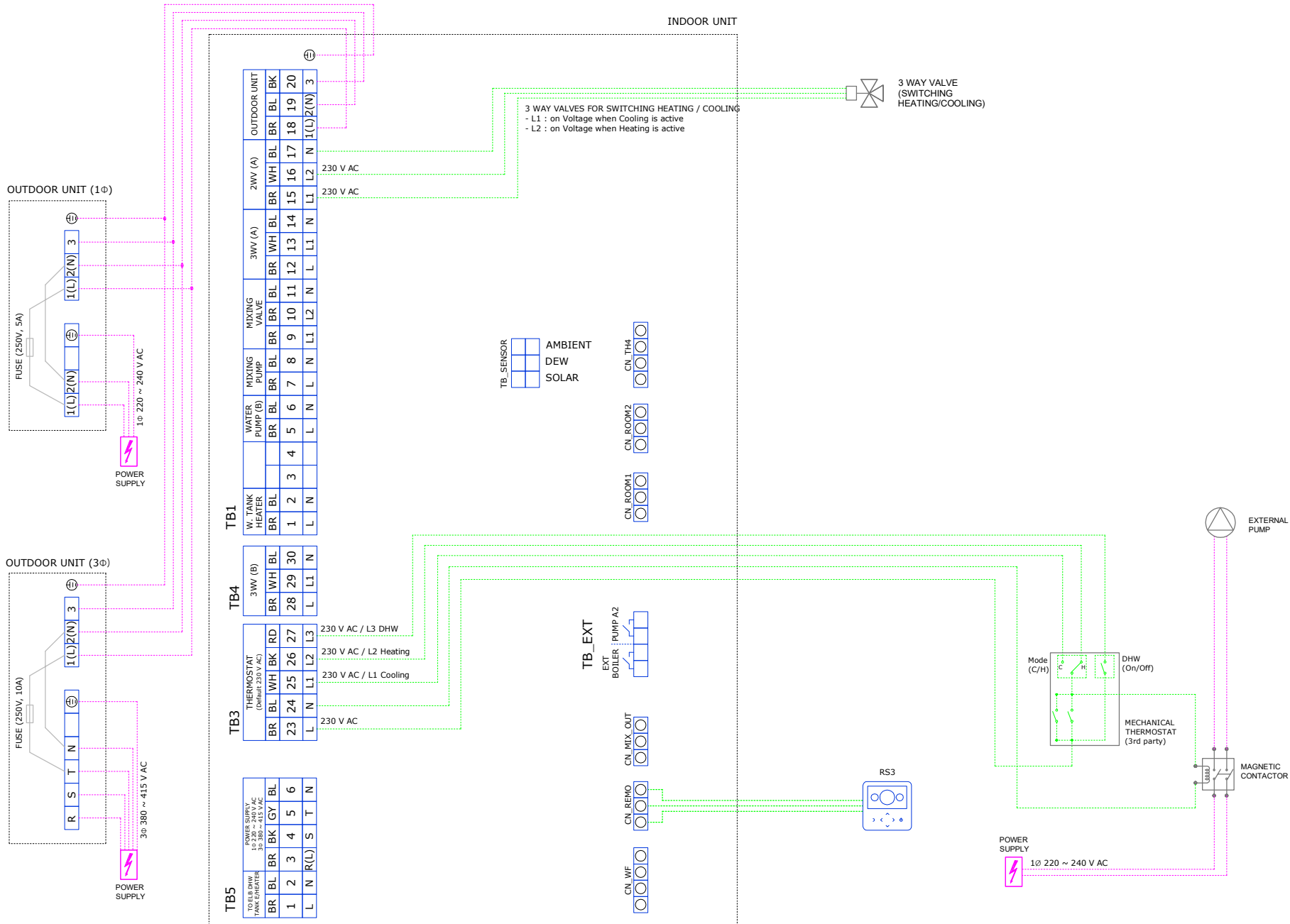
Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. In this application, Thermostat must be connected with THERMA V and interlocking operation with FCU is required.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		DIP SW1								X : OFF / O : ON
MODEBUS Communication Type	Master (Link to LC controller)	X								
MODEBUS Function	Slave (Link to 3rd party controller)	O								
MODEBUS Function	RESERVE		X							
Antifreeze Mode	Antifreeze is not applied									X
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)									O
		default setting								X
		DIP SW2								X : OFF / O : ON
Indoor Unit Type Setting for Group Control	As Master	X								
Indoor Unit Type Setting for Group Control	As Slave	O								
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X						
Accessory Installation Information	Heat pump + DHW tank are installed	X	O							
Accessory Installation Information	Heat pump + DHW tank + Solar thermal system are installed		O	X						
Heat Pump Cycle	Heating only				X					
Heat Pump Cycle	Heating and cooling			O						
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X					
Remote Room Air Sensor (Accessory)	Remote room air sensor is installed				O					
						X	X			
Selecting Backup Heater Capacity	Backup heater is not used				X	O				
Selecting Backup Heater Capacity	Full capacity is used				O					
						O	X			
Thermostat Installation	Thermostat is not installed									O
Thermostat Installation	Thermostat is installed									X
		default setting								X X X X X O O X

OUTDOOR UNIT MAIN PCB

SW1



SW2



		DIP SW1		X : OFF / O : ON
Low Noise Mode	Always mode : Maintain low noise mode for target temperature	X		
Low Noise Mode	Partial mode : Escape low noise mode for target temperature	O		
		default setting		X
		DIP SW2		X : OFF / O : ON
Peak Control	Max mode	X	X	
Peak Control	Peak control Step 1 : To limit maximum current (Power saving)	O	X	
Peak Control	Peak control Step 2 : To limit maximum current (Super Power saving)	X	O	
		default setting		X X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



Life's Good

REFERENCED APPLICATION #3 SPACE HEATING WITH 2ND CIRCUIT

DWG NO. :

REV. 00

13/08/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMD200
Remote Room Air Temperature Sensor	Temperature sensor for the room. Cable length 15m.	PQRSTA0
Mixing Zone Temperature Sensor	A temperature sensor for the mixed circuit. Cable length 10m.	PRSTAT5K10

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Mixing Pump	An external water pump that circulates the water inside mixed circuit (zone 1). Controlled by THERMA V with 230V power.
Mixing Valve	A motorized 3-way mixing valve throttling mixing ratio of heated water and return water. Controlled by THERMA V with 230V power supply. Operating times: 60-900 sec.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

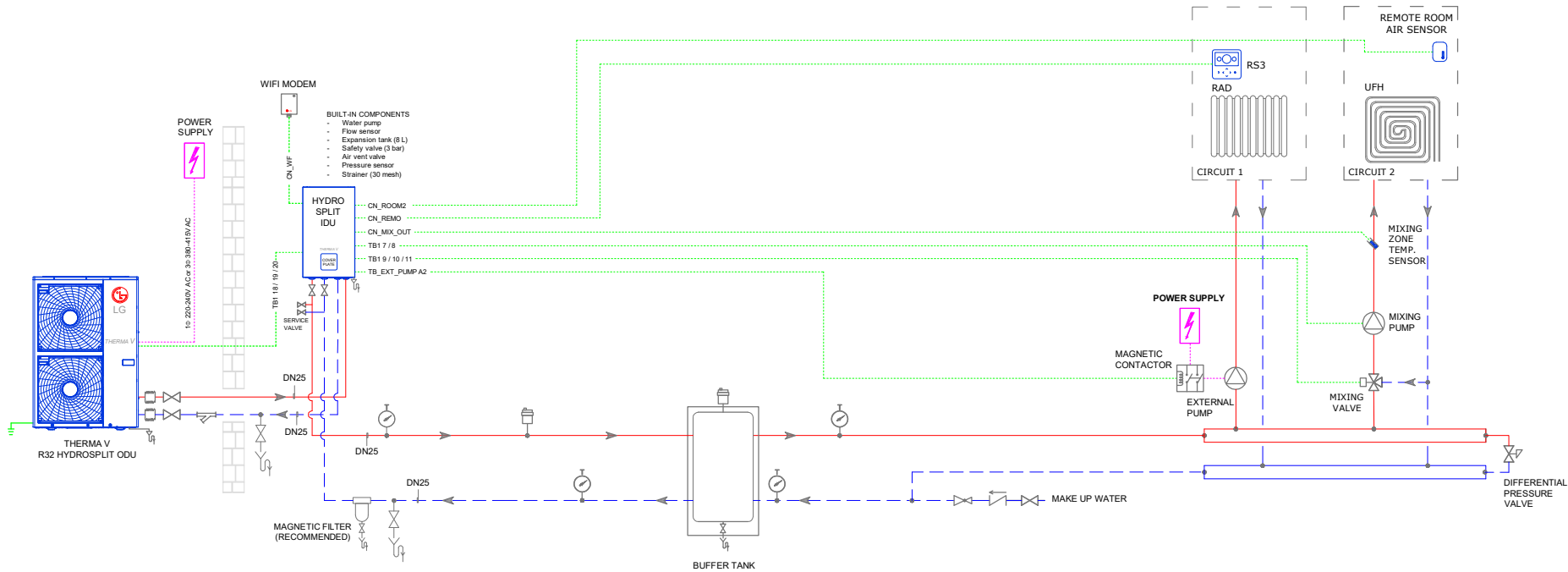
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating with 2nd Circuit
Product	R32 HydroSplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH + RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

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2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)

Cable length 10m

Cover Plate (PDC-HK10)

A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

Remote Room Air Temperature Sensor (PQRSTA0)

Temperature sensor for the room. Cable length 15m.

Mixing Zone Temperature Sensor (PRSTAT5K10)

A temperature sensor for the mixed circuit. Cable length 10m.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Mixing Pump

An external water pump that circulates the water inside mixed circuit (zone 1).
Controlled by THERMA V with 230V power.

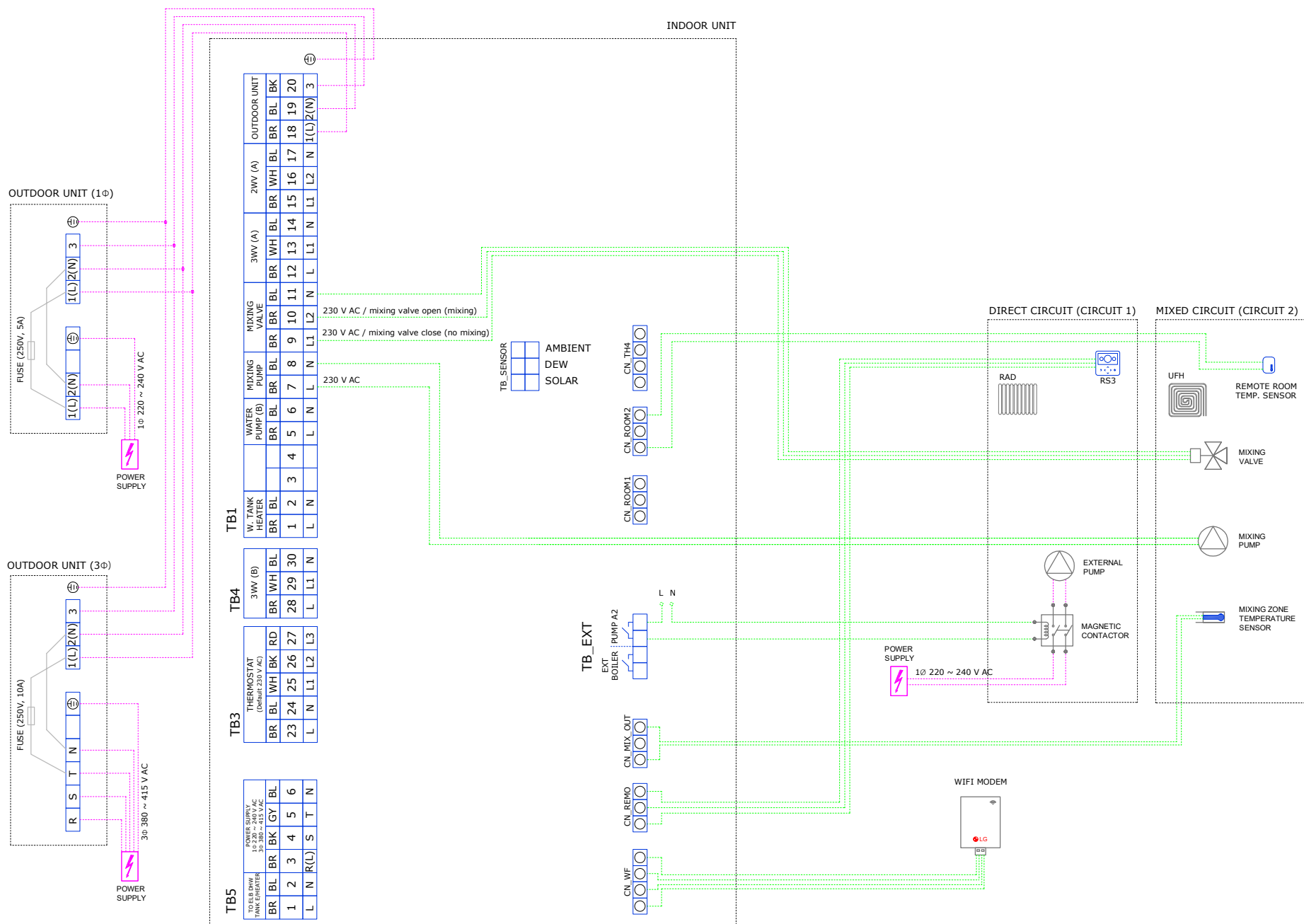
Mixing Valve

A motorized 3-way mixing valve throttling mixing ratio of heated water and return water.
Controlled by THERMA V with 230V power supply.
Operating times: 60-900 sec.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

























WIRING DIAGRAM



1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller (MASTER)	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
RS3 wired remote controller (SLAVE)	An additional wired remote controller with built-in temperature sensor that enables controlling THERMA V using two remote controller. Including extension wire(PZCWRC1) and 2 remo cable(PZCWRC2)	PREMTW101
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1, Included in PREMTW101.
2 Remo Cable	A cable that enables connecting two remote controller on the one indoor unit.	PZCWRC2, Included in PREMTW101.
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

























3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

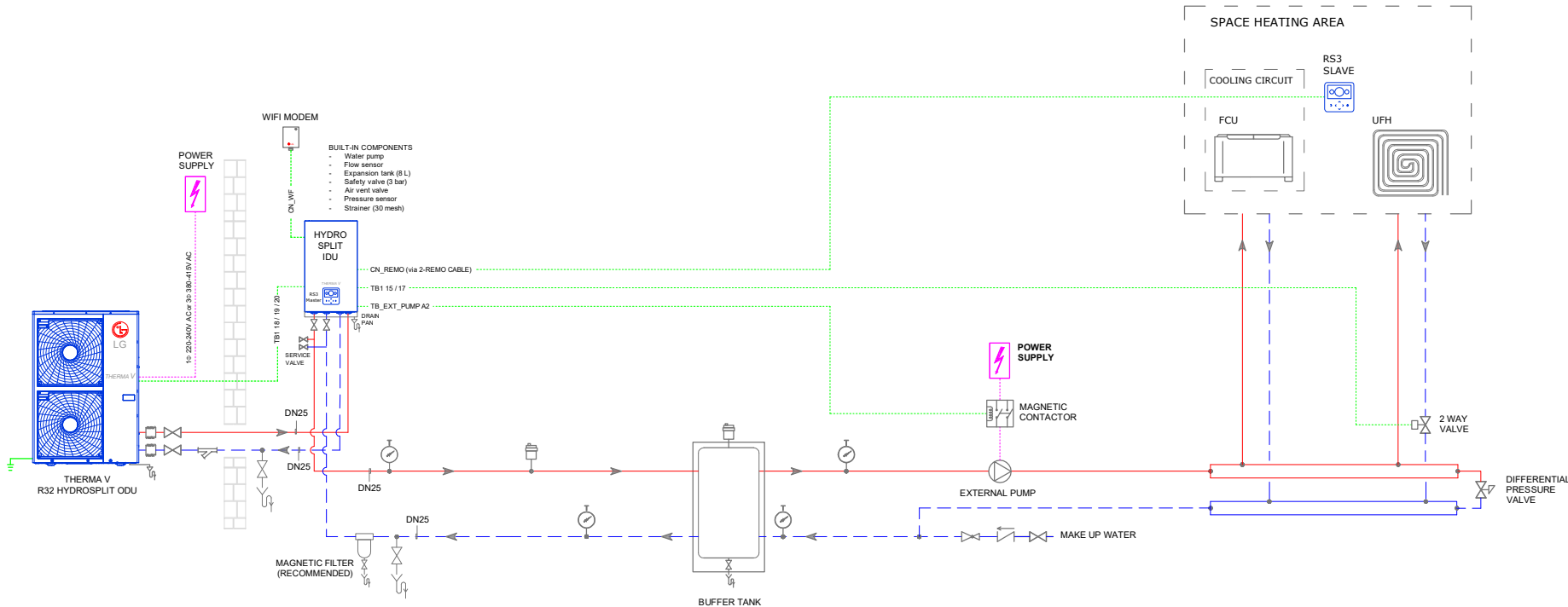
ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

HYDRONIC DIAGRAM

Application	Space Heating & Cooling with 2 Remote Controllers
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	LG RS3 Controllers
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V
Remark	In 2-remo control, RS3 MASTER shows a temperature measured by built-in sensor in RS3 SLAVE. (Temperature value measured by RS3 MASTER is overridden.)

 Circulation Pump	 Motorized 3 Way Valve	 Check Valve	 RS3 Remote Controller
 Expansion Tank	 Motorized 2 Way Valve	 Safety Relief Valve with drain	 Remote Room Air Sensor
 Air Vent	 Differential Pressure Valve	 Y-type strainer	 Dry Contact
 Pressure Gauge	 Thermostatic Mixing Valve	 Flow Sensor	 Wi-Fi Modem
 Flexible Connection	 Shut Off Valve	 Magnetic Contactor	 Thermostat
 Drain	 Pressure Reducing Valve	 Drain Pan	 Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 MASTER Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWV : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

RS3 SLAVE Controller (PREMTW101)

An additional wired remote controller with built-in temperature sensor that enables controlling THERMA V using two remote controller.
Including extension wire(PZCWR1) and 2remo cable(PZCWR2)

Extension Wire for RS3 Controller (PZCWR1)

Cable length 10m. Included in PREMTW101.

2 Remo Cable (PZCWR2)

A cable that enables connecting two remote controller on the one indoor unit.
Included in PREMTW101.

Drain Pan (PHDPC)

A device to collect condensation during cooling operation. Including several insulators.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

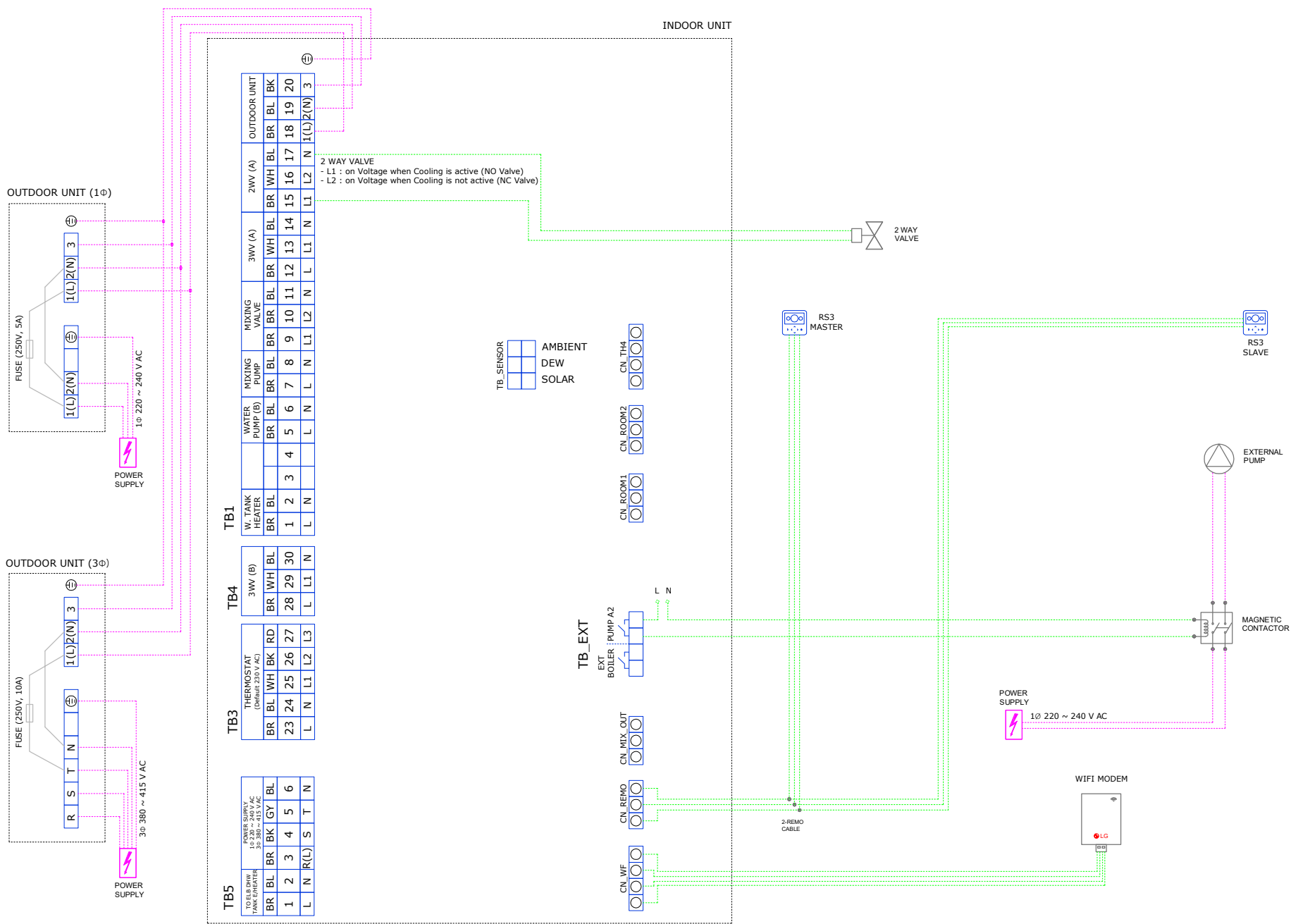
2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.
Controlled by THERMA V with 230V power.
Required operating time : less than 90s.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



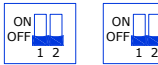
SW2



		DIP SW1								X: OFF / O: ON							
		1	2	3	4	5	6	7	8								
MODBUS Communication Type	Master (Link to LG controller)	X															
	Slave (Link to 3rd party controller)	O															
MODBUS Function	REGINE		X														
	Unified Open Protocol		O														
Antifreeze Mode	Antifreeze is not applied																
	Antifreeze is applied (Adjustable anti-freeze temp.)																
default setting		X	X														
		DIP SW2								X: OFF / O: ON							
		1	2	3	4	5	6	7	8								
Indoor Unit Type Setting for Group Control	As Master	X															
	As Slave	O															
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X													
	Heat pump + DHW tank are installed		X	O													
Heat Pump Cycle	Heating only			X													
	Heating and cooling			O													
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed			X													
	Remote room air sensor is installed			O													
Selecting Backup Heater Capacity	Backup heater is not used				X	O											
	Full capacity is used				O	O											
Thermostat Installation	Thermostat is not installed								O								
	Thermostat is installed								O								
default setting		X	X	X	X	X	O	O	X								

OUTDOOR UNIT MAIN PCB

SW1



SW2



























		DIP SW1		DIP SW2		X: OFF / O: ON	
		1	2	1	2		
Low Noise Mode	Always mode: Maintain low noise mode for target temperature		X				
	Partial mode: Escape low noise mode for target temperature		O				
default setting			X				
Peak Control	Max mode		X	X			
	Peak control Step 1: To limit maximum current (Power saving)		O	X			
Peak Control	Peak control Step 2: To limit maximum current (Super Power saving)		X	O			
	Peak control Step 2: To limit maximum current (Super Power saving)		X	X			
default setting		X	X				

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Direct Digital Controller	A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

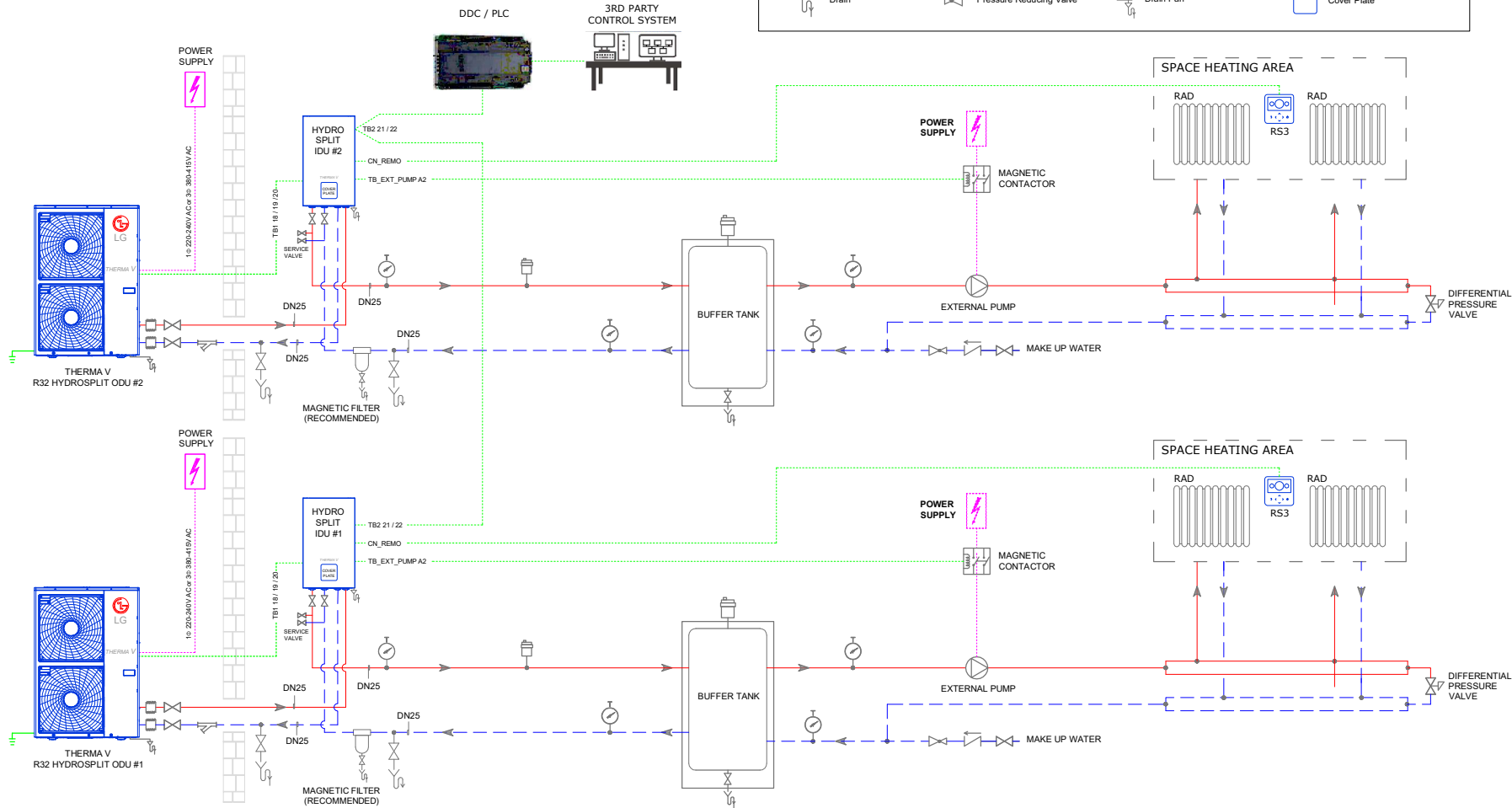
Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating with 3rd Party Controller (MODBUS)
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	RAD
Main Controller	LG RS3 Controller & 3rd Party Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by Therna V

SYMBOL & LEGENDS



- NOTE**
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 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
 3. Must fit the insulations on the entire water piping including valves and connections.
 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)
A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

Extension Wire for RS3 Controller (PZCWR1)
Cable length 10m

Cover Plate (PDC-HK10)
A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

3RD PARTY ACCESSORIES

External Pump
An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

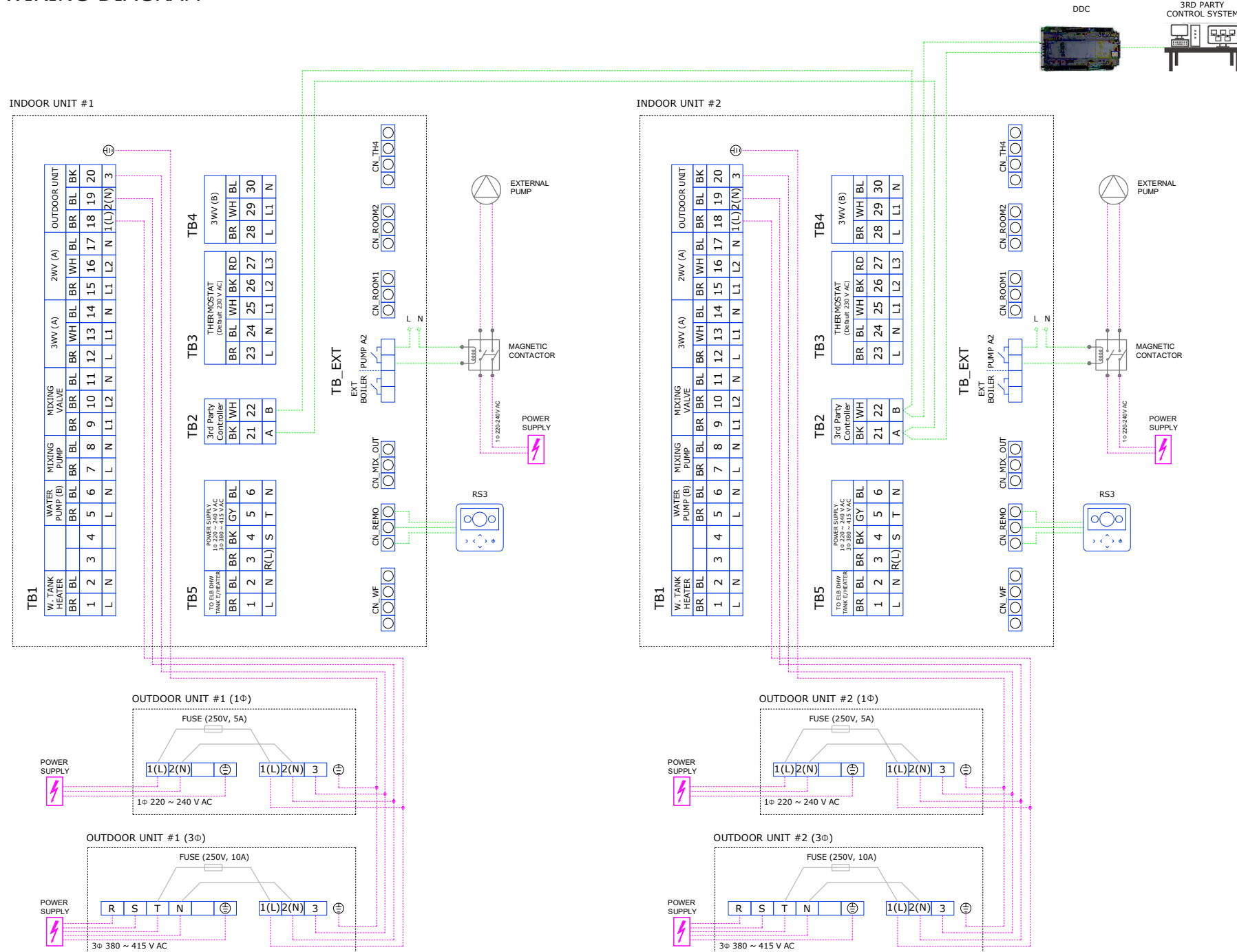
Magnetic Filter (Recommended)
A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

DDC (Direct Digital Controller)
A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.

Differential Pressure Valve
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



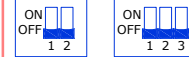
SW2



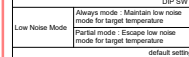
		X: OFF / O: ON							
		DIP SW1	1	2	3	4	5	6	7
MODBUS Communication Type	Master (Link to LC controller)	X							
MODBUS Function	Slave (Link to 3rd party controller)	O							
Antifreeze Mode	Unified Open Protocol		X						
Antifreeze Mode	Antifreeze is not applied			O					
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)				O				
default setting			X	X	X	X	X	X	X
		DIP SW2	1	2	3	4	5	6	7
Indoor Unit Type Setting for Group Control	As Master	X							
Accessory Installation Information	As Slave	O							
Heat Pump Cycle	Heat pump installation (Heating or cooling circuit only)		X	X					
Remote Room Air Sensor (Accessory)	Heat pump + CHW tank are installed		X	O					
Heat Pump Cycle	Heat pump + CHW tank + Solar thermal system are installed		O	X					
Heat Pump Cycle	Heating only				X				
Heat Pump Cycle	Heating and cooling				O				
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X				
Remote Room Air Sensor (Accessory)	Remote room air sensor is installed				O				
Selecting Backup Heater Capacity	Backup heater is not used				X	O			
Thermostat Installation	Thermostat is not installed				O	O			
Thermostat Installation	Thermostat is installed				O	X			
default setting			X	X	X	X	O	O	X

OUTDOOR UNIT MAIN PCB

SW1



SW2



























		X: OFF / O: ON	
		DIP SW1	1
Low Noise Mode	Always mode: Maintain low noise mode for target temperature		X
Low Noise Mode	Partial mode: Escape low noise mode for target temperature		O
default setting			X
		DIP SW2	1
Peak Control	Max mode		X
Peak Control	Peak control Step 1: To limit maximum current (Power saving)		O
Peak Control	Peak control Step 2: To limit maximum current (Super Power saving)		X
default setting			X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

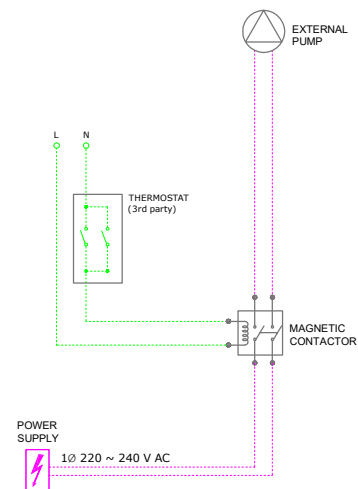
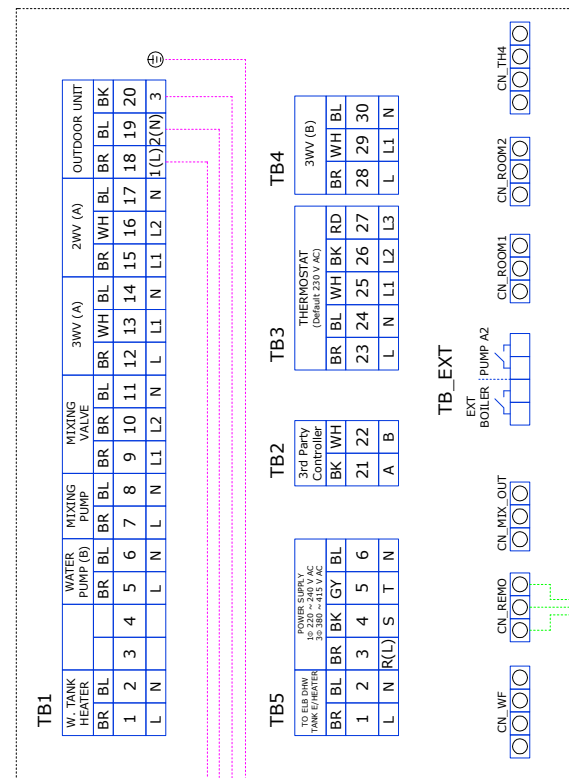
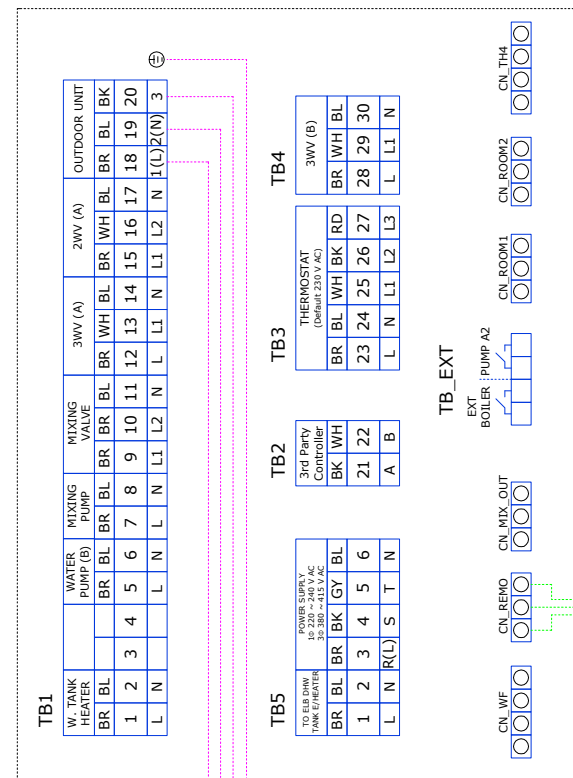
LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
AC EZ TOUCH	A central controller that controls THERMA V using LG AP protocol. Max 64 units, PC access supported	PACEZA000
PI485 Gateway	A gateway device that communicates and controls through the central controller. (converting LG protocol to RS485 protocol) It should be installed onto the outdoor unit.	PMNFP14A1

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

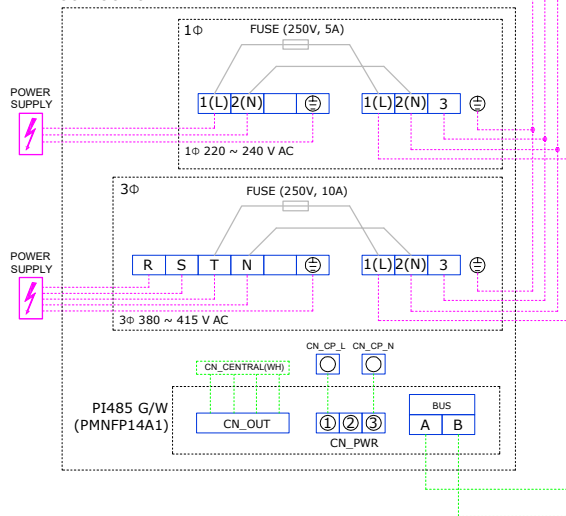
ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

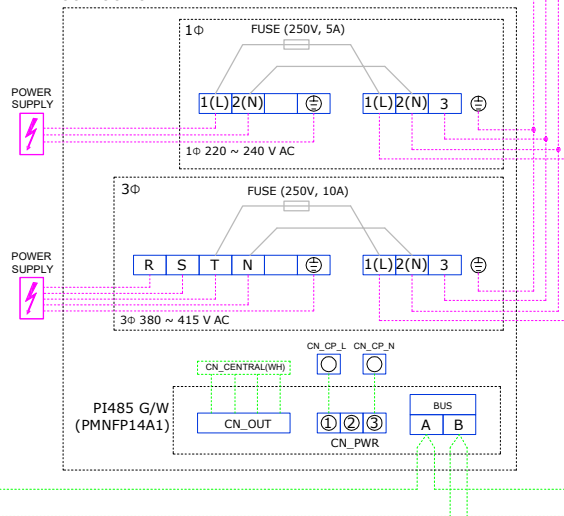
INDOOR UNIT #1



OUTDOOR UNIT #1

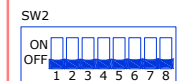
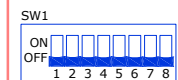


OUTDOOR UNIT #2



DIP SWITCH SETTINGS

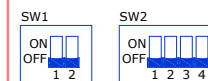
INDOOR UNIT MAIN PCB



		X : OFF / O : ON							
		DIP SW 1							
		1	2	3	4	5	6	7	8
MODBUS Communication Type	Master (Link to LG controller)	X							
	Slave (Link to 3rd party controller)	O							
MODBUS Function	REGINE		X						
	Unified Open Protocol		O						
Antifreeze Mode	Antifreeze is not applied								X
	Antifreeze is applied (Adjustable anti-freeze temp.)								O
default setting		X	X						

		DIP SW 2							
		1	2	3	4	5	6	7	8
Indoor Unit Type Setting for Group Control	As Master								
	As Slave		X						
Accessory Information	Heat pump installation (Heating or cooling) is not used		X	X					
	Heat pump + DHW tank are installed		X	O					
	Heat pump + DHW tank + Solar thermal system are installed					X			
Heat Pump Cycle	Heating only					X			
	Heating and cooling			O					
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed					X			
	Remote room air sensor is installed								
Selecting Backup Heater Capacity							X	X	
	Backup heater is not used						X	O	
								O	O
Thermostat Installation	Full capacity is used							O	X
	Thermostat is not installed								X
	Thermostat is installed								
default setting		X	X	X	X	X	O	X	O

OUTDOOR UNIT MAIN PCB



			X OFF / O ON
		DIP SW1	1
Low Noise Mode	Always mode / Maintain low noise mode for target temperature	X	
	Partial mode / Escalate low noise mode for target temperature	X	
	default setting	X	
		DIP SW2	1 2
Peak Control	Max mode	X	X
	Peak control Step 1 : To limit maximum current (Power saving)	O	X
	Peak control Step 2 : To limit maximum current (Super Power saving)	X	O
	default setting	X	X

NOTE

1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



LG
Life's Good

REFERENCED APPLICATION #7 SPACE HEATING AND DHW

DWG NO. :

REV. 00

13/08/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

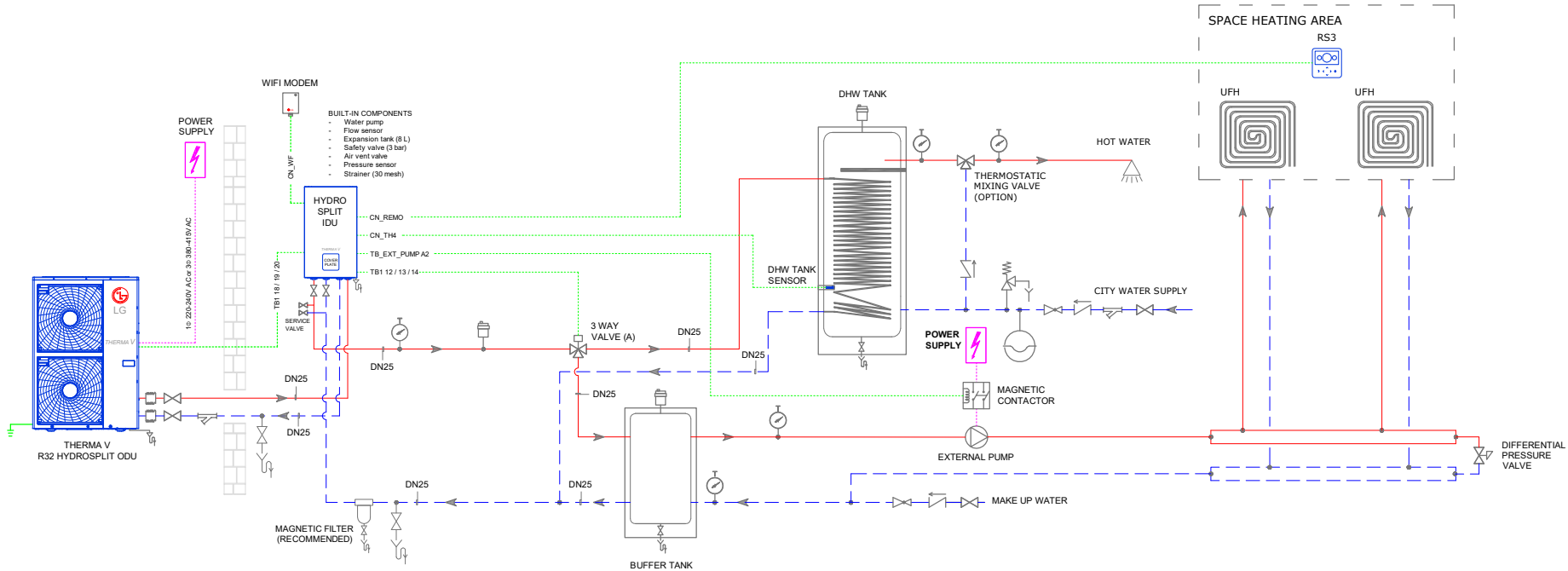
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)

Cable length 10m

Cover Plate (PDC-HK10)

A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank.
Controlled by THERMA V with 230V power.
Operating time 3s.

Domestic Hot Water Tank

(OSHW-200F/300F/500F)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V).
Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV,

OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

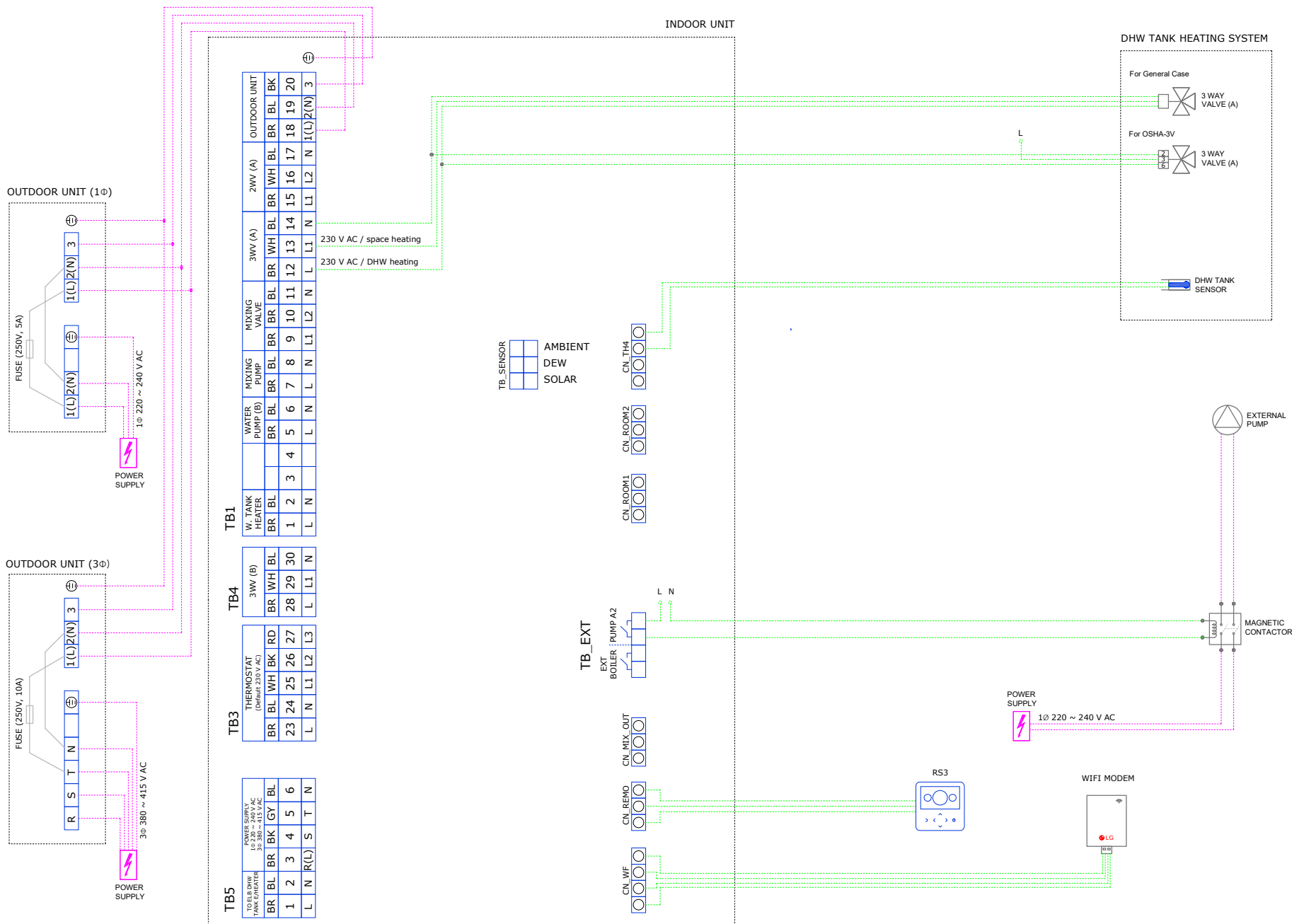
Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		DIP SW1								X: OFF / O: ON
MODEM Communication Type	Master (Link to LC controller)	X								
MODEM Function	Slave (Link to 3rd party controller)	O								
MODEM Function	RESERVE		X							
Antifreeze Mode	Unified Open Protocol	O								
Antifreeze Mode	Antifreeze is not applied									X
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)									O
		default setting								X
		DIP SW2								
Indoor Unit Type Setting for Group Control	As Master	X								
Indoor Unit Type Setting for Group Control	As Slave		X							
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X						
Accessory Installation Information	Heat pump + DHW tank are installed		X	O						
Accessory Installation Information	Heat pump + DHW tank + Solar thermal system are installed		O	X						
Heat Pump Cycle	Heating only			X						
Heat Pump Cycle	Heating and cooling			O						
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X					
Remote Room Air Sensor (Accessory)	Remote room air sensor is installed				O					
Selecting Backup Heater Capacity	Backup heater is not used				X	O				
Selecting Backup Heater Capacity	Full capacity is used				O					
Thermostat Installation	Thermostat is not installed									O
Thermostat Installation	Thermostat is installed									X
		default setting								X X X X X O O X

OUTDOOR UNIT MAIN PCB

SW1



SW2



























				X : OFF / O : ON	
		DIP SW 1		2	
Low Noise Mode	Always mode : Maintain low noise mode for target temperature	X			
	Partial mode : Escape low noise mode for target temperature	O			
	default setting	X			
		DIP SW 2		1	2
Peak Control	Max mode	X	X		
	Peak control Step 1 : To limit maximum current (Power saving)	O	X		
	Peak control Step 2 : To limit maximum current (Super Power saving)	X	O		
	default setting	X	X		

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Booster Heater	An electric heater for DHW heating integrated with DHW tank (2.4kW, 230V) Controlled by THERMA V with 230V power.	Integrated with DHW Tank
DHW Tank Kit	A set of electrical devices for controlling of electric booster heater up to 32A Including Circuit Breaker, Magnetic Contactor and DHW Temp. sensor (PHRSTA0)	PHLTA
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0, Included in DHW Tank Kit (PHLTA)
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

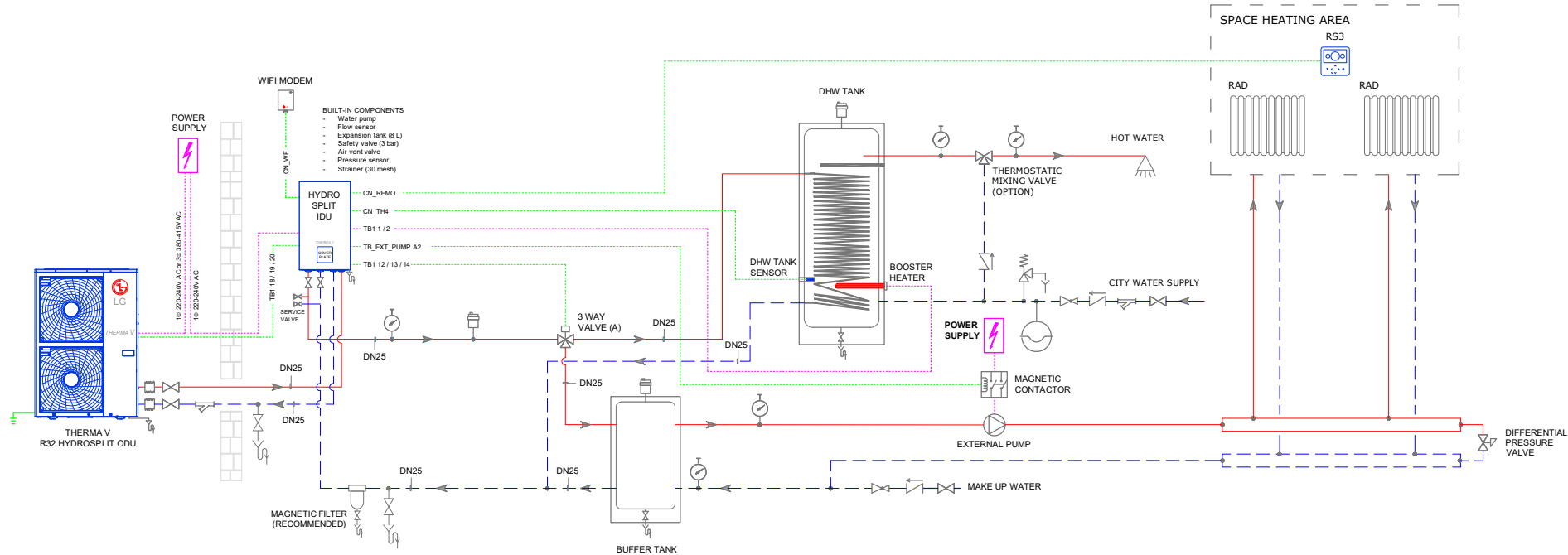
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with Booster Heater
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

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2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)
A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)
Cable length 10m

Cover Plate (PDC-HK10)
A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)
A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

3 Way Valve (A) (OSHA-3V)
A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)
A insulated stainless steel hot water tank with 2.4kW electric heating (230V).
Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Booster Heater (Integrated with DHW Tank)
An electric heater for DHW heating integrated with DHW tank (2.4kW, 230V)
Controlled by THERMA V with 230V power.

DHW Tank Kit (PHLTA)
A set of electrical devices for controlling of electric booster heater up to 32A
Including Circuit Breaker, Magnetic Contactor and DHW Temp. sensor (PHRSTA0)

DHW Tank Sensor (PHRSTA0)
A temperature sensor for DHW tank. Cable length 12m. Included in DHW Tank Kit (PHLTA)

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)
A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump
An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)
A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

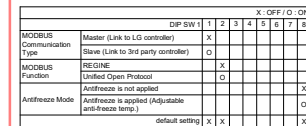
Buffer Tank
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

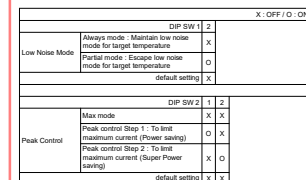
SW1



		DIP SW 2								
			1	2	3	4	5	6	7	8
Indoor Unit Type (Setting for Group Control)	As Master		X							
	As Slave		X							
Accessory Information	Heat pump installation (Heating or cooling or heat pump)		X	X						
	Heat pump + DHW tank are installed		X	X	O					
	Heat pump + DHW tank + Solar thermal system are installed		O	X						
Heat Pump Cycle	Heating only							X	O	
	Heating and cooling							X	O	
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed						X			
	Remote room air sensor is installed									
Selecting Backup Heater Capacity	Backup heater is not used							X	X	
								O		
	Full capacity is used							O	X	
Thermostat Installation	Thermostat is not installed									X
	Thermostat is installed									
	default setting	X	X	X	X	X	X	O	X	

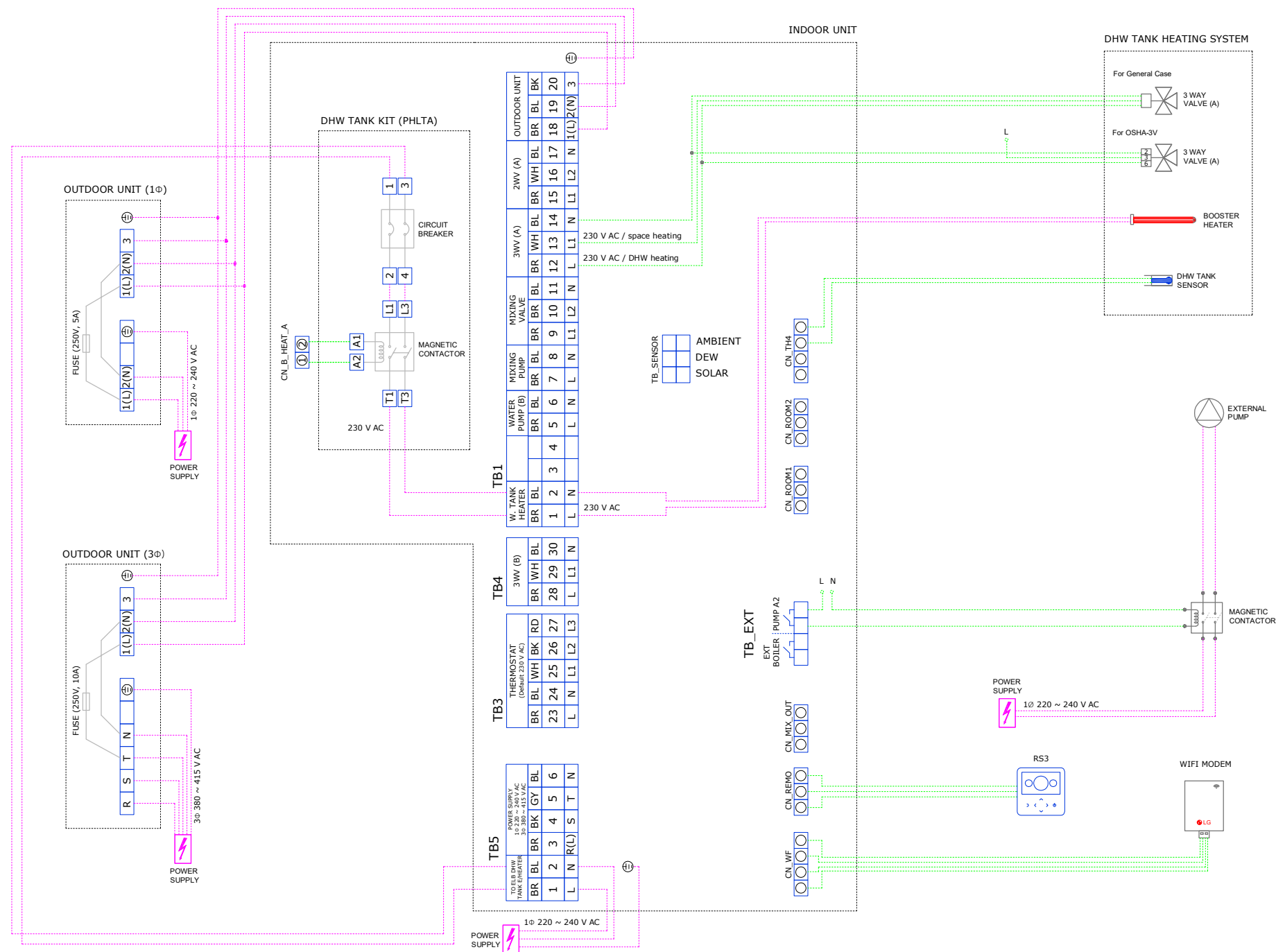
OUTDOOR UNIT MAIN PCB

SW1



NOTE

1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.





LG
Life's Good

REFERENCED APPLICATION #9 SPACE HEATING, COOLING, AND DHW WITH THERMOSTAT

DWG NO. :

REV. 00

13/08/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

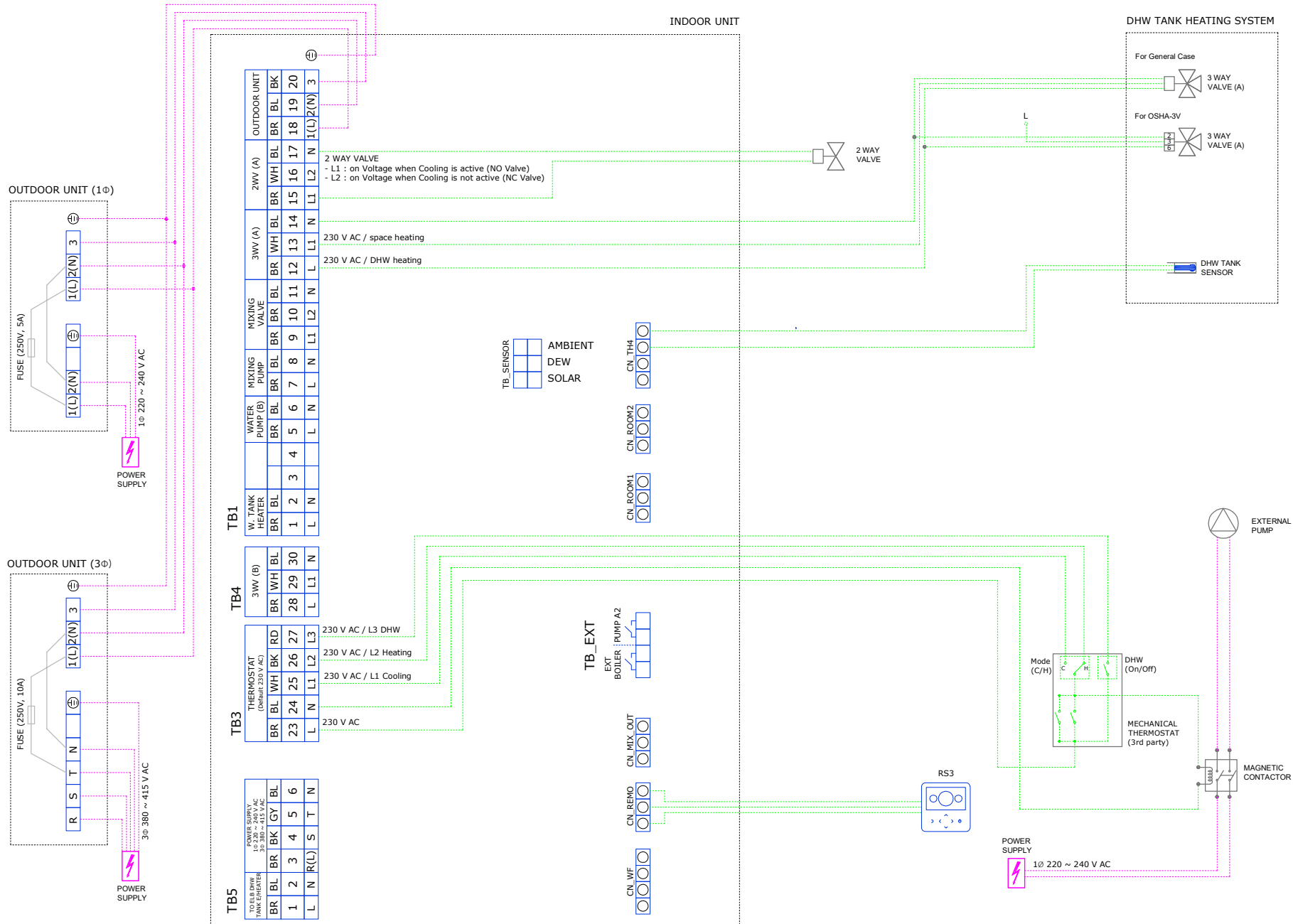
LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		X: OFF / O: ON							
DIP SW1		1	2	3	4	5	6	7	8
MODE/RS	Master (Link to LC controller)	X							
Communication	Slave (Link to 3rd party controller)	O							
MODE/RS	Function		X						
Anti-freeze Mode	Anti-freeze is not applied		O						X
Anti-freeze Mode	Anti-freeze is applied (Adjustable anti-freeze temp.)			O					O
default setting		X	X						X
DIP SW2		1	2	3	4	5	6	7	8
Indoor Unit Type	As Master	X							
Setting for Group Control	As Slave	O							
Accessory Installation	Heat pump installation (Heating or cooling circuit only)		X	X					
Heat Pump Cycle	Heat pump + DHW tank are installed		X	O					
Heat Pump Cycle	Heat pump + DHW tank + Solar thermal system are installed		O	X					
Remote Room Air Sensor (Accessory)	Heating only			X					
Remote Room Air Sensor (Accessory)	Heating and cooling			O					
Selecting Backup Heater Capacity	Remote room air sensor is not installed			X					
Thermostat Installation	Remote room air sensor is installed			O					
Thermostat Installation	Backup heater is not used			X	O				
Thermostat Installation	Full capacity is used			O	O				
Thermostat Installation	Thermostat is not installed			O	X				
Thermostat Installation	Thermostat is installed				O				
default setting		X	X	X	X	X	O	X	X

OUTDOOR UNIT MAIN PCB

SW1



SW2



























		X: OFF / O: ON	
DIP SW1		1	2
Low Noise Mode	Always mode : Maintain low noise mode for target temperature	X	
Low Noise Mode	Partial mode : Escape low noise mode for target temperature	O	
Low Noise Mode	default setting	X	
DIP SW2		1	2
Peak Control	Max mode	X	X
Peak Control	Peak control Step 1 : To limit maximum current (Power saving)	O	X
Peak Control	Peak control Step 2 : To limit maximum current (Super Power saving)	X	O
default setting		X	X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
External Boiler	An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V. The external boiler should have a integrated or dedicated circulation pump. Controlled by THERMA V with voltage free contact switch.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

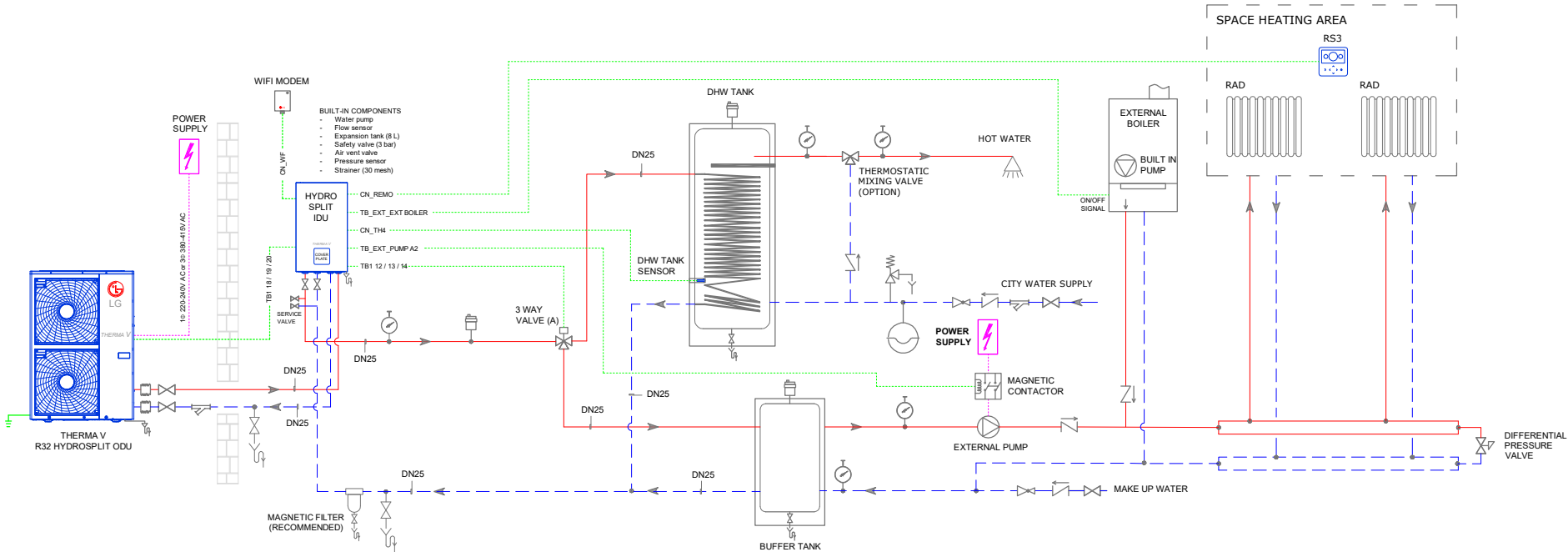
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with External Boiler
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)

Cable length 10m

Cover Plate (PDC-HK10)

A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V).
Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

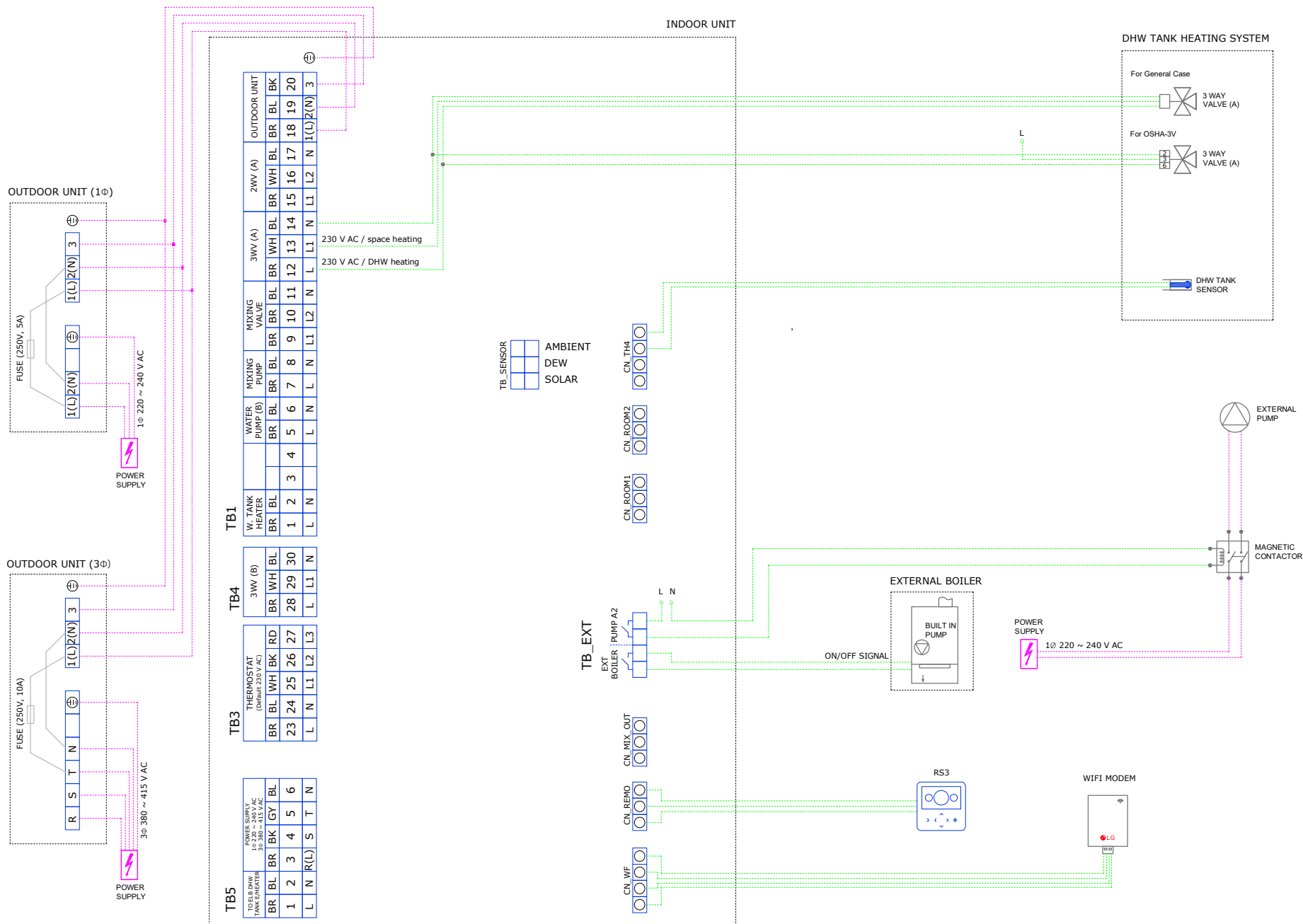
External Boiler

An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V. The external boiler should have a integrated or dedicated circulation pump.
Controlled by THERMA V with voltage free contact switch.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		DIP SW1								X: OFF / O: ON
MODEM Communication Type	Master (Link to LC controller)	X								
MODEM Function	Slave (Link to 3rd party controller)	O								
MODEM Function	RESERVE		X							
Antifreeze Mode	Unified Open Protocol		O							
Antifreeze Mode	Antifreeze is not applied									X
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)									O
		default setting								X
		DIP SW2								
Indoor Unit Type Setting for Group Control	As Master	X								
Indoor Unit Type Setting for Group Control	As Slave		O							
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X						
Accessory Installation Information	Heat pump + DHW tank are installed		X	O						
Heat Pump Cycle	Heating only				X					
Heat Pump Cycle	Heating and cooling				O					
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed					X				
Remote Room Air Sensor (Accessory)	Remote room air sensor is installed					O				
Selecting Backup Heater Capacity	Backup heater is not used					X	O			
Selecting Backup Heater Capacity	Full capacity is used					O				
Thermostat Installation	Thermostat is not installed							O		
Thermostat Installation	Thermostat is installed							O	X	
		default setting								X

OUTDOOR UNIT MAIN PCB

SW1



SW2



























		DIP SW1		DIP SW2		DIP SW3		DIP SW4		X: OFF / O: ON
Low Noise Mode	Always mode - Maintain low noise mode for target temperature	X								
Low Noise Mode	Partial mode - Escape low noise mode for target temperature		O							
Low Noise Mode	default setting		X							
Peak Control	Max mode		X	X						
Peak Control	Peak control Step 1 - To limit maximum current (Power saving)		O	X						
Peak Control	Peak control Step 2 - To limit maximum current (Super Power saving)		X	O						
		default setting								X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Back-up Heater	An electric heater for supplementing insufficient capacity in case of extremely low ambient temperature or emergency operation. Internal & optional accessory with 230V(1Φ) power. Including Heater Element, ELCB, Heater PCB, Temp. Sensor.	HA061C E1
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMDD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	



























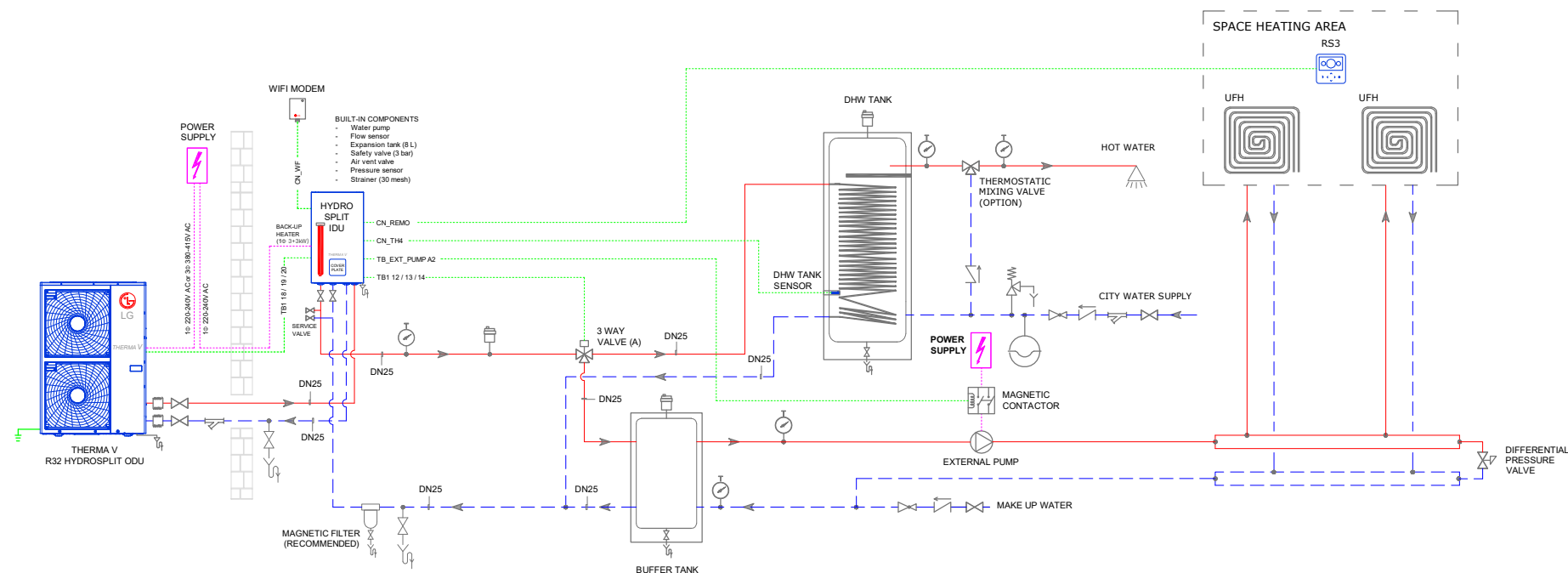
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with Back-up Heater
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS

	Circular Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

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2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)

Cable length 10m

Cover Plate (PDC-HK10)

A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

Back Up Heater (HA061C E1, 1Φ 3 + 3kW)

An electric heater for supplementing insufficient capacity in case of extremely low ambient temperature or emergency operation.
Internal & optional accessory with 230V(1Φ) power.
Including Heater Element, ELCB, Heater PCB, Temp. Sensor.

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank

Domestic Hot Water Tank
(OSHW-200F/300F/500F)
An insulated stainless steel hot water tank with
2.4kW electric heating (230V).
Single Coil : OSHW-200F(200L) / 300F(300L) /
500F(500L)

DHW Tank Sensor (PHRSTA0)

DHW Tank Sensor (4 Wire TX)
A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

External Pump
An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

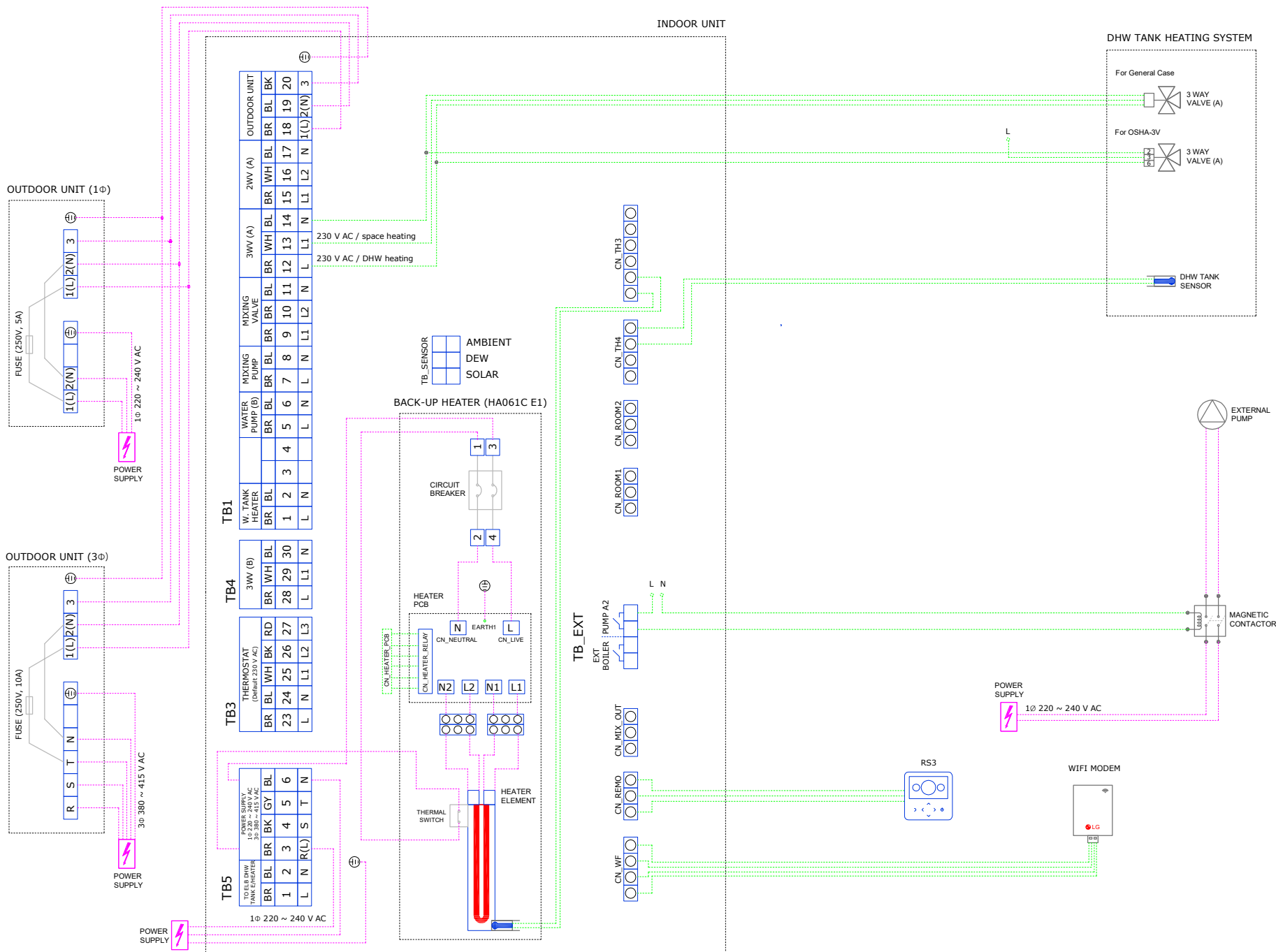
Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve

Differential Pressure Valve
A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		X: OFF / O: ON							
MODEBUS Communication Type	Master (Link to LC controller)	1	2	3	4	5	6	7	8
	Slave (Link to 3rd party controller)	X							
MODEBUS Function	RESUME		X						
	Unified Open Protocol		O						
Antifreeze Mode	Antifreeze is not applied								X
	Antifreeze is applied (Adjustable anti-freeze temp.)								O
default setting		X	X	X	X	X	X	X	X
DIP SW2									
Indoor Unit Type Setting for Group Control	As Master	X							
	As Slave	O							
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X					
	Heat pump + DHW tank are installed		X	O					
	Heat pump + DHW tank + Solar thermal system are installed		O	X					
Heat Pump Cycle	Heating only			X					
	Heating and cooling			O					
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X				
	Remote room air sensor is installed				O				
Selecting Backup Heater Capacity	Backup heater is not used				X	O			
	Full capacity is used				O				
Thermostat Installation	Thermostat is not installed								O
	Thermostat is installed								X
default setting		X	X	X	X	X	O	X	X

OUTDOOR UNIT MAIN PCB

SW1



SW2



		X: OFF / O: ON	
		DIP SW1	
Low Noise Mode	Always mode - Maintain low noise mode for target temperature	X	
	Partial mode - Escape low noise mode for target temperature	O	
	default setting	X	
		DIP SW2	
Peak Control	Max mode	X	X
	Peak control Step 1 - To limit maximum current (Power saving)	O	X
	Peak control Step 2 - To limit maximum current (Super Power saving)	X	O
	default setting	X	X

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



LG
Life's Good

REFERENCED APPLICATION #12 SPACE HEATING, COOLING, AND DHW WITH SOLAR PANEL AND THERMOSTAT

DWG NO. :

REV. 00

13/08/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Double coil : OSHW-300FD
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")
Drain Pan	A device to collect condensation during cooling operation. Including several insulators.	PHDPC

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Solar Pump	An external water pump that circulates the water inside solar thermal system. Controlled by THERMA V with 230V power.
Solar Temperature Sensor	A temperature sensor for solar thermal system.
3 Way Valve (B)	A motorized 3-way diverting valve determining flow direction to either DHW tank or bypass (recirculation). Controlled by THERMA V with 230V power. Required operating time : less than 90s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	



Life's Good

REFERENCED APPLICATION #12 SPACE HEATING, COOLING, AND DHW WITH SOLAR PANEL AND THERMOSTAT

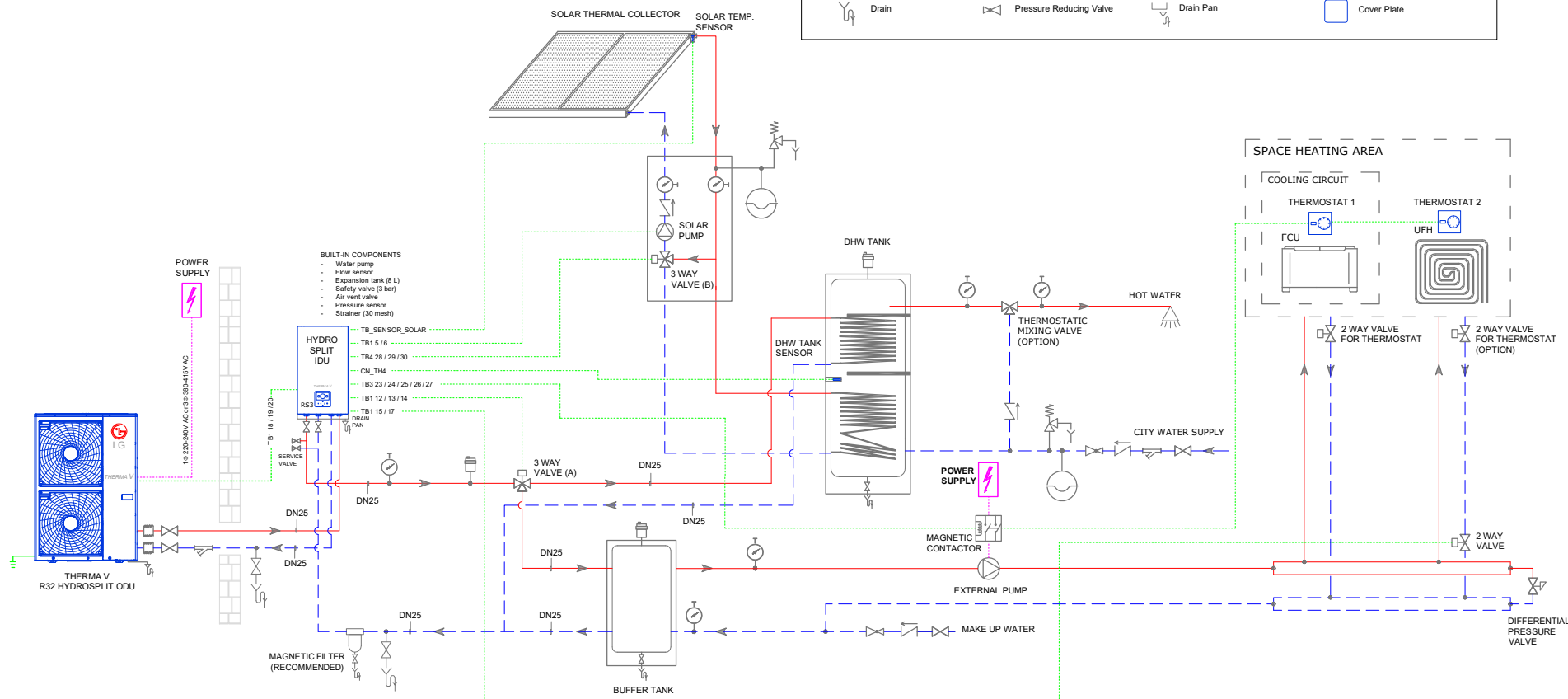
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating, Cooling, and DHW with Solar Panel and Thermostat
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWR1)

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-300FD)

An insulated stainless steel hot water tank with 2.4kW electric heating (230V).
Double coil : OSHW-300FD(300L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

Drain Pan (PHDPC)

A device to collect condensation during cooling operation. Including several insulators.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time : less than 90s.

Solar Pump

An external water pump that circulates the water inside solar thermal system. Controlled by THERMA V with 230V power.

Solar Temperature Sensor (PT-1000)

A temperature sensor for solar thermal system.

3 Way Valve (B)

A motorized 3-way diverting valve determining flow direction to either DHW tank or bypass (recirculation). Controlled by THERMA V with 230V power. Required operating time : less than 90s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Thermo V, Valve, Pump, and FCU where applicable.

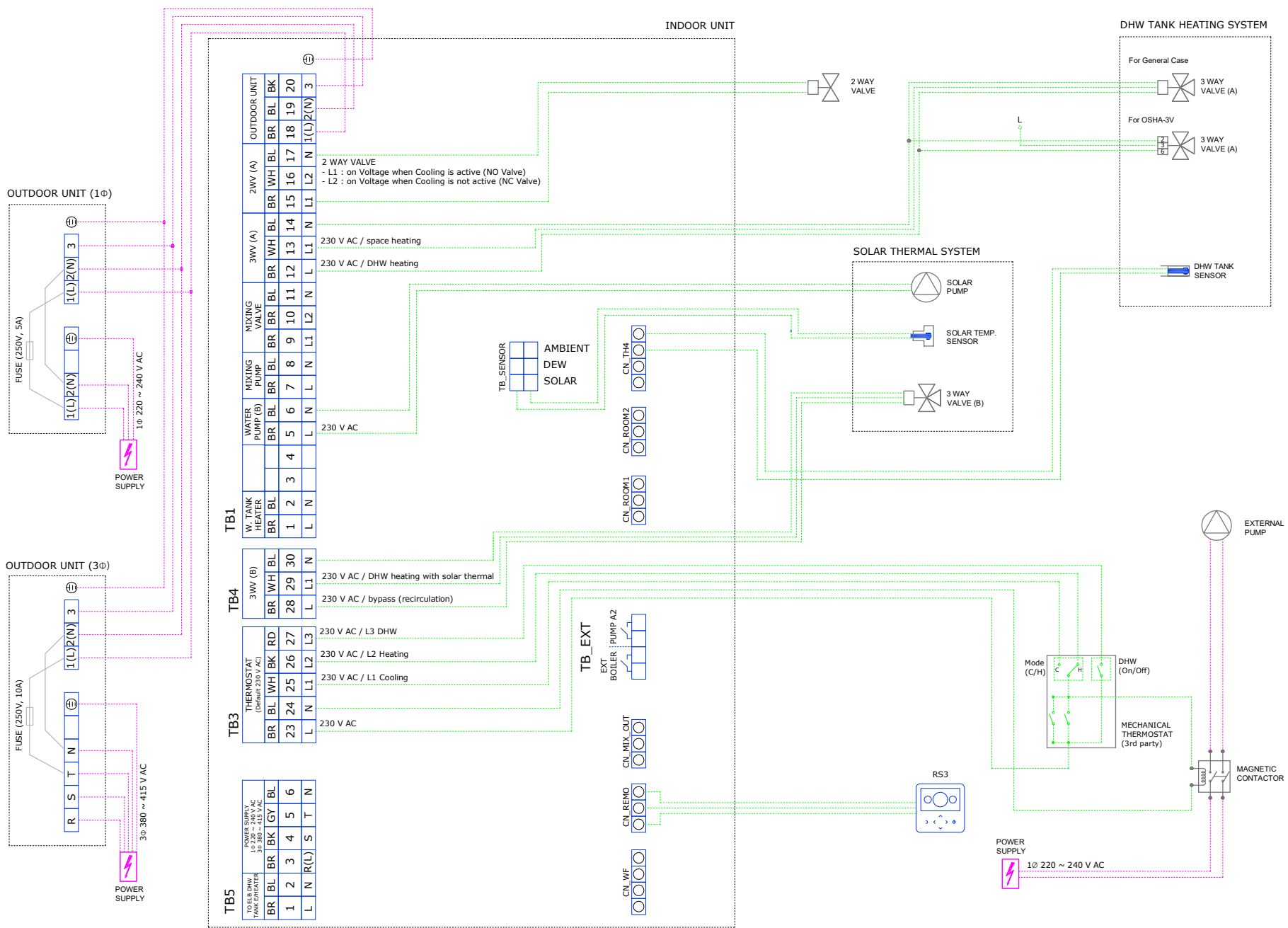
2 Way Valve for Thermostat

An isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1

ON	OFF	1	2	3	4	5	6	7	8
----	-----	---	---	---	---	---	---	---	---

SW2

ON	OFF	1	2	3	4	5	6	7	8
----	-----	---	---	---	---	---	---	---	---

		DIP SW1								X: OFF / O: ON
MODE/RS	Communication Type	Master (Link to LC controller)	X							
	Slave (Link to 3rd party controller)		O							
MODE/RS	Function	REGINE		X						
	Unified Open Protocol		O							
Antifreeze Mode	Antifreeze is not applied								X	
	Antifreeze is applied (Adjustable anti-freeze temp.)								O	
		default setting	X	X					X	
		DIP SW2								
Indoor Unit Type	As Master	X								
Setting for Group Control	As Slave	O								
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)		X	X						
	Heat pump + DHW tank are installed		X	O						
	Heat pump + DHW tank + Solar thermal system are installed		O	X						
Heat Pump Cycle	Heating only			X						
	Heating and cooling			O						
Remote Room Air Sensor (Accessory)	Remote room air sensor is not installed				X					
	Remote room air sensor is installed				O					
Selecting Backup Heater Capacity	Backup heater is not used			X	O					
	Full capacity is used			O						
Thermostat Installation	Thermostat is not installed								O	
	Thermostat is installed								X	
		default setting	X	X	X	X	X	O	O	X

OUTDOOR UNIT MAIN PCB

SW1

ON	OFF	1	2
----	-----	---	---

SW2

























ON	OFF	1	2	3	4
----	-----	---	---	---	---

		DIP SW1		X: OFF / O: ON
Low Noise Mode	Always mode : Maintain low noise mode for target temperature		X	
	Partial mode : Escape low noise mode for target temperature		O	
		default setting	X	
		DIP SW2		
Peak Control	Max mode		X	X
	Peak control Step 1 : To limit maximum current (Power saving)		O	X
	Peak control Step 2 : To limit maximum current (Super Power saving)		X	O
		default setting	X	X

- NOTE**
- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
 - Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve		Check Valve		RS3 Remote Controller
	Expansion Tank		Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent		Differential Pressure Valve		Y-type strainer		Dry Contact
	Pressure Gauge		Thermostatic Mixing Valve		Flow Sensor		Wi-Fi Modem
	Flexible Connection		Shut Off Valve		Magnetic Contactor		Thermostat
	Drain		Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories		
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1
Cover Plate	A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.	PDC-HK10
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMD200
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
External Boiler	An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V. The external boiler should have a integrated or dedicated circulation pump. Controlled by THERMA V with voltage free contact switch.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST

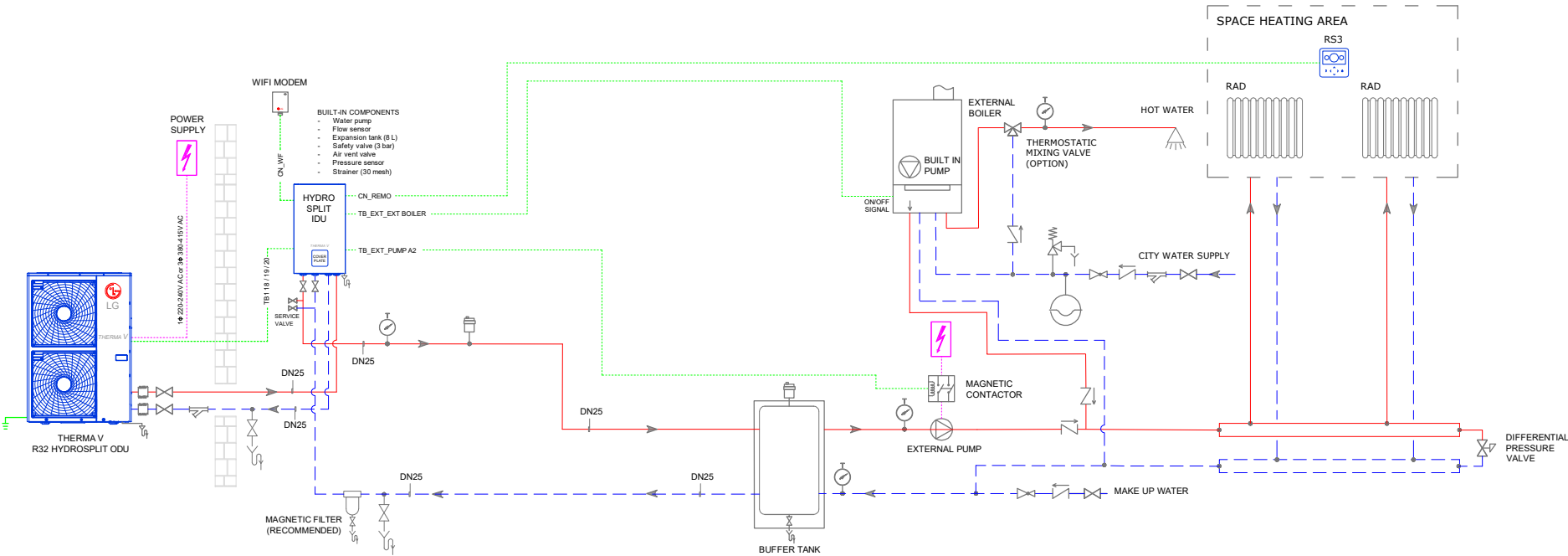
Full Name	LG Part No.	Scope of supply	
		LG	3rd party
2 Remo Cable	PZCWRC2	O	
2way Valve	-		O
3way Valve	OSHA-3V	O	O
Air Vent Valve	-		O
Buffer Tank	For IWT, OSHB-40KT	O	O
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	O	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	O	O
Circuit Breaker	-	O	O
Check Valve	-		O
DHW Booster Heater	Integrated with DHW Tank	O	O
Dry Contact	PDRYCB000 PDRYCB320	O	
Direct Digital Controller	-		O
Differential Pressure Valve	-		O
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	O	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	O	
Drain Valve	-		O
External Boiler	-		O
Energy Meter	-		O
External Pump	-		O
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	O	O
Flexible Connection	-		O
Fan Coil Unit	-		O
Flow Sensor	-		O
Heat Meter	-		O
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	O	O
Isolation Valve	-		O
Magnetic Contactor	-	O	O
Magnetic Filter	-		O
Meter Interface	PENKTH000	O	
Mixing Pump	-		O
Mixing Zone Temperature Sensor	PRSTAT5K10	O	
Mixing Valve	-		O
Pressure Gauge	-		O
Plate Heat Exchanger	-		O
Radiator	-		O
Remote Room Air Temperature Sensor	PQRSTA0	O	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	O	
Solar Pump	-		O
Safety Relief Valve	-		O
Strainer	-		O
Solar Temperature Sensor (PT-1000)	-		O
Service Valve	-		O
Thermostat	-		O
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	O	O
Under Floor Heating Coil	-		O
Wi-Fi Modem	PWFMD200	O	
Water Temperature Sensor	-		O
Extension Wire for RS3 Controller	PZCWRC1	O	
Cover Plate	PDC-HK10	O	
Drain Pan	PHDPC	O	
LG Central Controller	PACEZA000 (AC Ez Touch) PACSSA000 (AC Smart 5) PACP5A000 (ACP 5)	O	
PI485 Gateway	PMNFP14A1	O	

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with External Boiler
Product	R32 Hydrosplit Hydro Box (New IDU, HN1600MC NK1)
Terminal Device	RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS



NOTE

1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
3. Must fit the insulations on the entire water piping including valves and connections.
4. In a cold climate region, water drainage from outdoor unit must be frost-proof.
5. Please be aware of that an installer need to set the water outlet temperature from a gas boiler as required water temperature for own hydraulic system and also change the capacity of the gas boiler for own hydraulic system accordingly.
6. Beware that when the gas boiler is active it's only controlled by the outdoor temperature.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.
Hydro Box & IWT : attached with indoor unit as a default, detachable and extendable up to max. 50m using extension cable (PZCWRC1)

Extension Wire for RS3 Controller (PZCWRC1)
Cable length 10m

Cover Plate (PDC-HK10)

A device to fill the blank space of the Indoor Unit front panel when the remote controller is relocated indoors.

Wi-Fi Modem (PWFMD200)

A control device that enables wireless communication with internet router.
Including USB cable 0.6m and extension cable 0.5m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank.
Controlled by THERMA V with 230V power.
Operating time 3s.

Domestic Hot Water Tank

(OSHW-200F/300F/500F)
A insulated stainless steel hot water tank with 2.4kW electric heating (230V).
Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

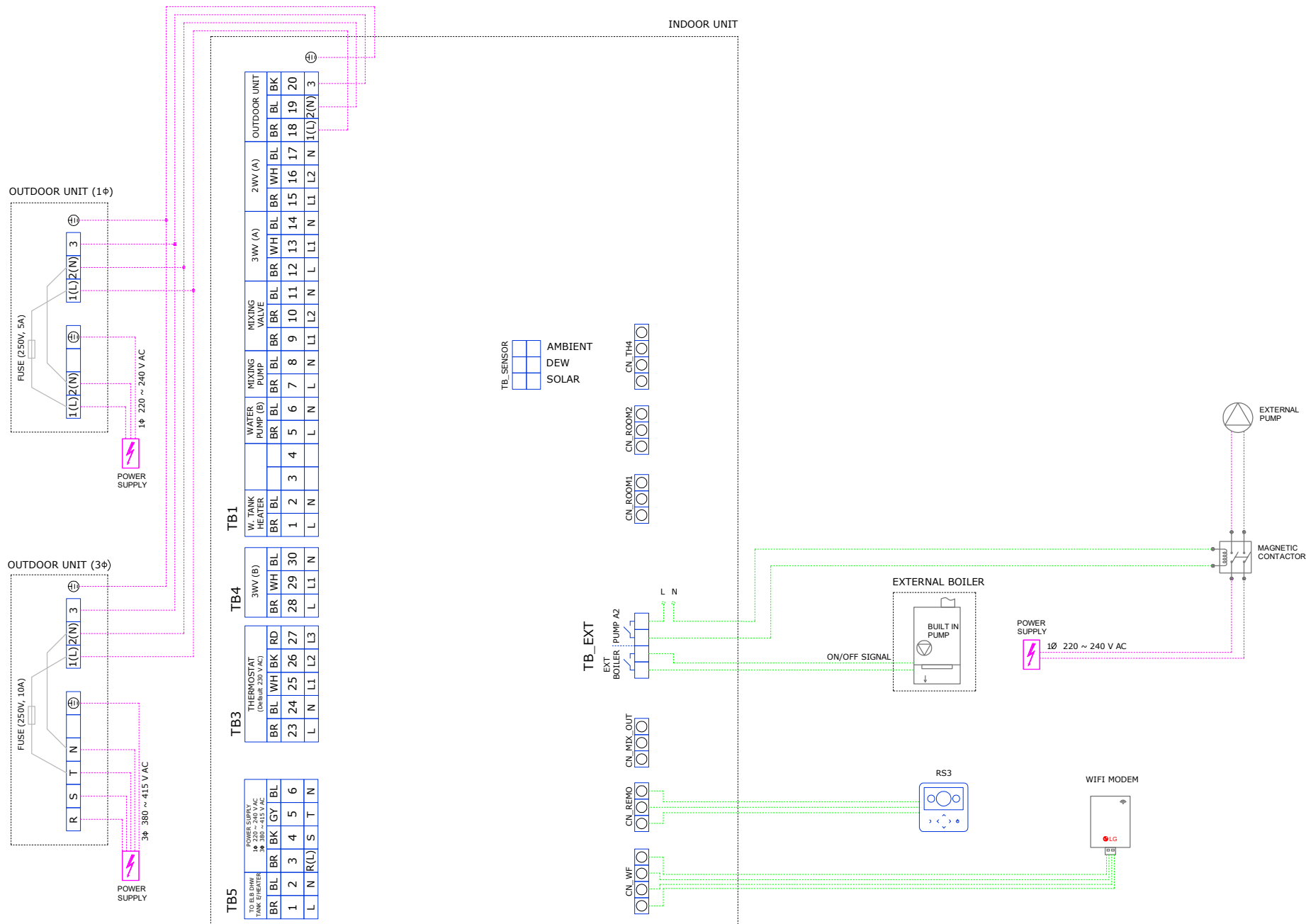
External Boiler

An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V. The external boiler should have a integrated or dedicated circulation pump.
Controlled by THERMA V with voltage free contact switch.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

WIRING DIAGRAM



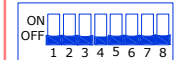
DIP SWITCH SETTINGS

INDOOR UNIT MAIN PCB

SW1



SW2



		DIP SW 1		X: OFF / O: ON							
MODEBUS Communication Type	Master (Link to LG controller)	X		1	2	3	4	5	6	7	8
	Slave (Link to 3rd party controller)										
MODEBUS Protocol	RS-485		X								
	Unified Open Protocol		O								
Antireth Mode	Antireth is not applied									X	
	Antireth is applied (Adjustable antireth time)										X
	default setting	X	X								O
		DIP SW 2		1	2	3	4	5	6	7	8
Indoor Unit Type Setting for Group Control	As Master										
	As Slave		O								
Accessory Installation Information	Heat pump installation (Heating or cooling circuit only)			X	X						
	Heat pump + DHW tank are installed			X	O						
Heat Pump Cycle	Heat pump + DWH tank + Solar thermal system are installed			O	X						
	Heating only							X	O		
Remote Room Air Sensor (Accessory)	Heating and cooling										
	Remote room air sensor is not installed								X	O	
Selecting Backup Heater Capacity	Remote room air sensor is installed									X	X
	Backup heater is not used									X	O
Thermostat Installation	Full capacity is used								O	X	
	Thermostat is not installed										X
	Thermostat is installed										X
	default setting	X	X	X	X	X	X	X	O		X

OUTDOOR UNIT MAIN PCB

SW1



SW2



			X : OFF / O : ON
Low Noise Mode	DIP SW 1		2
	Always mode : Maintain low noise mode for target temperature	X	
	Partial mode : Escalate low noise mode for target temperature		X
	default setting	X	
Peak Control	DIP SW 2		1 2
	Max mode	X	X
	Peak control Step 1 : To limit maximum current (Power saving)	O	X
	Peak control Step 2 : To limit maximum current (Super Power saving)	X	O
	default setting	X	X

NOTE

1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.