





PDI (Power Distribution Indicator)

PQNUD1S40 (Premium, 8 ports) / PPWRDB000 (Standard, 2 ports)

PDI shows distributed power consumption of up to 128 indoor units.

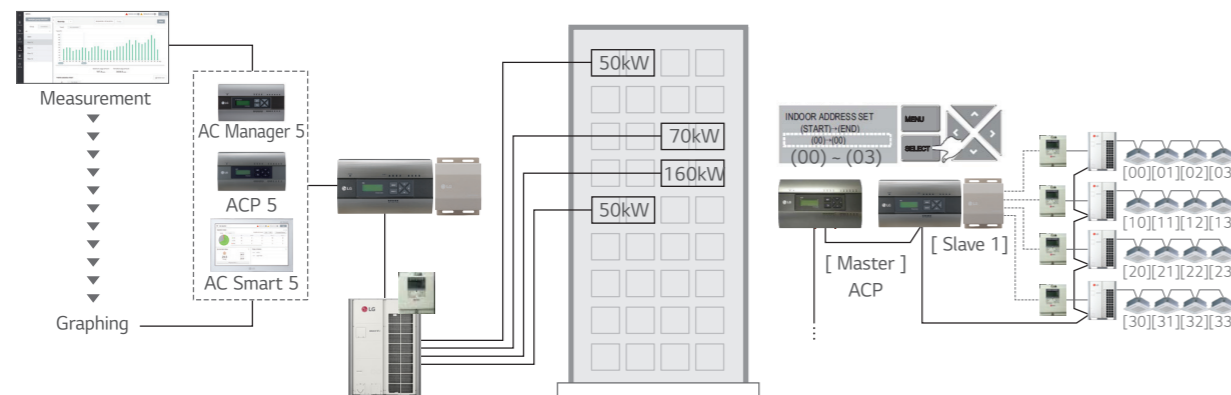
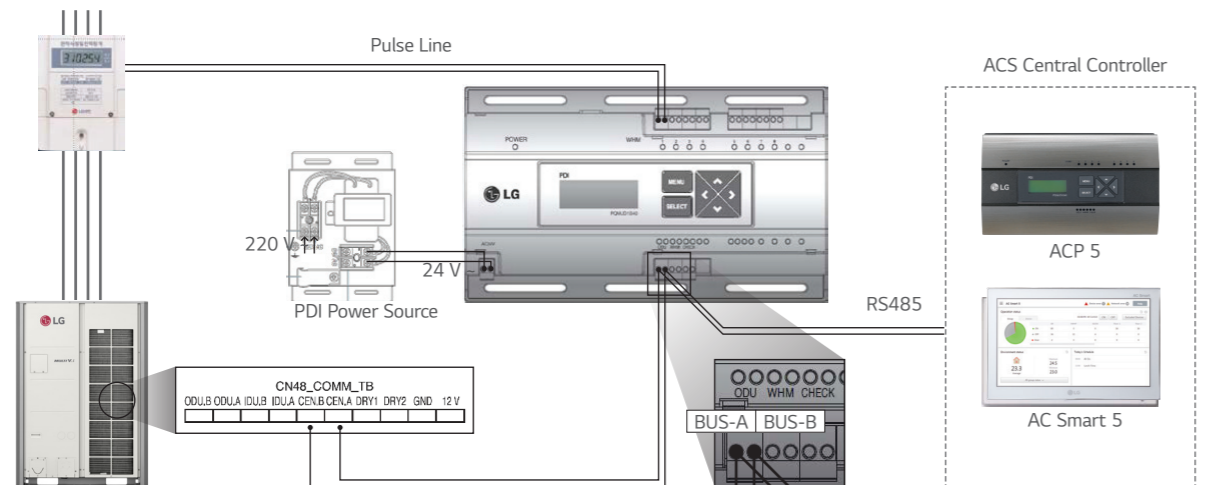


Features & Benefits

- Enables total and indoor power consumption monitoring.
- With LG central control connectivity, energy monitoring, energy savings operations and target usage setting functions are enabled.
- Enables gas consumption and electricity distribution.

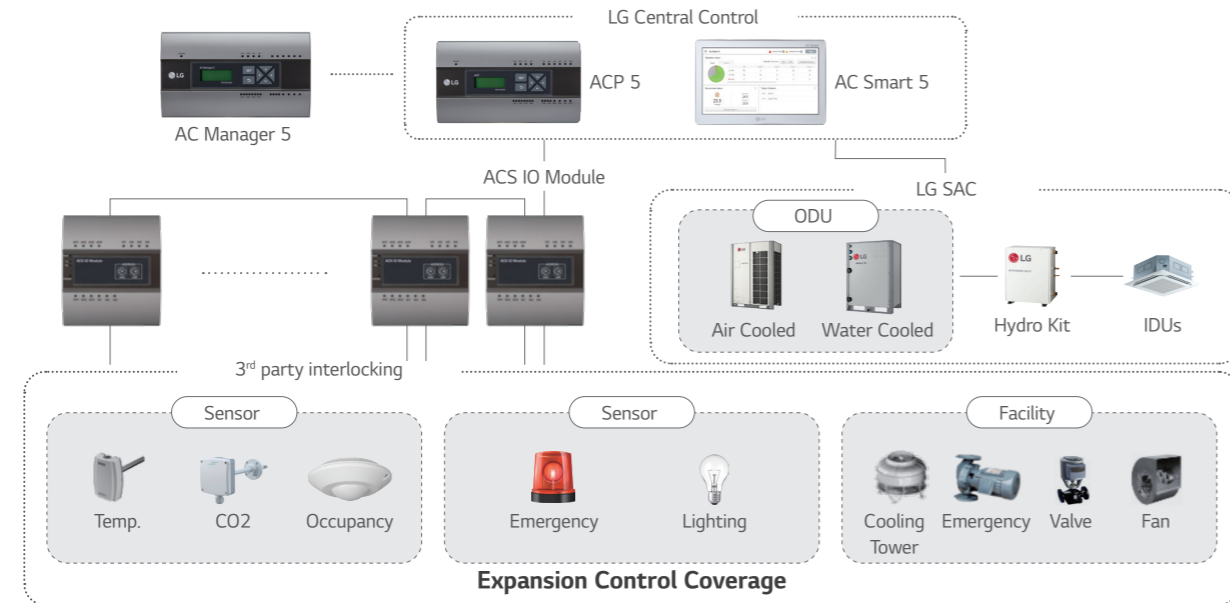
MODEL NAME	PQNUD1S40	PPWRDB000
Size (W x H x D, mm)	270 x 155 x 65	
Interfaceable Products	Air conditioner, ERV DX, Hydro kit, Thermal V	
Maximum Number of Power Meters	EHP : 8 Watt meter GHP : 4 Watt meter / 4 Gas meter	EHP : 2 Watt meter GHP : 1 Watt meter / 1 Gas meter
Maximum Number of Indoor Units	EHP : 128 GHP : 64	
Data Backup When Power Outage	○	
Power Input	PDI : AC 24V, Transformer : AC 220V	

※ ○ : Applied, - : Not Applied



Note:
 1. Power cable and type could be different from this scene depending on the Outdoor unit's specification.
 2. Measured power consumption could be different between PDI and Watt meter.
 3. Applicable Central Controller: ACP 5, ACP LonWorks, AC Smart 5, AC Ez Touch
 (Combination: we recommend to connect separated watt meter for Outdoor units to have correct power distribution value)

ACS IO Module

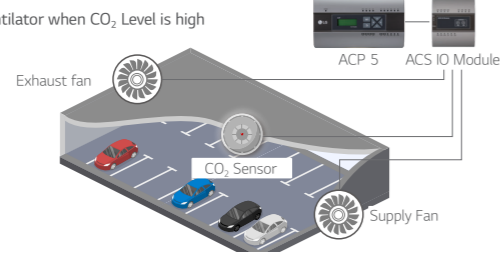


※ DI : Digital Input, DO : Digital Output, UI : Universal Input, AO : Analog Output

Case. 1

Parking Lot Ventilation

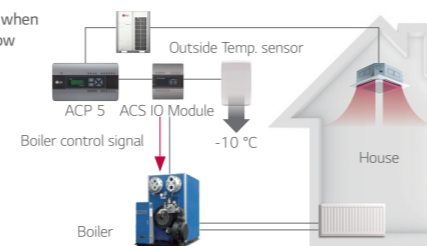
Turning on ventilator when CO₂ Level is high



Case. 1

Auxiliary Heater

Turning on aux. heater when outside temp. is very low



PEXPMB000

This module can be connected with ACP 5 or AC Smart 5 controller if additional I / O points such as DI / DO and AI / AO for 3rd party devices control and monitoring are needed.



Features & Benefits

- Interlocking with 3rd party equipment, LG Central controller can make operation scenario with 3rd party equipment by ACS IO Module.
- Control coverage is expanded. (Air conditioner only → Sensors, Fans, Pumps, Switches ...)
- Power : AC 24V (60Hz / 500mA)

MODEL NAME		PEXPMB000	
Linkable Products		PACSSA000, PACPSA000	
Communication		RS-485	
		1 ch	
I / O	Digital Input	3 ports	
	Digital Output	3 ports	
	Universal Input ¹⁾	4 ports	
	Analog Output	4 ports	
VALUE SPEC		MIN.	MAX.
Analog Input	NTC 10k	0.68kΩ	177kΩ
	PT 1000	803Ω	1,573Ω
	Ni 1000	871.7Ω	1,675.2Ω
	DC (Voltage)	0V	10V
	DC (Current)	0mA	20mA
Analog Output	-	0V	10V
Digital Input	Binary Input (Non Voltage)	-	-
Digital Output	Normal open	-	30VAC / 30VDC, 2A

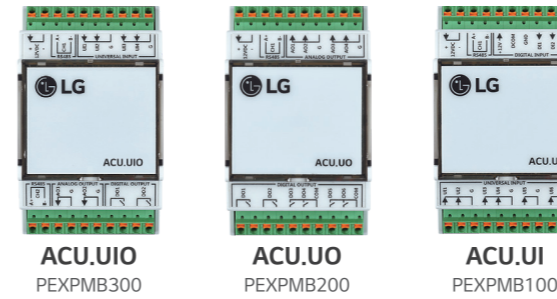
※ ○ : Applied, - : Not Applied

¹⁾ The type of UI (Universal Input) is selectable among Digital Input and Analog Input.
Note : ACS IO & ACU IO are not a replacement for Direct Digital Controller(DDC) or PLC.

ACU IO Module

PEXPMB300, PEXPMB200, PEXPMB100

This module can be connected with ACP 5 or AC Smart 5 controller if additional I / O points such as UIO / UI / UO for 3rd party devices control and monitoring are needed.



Features & Benefits

- Interlocking with 3rd party equipment LG Central controller can make operation scenario with 3rd party equipment by ACU IO Module.
- Applicable devices are expanded. (Air conditioner only → Sensors, Fans, Pumps, Switches ...)
- Power : 12VDC / 250mA (External Power)

MODULE NAME	PEXPMB300	PEXPMB200	PEXPMB100
Linkable Products		PACSSA000, PACPSA000	
Communication RS-485	1 ch	1 ch	1 ch
Digital Input	-	-	3 ports
Digital Output	2 ports	6 ports	-
Universal Input ¹⁾	4 ports	-	6 ports
Analog Output	2 ports	4 ports	-

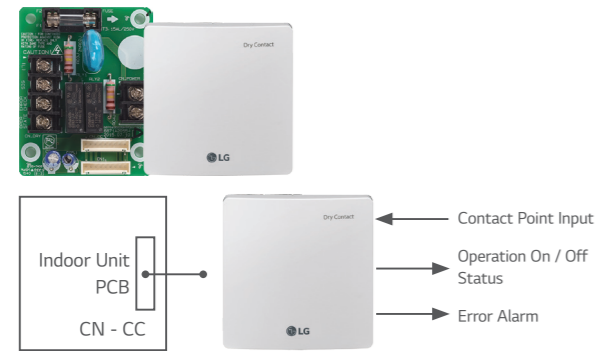
VALUE SPEC		MIN.	MAX.
Analog Input	DC (Voltage)	0V	10V
Analog Output	DC (Voltage)	0V	10V
Digital Input	Binary Input (Non Voltage)	-	-
Digital Output	Normal Open	-	30VDC, 1A

※ ○ : Applied, - : Not Applied

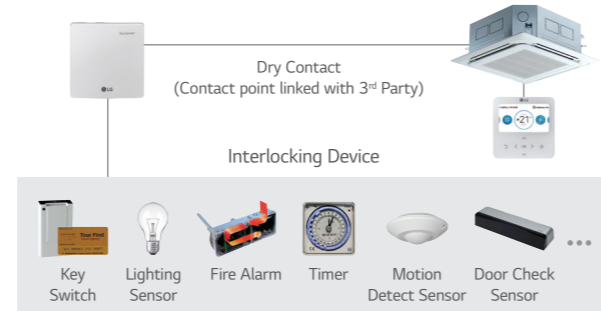
¹⁾ The type of UI (Universal Input) is selectable among Digital Input and Analog Input.

DRY CONTACT

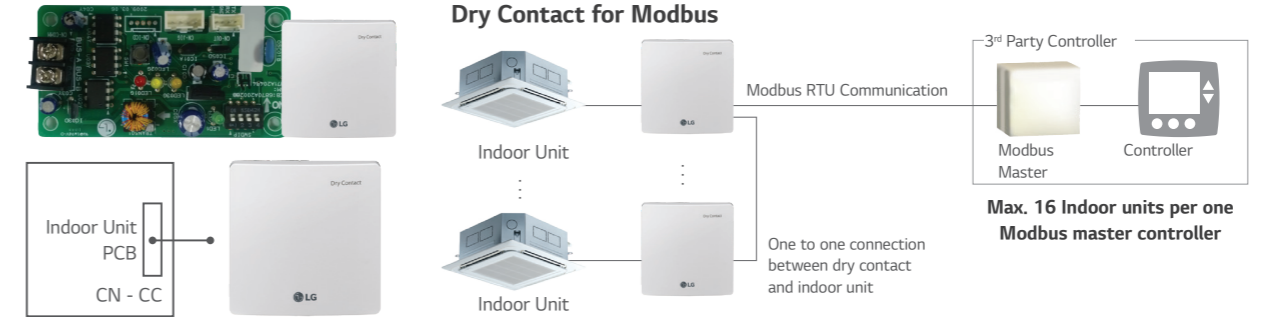
PDRYCB000



Simple Dry Contact (1 input)



PDRYCB500 / PDRYCB510*



※ Please contact our regional office to check the compatibility with 3rd party room controller.
*No case for PDRYCB510

Specification

Connection between an indoor unit and external devices to control various functions.

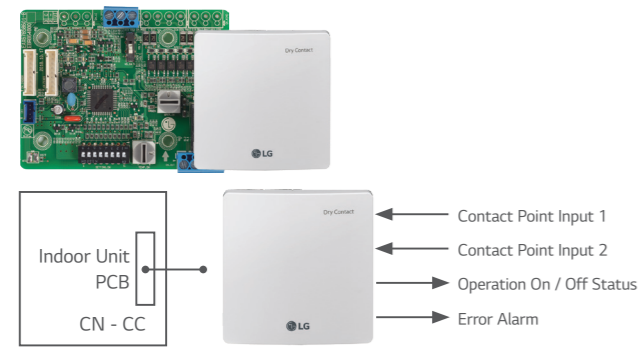
MODEL NAME		PDRYCB000	PDRYCB400	PDRYCB320	PDRYCB500 / PDRYCB510*
Case		○	○	○	○
Input Port		1	2	8	-
Universal Input port		-	-	1	-
Comm. Protocol		-	-	-	Modbus RTU
Power		AC 220V	Connect to Indoor unit PCB (CN_CC) : DC 12V		
IDU	On / Off	○	○	○	○
	Operation Mode	-	○	○	○
	Set Temp.	-	(Select & Fix)	(Select & Fix)	○
	Fan Speed	-	-	○	○
	Thermo-Off	-	(Select & Fix)	○	-
	Energy Saving	-	(Select & Fix)	-	-
	Lock / Unlock	-	(Select & Fix)	-	-
	Control				
Heating	On / Off	○	-	○	-
	DHW On / Off	-	-	○	-
	Thermo-Off	-	-	○	-
	Operation Mode	-	-	○	-
	Silent Mode	-	-	○	-
ERV	Emergency Mode	-	-	○	-
	On / Off	○	-	-	○
	Operation Mode	-	-	-	○
	Aircon Mode	-	-	-	○
	Additional Mode	-	-	-	○
Output	Fan Speed	-	-	-	○
	Operation Status	○	○	○	○
	Error	○	○	○	○
	Room Temp.	-	-	-	○

※ ○ : Applied, - : Not Applied
*No case for PDRYCB510

Note:
1. Compatibility of PDRYCB320
- Can use with all types of aircon indoor units after 2010.
(Cassette, Ducted, Convertible, Applied PAC, Wall mounted, Console)
- Can use with new single package AK-W model after 2020. 1Q
(The previous version Single package is not compatible)
- Heating : 3 series AWHP split and Monobloc models 4 generation Hydro Kit

2. Compatibility of PDRYCB400
- Can use with all types of air conditioner indoor units after 2010.
(Cassette, Ducted, Convertible, Applied PAC, Wall mounted, Console)
- Can use with new single package AK-W model after 2020. 1Q
(The previous version Single package is not compatible)
- Can not use with AWHP Hydro Kit models.
3. (Select & Fix) : This function is preset by rotary switch.

PDRYCB400



Dry Contact for 2 Input



Refrigerant Leakage Detection Alarm



PDRYCB320



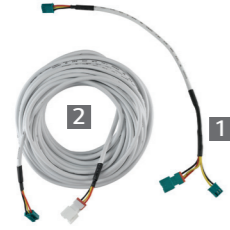
Dry Contact for Thermostat



※ Please contact our regional office to have full compatible room controller list.

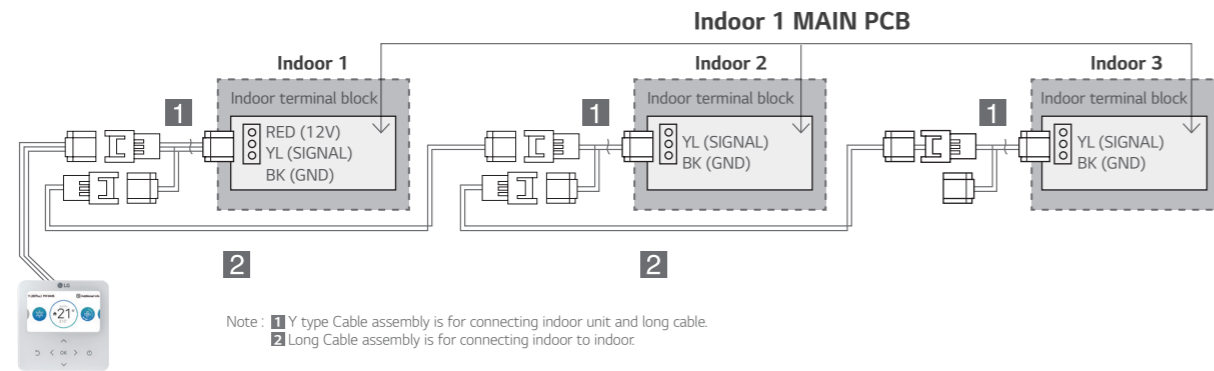
Group Control Wire

PZCWRCG3



MODEL NAME	PZCWRCG3
1 Y-type Cable	0.25m Length
2 Long Cable	9.6m Length

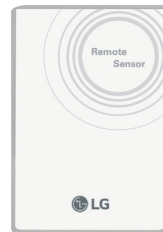
Installation Scene



Remote Temperature Sensor

PQRSTAO

Sensor for detecting the room temperature.

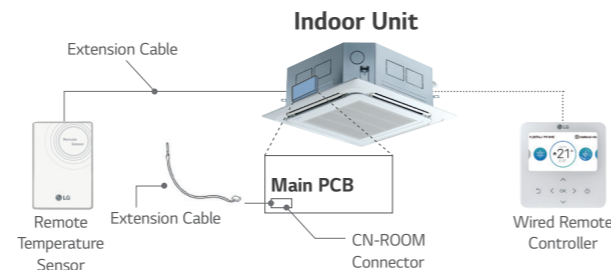


Features & Benefits

- It detects the exact room temperature instead of indoor unit's air temperature sensor.
- Applied to Ceiling Mounted Cassette, Ceiling Concealed Duct, THERMA V and Hydro Kit.
- Extension cable (15m) is included.

Installation Scene

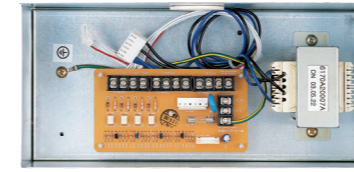
1. Wire to the control box in the indoor unit by removing the existing thermistor and connect the extension cable its place.
2. Cut the extension cable to the appropriate length and connect the screw terminal of the remote sensor.



Zone Controller

ABZCA

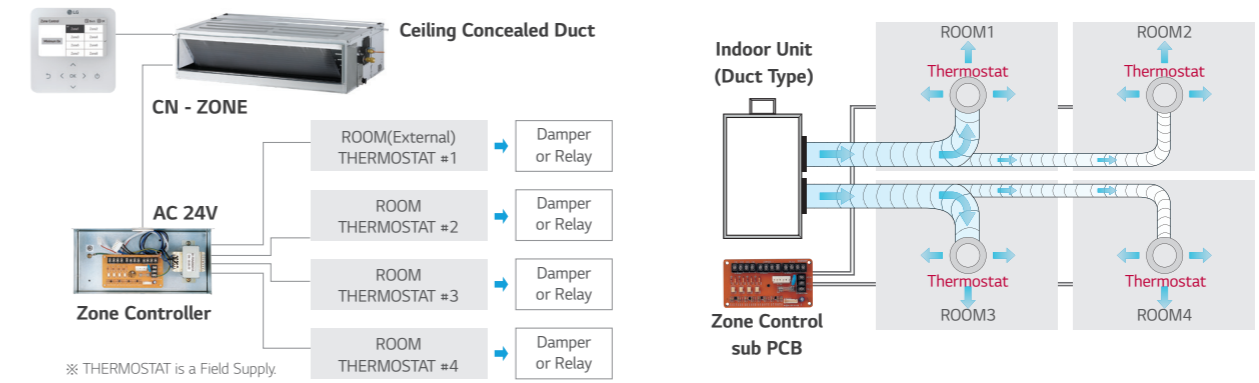
Controls air conditioning in up to 4 zones by external thermostat.



Features & Benefits

- Controls different zones (up to 4 zones) by external thermostat (AC 24V)
- Maintain proper air volume of each zone
- Auto variation of dampers
- Auto control of fan speed and On / Off operation

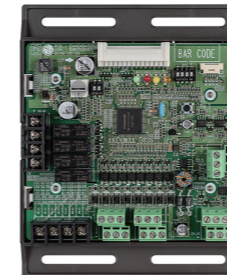
Installation Scene



IO Module

PVDSMN000

Interface module between the outdoor unit of system air conditioner and the external device.



Features & Benefits

- Function
- Demand control
 - Low noise operation
 - Output outdoor or indoor unit operation status
 - Output error status

Description

- IO Module is communication interface module for connection between MULTI V *i* and external IO (Input / Output Module) devices.

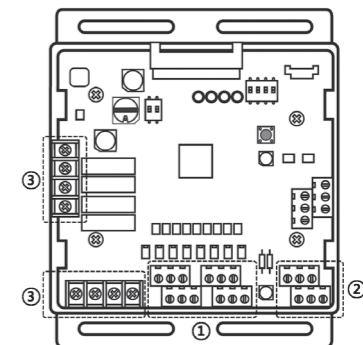
Models Applied

- MULTI V IV, 5, *i*
- MULTI V WATER 5
- MULTI V S

Note : IO Module is not compatible for Multi V III and Multi V S R32.

Part Description

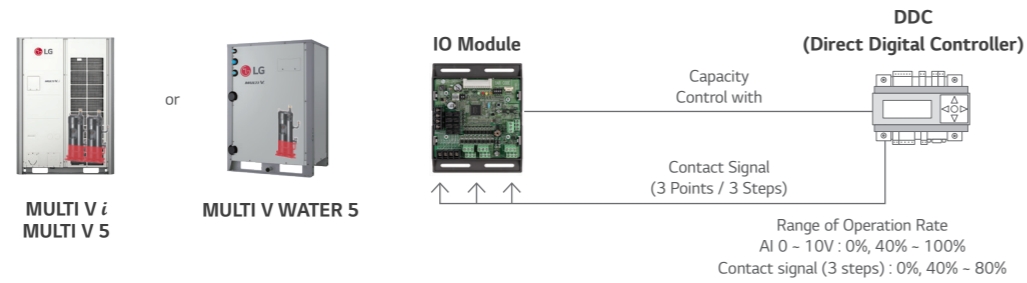
- 1) Digital Input Part (DI : Dry Contact Input)
 - Demand control by contact input (3 Step)
 - Low Noise Operation input
 - Priority Setting input : Setting the priority of demand control command (Capacity control for external signal from DDC vs Peak control by LG Central controller)
 - Open : External signal has priority to central controller (Default)
 - Close : Central controller has priority to external signal
- 2) Analog Input Part (AI : DC 0 ~ 10V)
 - Demand control by analog input (10 Step)
- 3) Digital Output Part (DO : AC 250V, Max. 1A)
 - Error status relay output
 - Operation status relay output
 - Valve control



IO Module

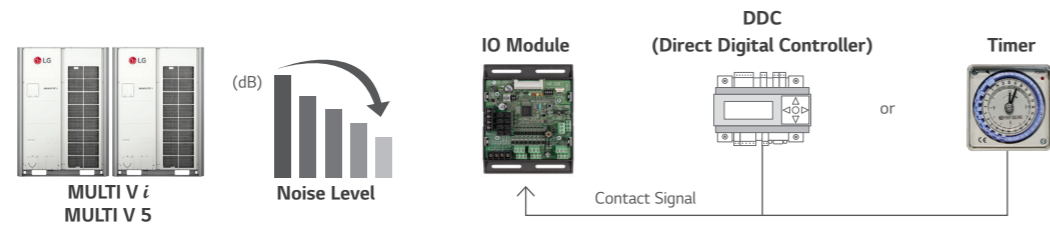
ODU Capacity Control

Provides variable settings for ODU Capacity Control according to input method to reduce the power consumption. IO Module supports 2 types of input signal : Analog Inputs (0 - 10V, 10 steps) and contact signals (3 steps)



Low Noise Operation

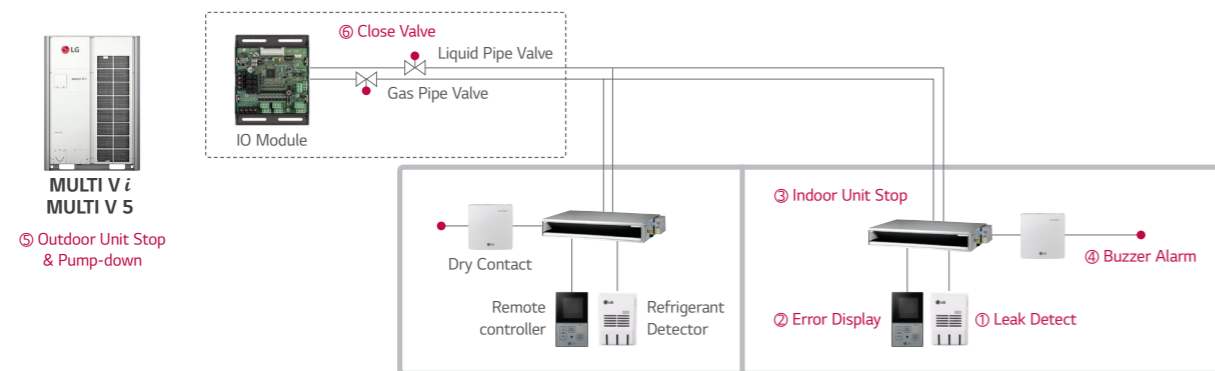
To reduce noise level, control outdoor unit's fan speed by dry contact input.



※ 8 HP (22.4kW) model, Sound power level can be changed by outdoor unit operation status and low noise operation input signal.

Refrigerant Leakage Detection with Pump-down

For safety, IO module closes refrigerant valve during Pump-down operation.

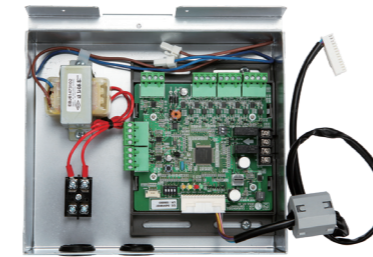


※ If the concentration of the refrigerant in the air exceeds 6,000 ppm more than 5 seconds, the function will be activated. (Refer to operation sequence which written in red, 1-6)

Variable Water Flow Control Kit

PWFCKN000 (MULTI V WATER 5)

Accessory for controlling the water flow.



Features

Function

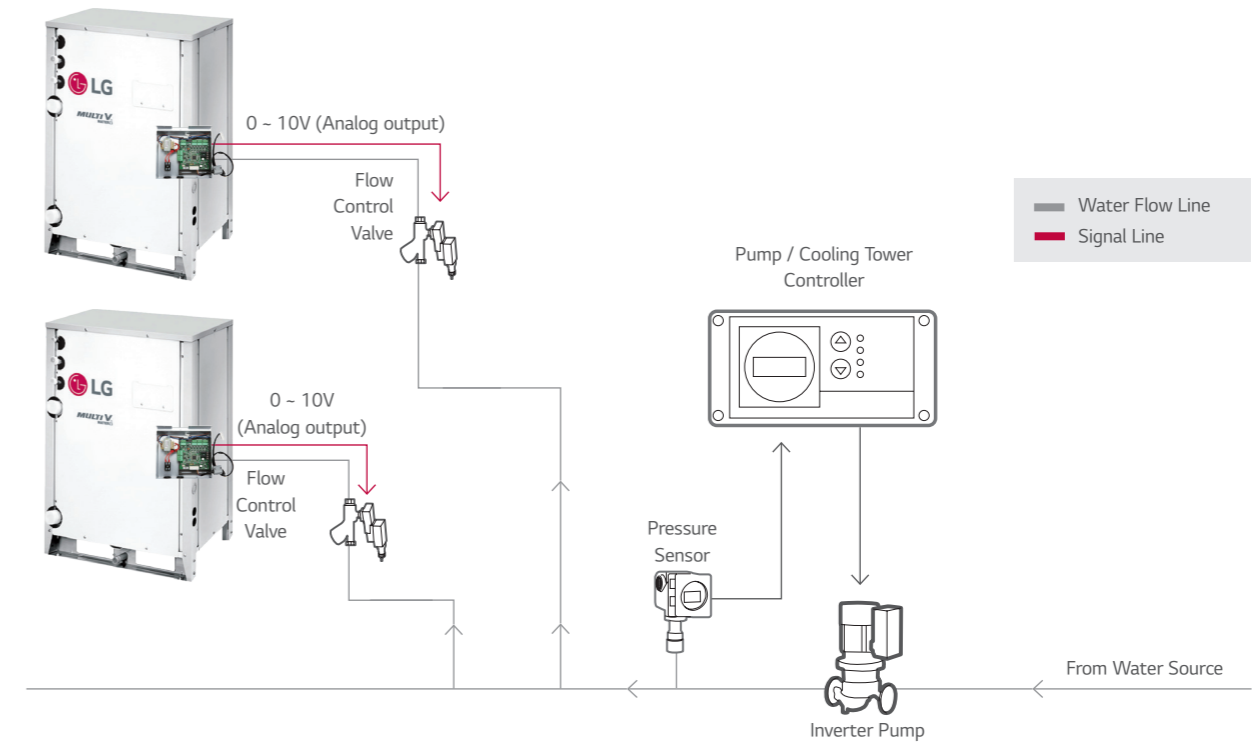
- Water pump or valve control (0 - 10V)
- Minimum output voltage setting available
- Operation, error output (AC 250V, Max. 1A)
- Dry contact input and analog output for demand control
- Digital output for operation, error status (AC 250V, Max. 1A)

Description

- Water flow consumption reduction
- Pump electricity consumption reduction
- Including IO Module (Dry contact input, Analog input / output, Digital output)
- Using Dry contact and variable water flow control function simultaneously.

Installation Scene

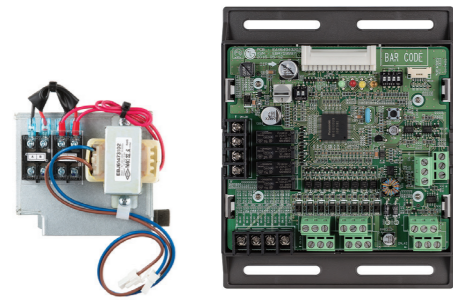
- Flow Control Valve : Regulates the flow or pressure of a fluid, normally responding to signals generated by independent devices.
- Flow Meter : Measures mass flow rate of a fluid traveling through a tube. (The mass flow rate is the mass of the fluid traveling past a fixed point per unit time.)
- Pressure Sensor : Measures the pressure.



Low Ambient Kit

PRVC2

External integration module for cooling operation with -25 °C low ambient temperature.



Features

Function

- 25 °C Low ambient cooling operation by Low ambient kit and hood with damper (Analog output 0 ~ 10V)
- Demand control
- Low noise operation
- Output outdoor or indoor unit operation status (AC 250V, Max. 1A)
- Output error status (AC 250V, Max. 1A)

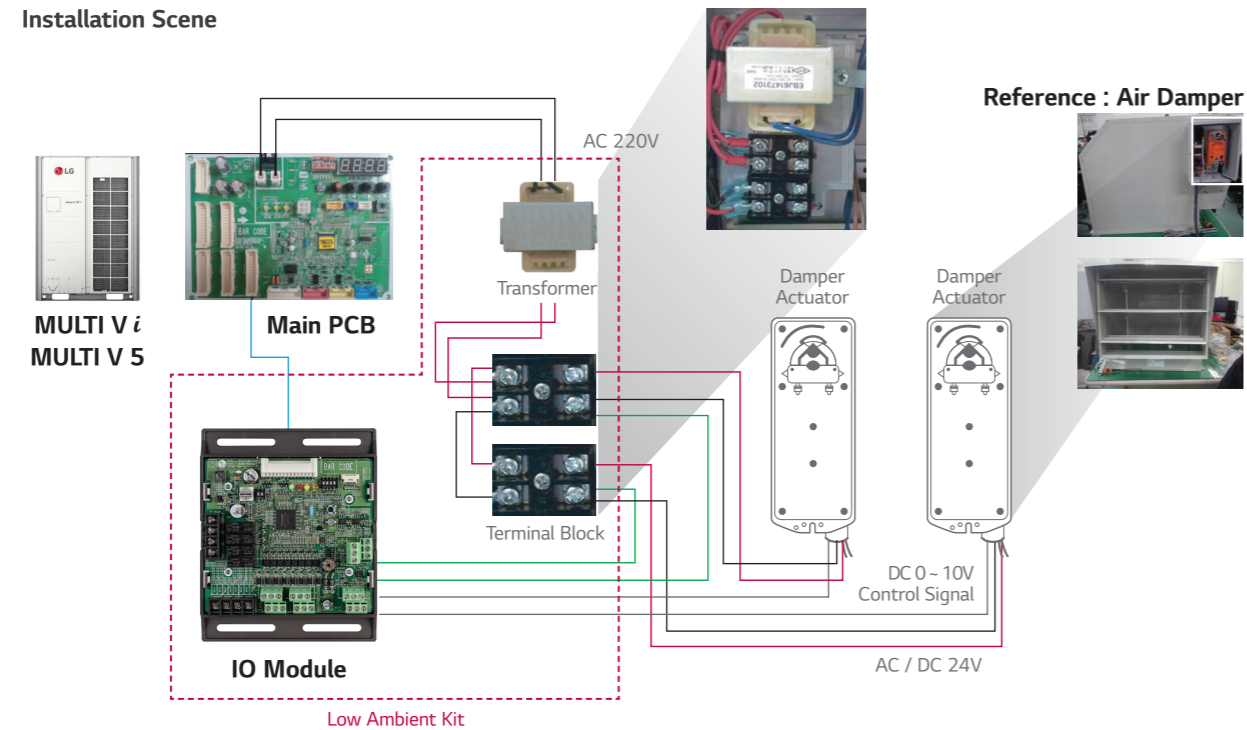
Description

- Low ambient kit supports -25 °C cooling operation by making stable condensing pressure with reducing air flow rate from hood and damper control given 0 ~ 10V proportional to condensing pressure.
- Low ambient kit provides IO Module function.
- External snow hood and air damper are required for this item.
- Transformer and terminal block are included.

Models Applied

- MULTI V i
- MULTI V 5

Installation Scene



- Note
- Damper Actuator can accept only DC 24V power input.
 - Do not input AC power. Otherwise it will cause a serious damage.
 - The IO Module can control maximum three actuators.
 - Case of one valve, the slave signal connector must not use.
 - The power (AC / DC 24V) and signal (DC 0 ~ 10V) line is recommended by AWG22 (1/32 in, (0.644 mm), 0.016 Ω / ft (0.053 Ω / m)).

Cool / Heat Selector

PRDSBM

Cooling only, heating only, and fan mode can be selected.



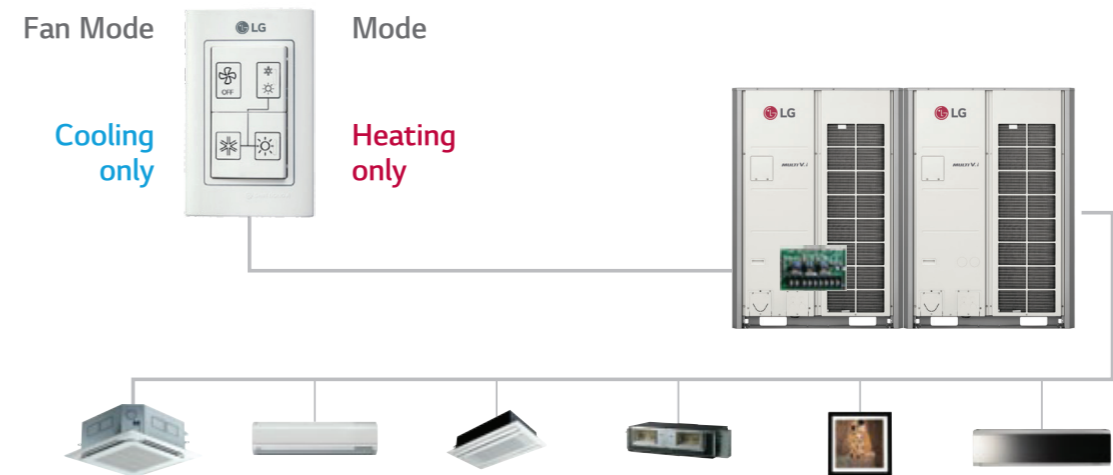
Features

- Indoor unit mode control without central controller.
- Select operation mode : Cooling, Heating, Fan mode
- Mode lock for cooling & heating mixing error-proof during the change of season.

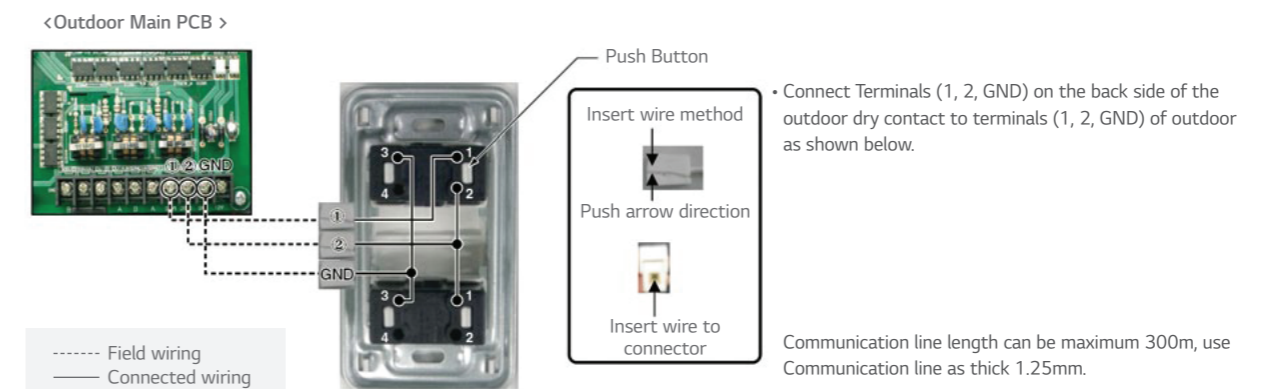
Models Applied

- MULTI V i
- MULTI V 5
- MULTI V IV
- MULTI V WATER S
- MULTI V WATER II
- MULTI V S
- MULTI V PLUS II, MULTI V PLUS
- MULTI V WATER IV
- MULTI V WATER 5

Note : Cool / Heat Selector is not compatible for Multi V S R32.



Installation Scene



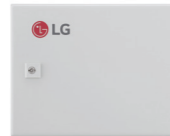
AHU Kit

A solution to connect LG's high efficiency system to the DX coil of an air handling unit for maximum energy savings.

COMMUNICATION KIT



PAHCMR000



PAHCMS000

CONTROL KIT



PAHCNM000

EEV KIT



PRLK048A0
PRLK096A0

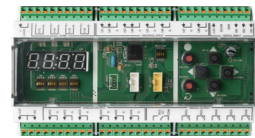


PRLK396A0

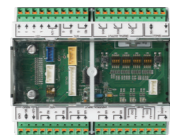


PRLK594A0

CONTROLLER MODULE



PAHCMM000



PAHCMC000

Specification

Control Application Kit

TYPE	MODEL	DIMENSIONS (MM)			POWER SUPPLY	IP RATING	DESCRIPTION
		W	H	D			
Communication Kit	PAHCMR000	300	300	155	1Ø, 220 ~ 240 V, 50 / 60 Hz	IP66	Return / Room air temperature control by DDC or LG individual / centralized controller.
	PAHCMS000	380	300	155	1Ø, 220 ~ 240 V, 50 / 60 Hz	IP66	Discharge air / Supply air temperature control by DDC or LG individual / centralized controller
Controller Module	PAHCMM000	162	90	61	DC 12V	IP20	Main Controller module
	PAHCMC000	108	90	61	DC 12V	IP20	Communication Controller module
Control Kit	PAHCNM000	500	500	210	1Ø, 220 ~ 240 V, 50 / 60 Hz		Various AHU control functions with multiple DX coils (Maximum connectable ODU is 3 units)

Expansion Application Kit

TYPE	MODEL	DIMENSIONS (MM)			PIPE DIAMETER (MM)	CAPACITY INDEX RANGE
		W	H	D	LIQUID	
EEV Kit	PRLK048A0	217	404	83	12.7	3.6 ~ 28 kW
	PRLK096A0	217	404	83	12.7	28.1 ~ 56 kW
	PRLK396A0	349.5	345.5	180	19.05	56.1 ~ 112 kW
	PRLK594A0	409.5	345.5	180	19.05	112.1 ~ 168 kW

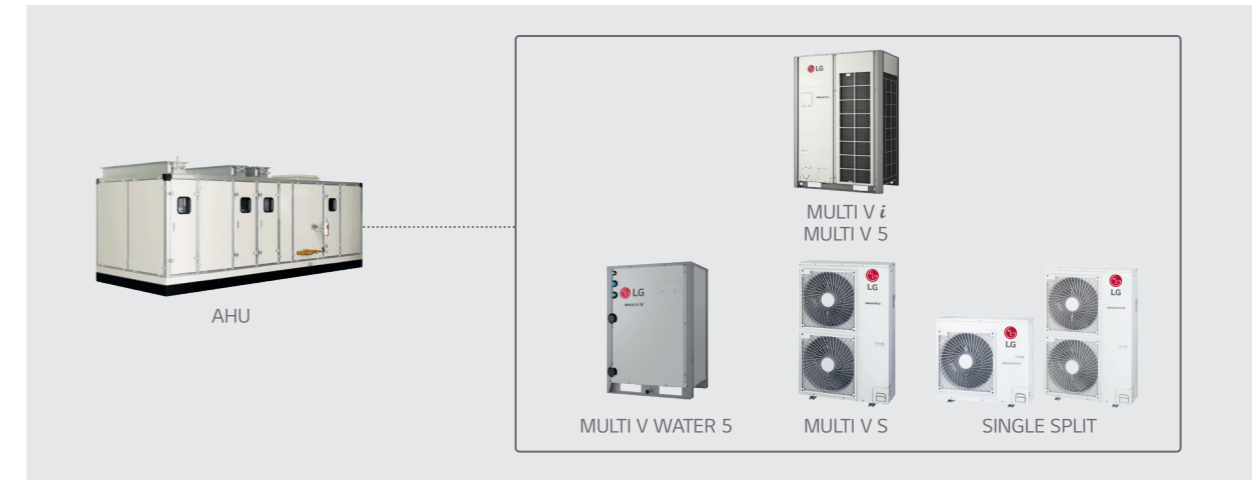
Communication Kit

High Energy Efficiency

LG's DX AHU solutions' superior performance provides a highly efficient heat source system.

- High energy efficiency inverter system
- Large range of expansion application Kit : Max. 168 kW EEV Kit 1)
- Connected to various heat sources : MULTI V, MULTI V WATER, MULTI V S, SINGLE SPLIT

1) Maximum connectable EEV capacity for PAHCMR000, PAHCMC000 is 112 kW.



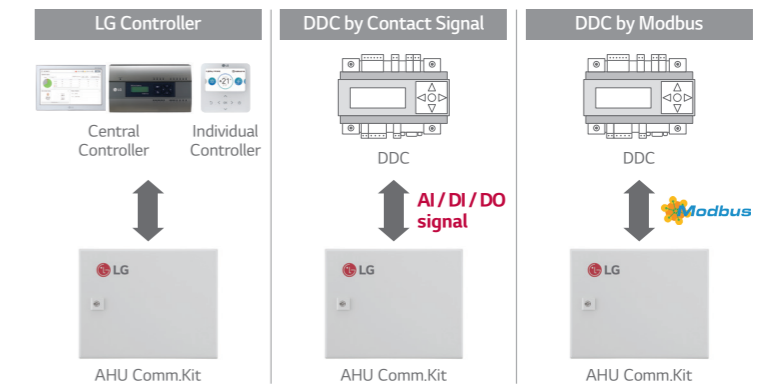
Diverse Options for Control

AHU communication kit can be connected to various control systems such as LG individual / central controller and DDC.¹⁾

It can be directly connected to DDC without separated controller, so DDC can receive product control and monitor information through contact signal or Modbus protocol.

- LG Individual / Central controller supported
 - LG controller stand alone or combination with DDC
- Direct wiring between DDC and AHU communication kit
 - Embedded Digital I / O and Analog Input
 - Modbus RTU protocol supported

1) DDC : Direct Digital Controller



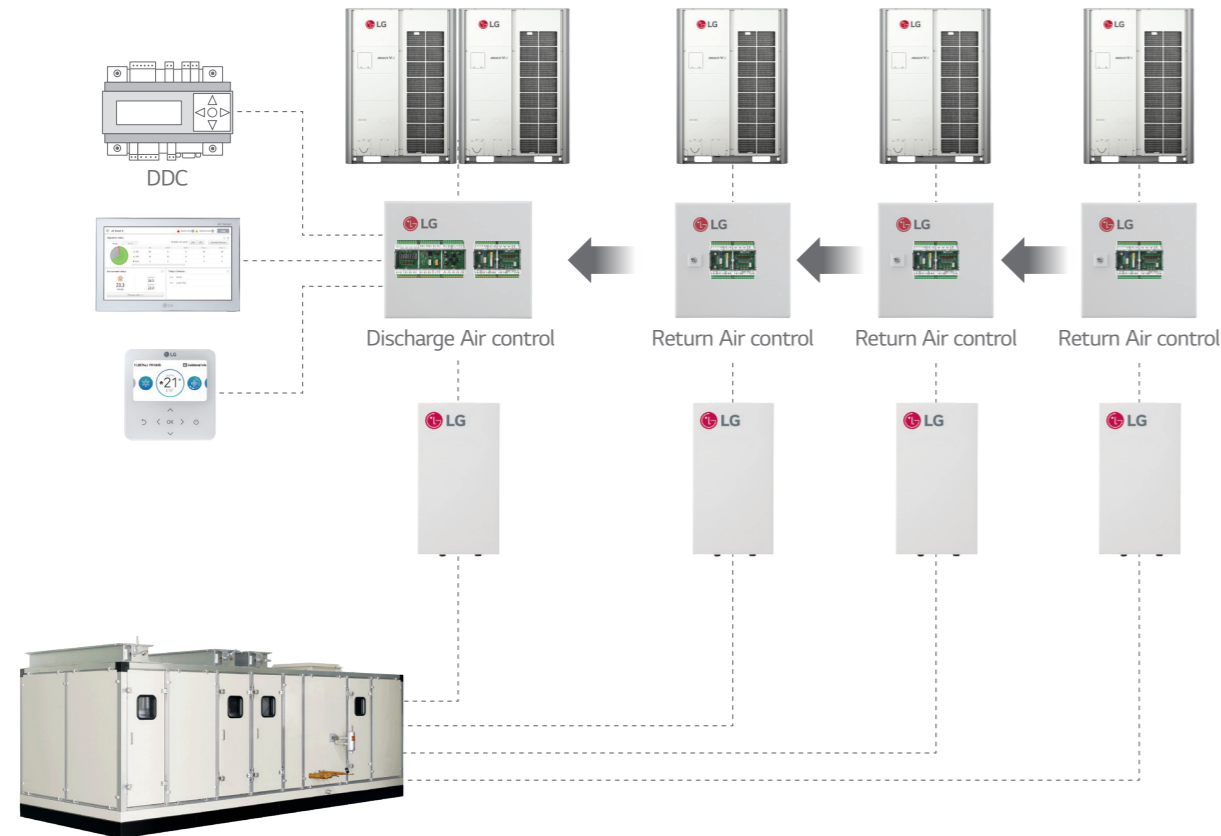
AHU Kit

Communication Kit

Expandable System Design

LG AHU system can be a suitable solution for various sites due to its application flexibility and wide range of line up with large capacity models. According to the required capacity, a single or multiple module combination is possible due to the AHU communication kit's modular design.

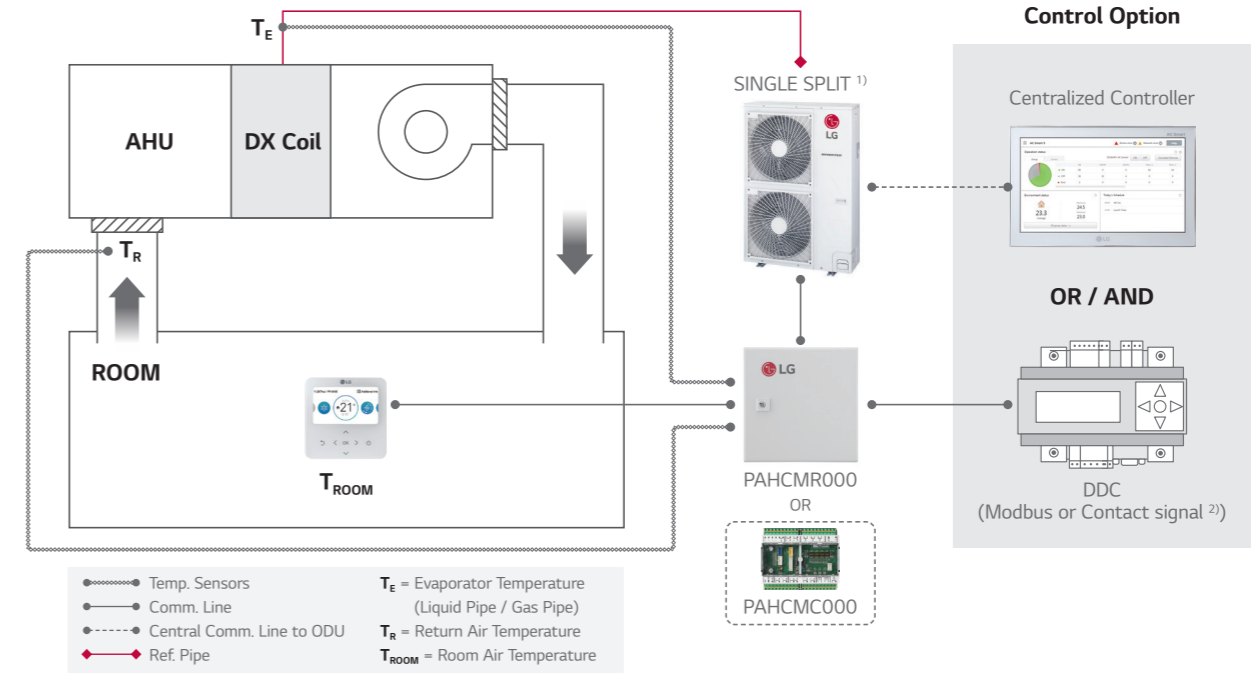
- Multiple module combination for large capacity AHU



Communication Kit & Controller Module

Single Split Application

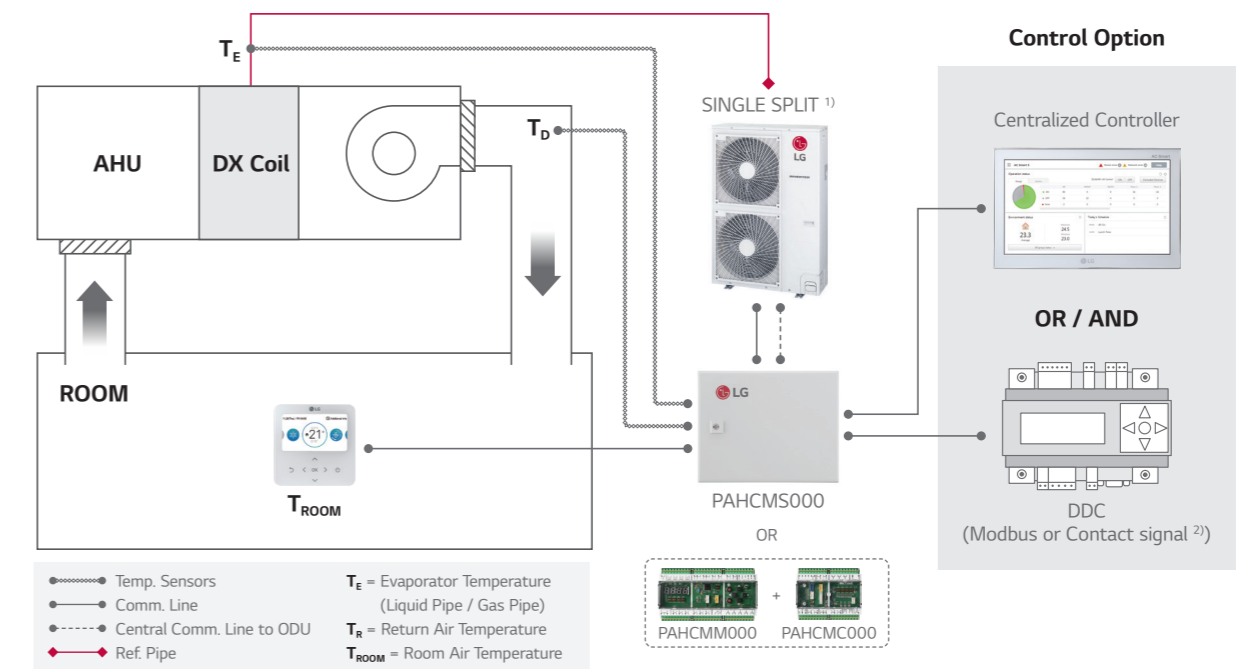
Single Split + Return / Room Air Temperature Control



1) PI485 (PMNFP14A1) is required for centralized controller.
 2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
 Note : For more detail, please refer to the PDB.

Single Split Application

Single Split + Discharge Air Temperature Control



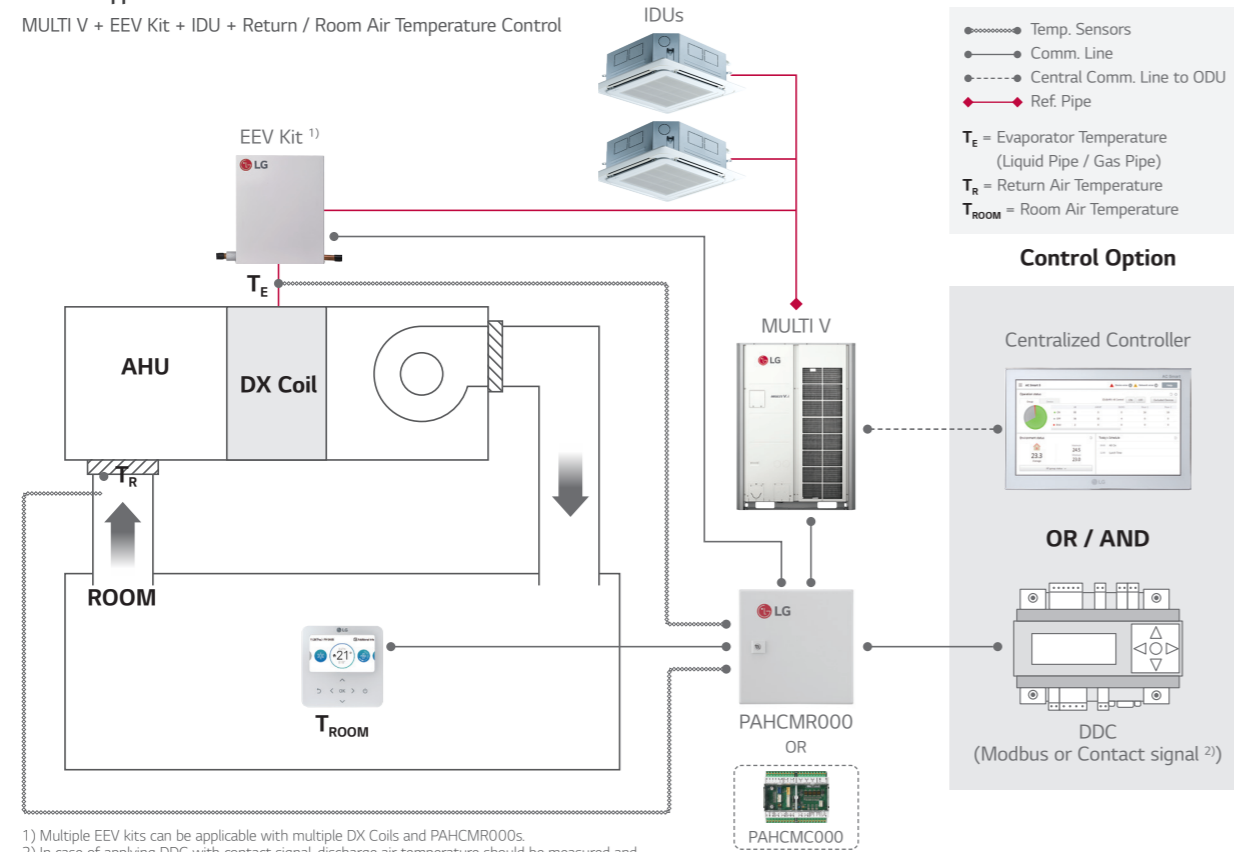
1) PI485 (PMNFP14A1) is required for centralized controller.
 2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
 Note : For more detail, please refer to the PDB.

AHU Kit

Communication Kit & Controller Module

MULTI V Application

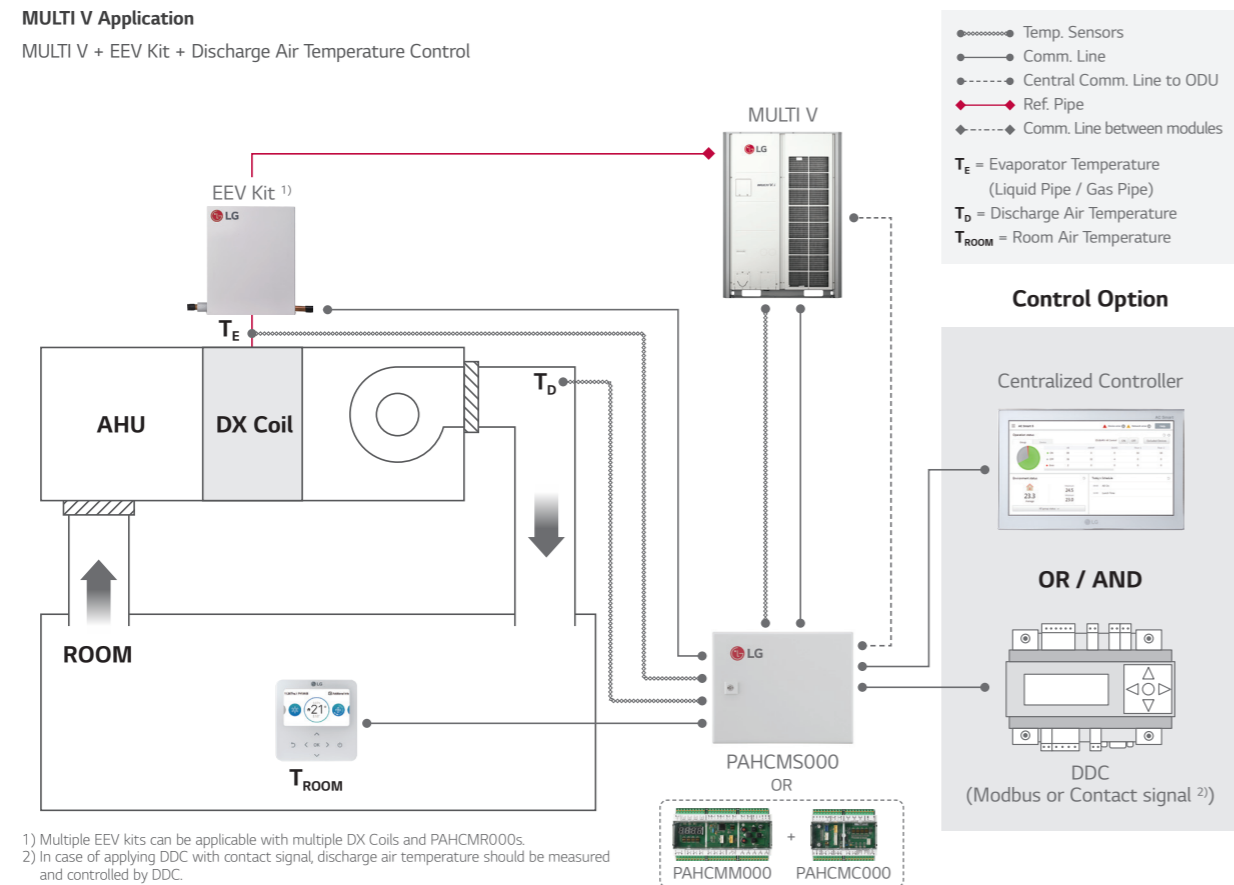
MULTI V + EEV Kit + IDU + Return / Room Air Temperature Control



1) Multiple EEV kits can be applicable with multiple DX Coils and PAHCMR000s.
 2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
 Note : For more detail, please refer to the PDB.

MULTI V Application

MULTI V + EEV Kit + Discharge Air Temperature Control



1) Multiple EEV kits can be applicable with multiple DX Coils and PAHCMR000s.
 2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
 Note : For more detail, please refer to the PDB.

Communication Kit Function

Communication with DDC via Contact Signal

FUNCTION LIST	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 + PAHCMC000)	TYPE	NOTE
Operation On / Off	On / Off	On / Off	Digital Input (Non Voltage)	-
Operation Mode	Cooling / Heating	Cooling / Heating	Digital Input (Non Voltage)	Available operation mode can vary depending on the settings of Communication Kit
Return (Room) Air Temperature ²⁾	16 ~ 30 °C	-	Analog Input (DC 0 ~ 10 V / 20mA)	-
Control ¹⁾ Discharge Air Temperature ²⁾	-	-	-	Discharge air temperature should be controller directly by DDC using 'ODU Capacity Control'
Fan Speed ³⁾	-	High / Middle / Low	Digital Input (Non Voltage)	-
Forced Thermal	On / Off	-	Digital Input (Non Voltage)	-
ODU Capacity	-	10 ~ 100%	Analog Input (DC 0 ~ 10 V / 20mA)	-
Emergency Stop	-	Stop / Normal	Digital Input (Non Voltage)	-
Operation	On / Off	On / Off	Digital Output (Max. : DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'Off' (Status), In this case, 'fan speed' cannot be monitored by DO ports
Operation Mode	-	-	-	It needs to be checked through control signal
Fan Speed	High / Middle / Low	High / Middle / Low	Digital Output (Max. : DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'On' (Fan Mode) In this case, 'On / Off, defrost, error Status' cannot be monitored by DO ports
Defrost Operation	Defrost / Normal	Defrost / Normal	Digital Output (Max. : DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'OFF' (Status), In this case, 'fan speed' cannot be monitored by DO ports
Error Alarm	Error / Normal	Error / Normal	Digital Output, Relay C contact (Max. : DC 30 V / 1 A, AC 250V / 1 A)	-
Compressor On / Off	-	On / Off	Digital Output, (Max. : DC 30 V / 1 A, AC 250V / 1 A)	-

1) Control functions for LG individual and central controller are not available in case of using together with DDC via contact signal.
 2) The range of temp. is differ depending on the type of the controller.
 3) To control fan speeds, DO port of the fan speed status should be connected to the fan control panel.
 Note : For more detail information, please refer to the product data book.

Communication with DDC via Modbus protocol

FUNCTION LIST	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 + PAHCMC000)	NOTE
Operation On / Off	On / Off	On / Off	
Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	
Return (Room) Air Temperature	16 ~ 30 °C	-	
Control ¹⁾ Discharge Air Temperature ²⁾	-	○	Dip SW1-2 Discharge Temp. Control Type should be set 'On' Standard II : 16 ~ 30 °C Standard III ⁴⁾ : 12 ~ 50 °C
Fan Speed ³⁾	High / Middle / Low	-	
Forced Thermal On / Off	-	-	
ODU Capacity Control ²⁾	-	10 ~ 100%	Dip SW1-2 Discharge Temp. Control Type should be set 'On'
Emergency Stop	-	-	
Operation	On / Off	On / Off	
Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	
Return (Room) Air Temperature	○	-	Corresponding air temperature sensor connected to AHU Comm.Kit is required
Discharge Air Temperature	-	○	
Fan Speed	High / Middle / Low	High / Middle / Low	
Defrost Operation	Defrost / Normal	Defrost / Normal	
Error Alarm	Error / Normal, Error code	Error / Normal, Error code	
Compressor On / Off	On / Off	On / Off	

※ ○ : Applied, - : Not Applied
 1) Control functions for LG individual and central controller are not available in case of using together with DDC via contact signal.
 2) In case of PAHCMS000, control type between "Discharge Air Temperature" and "ODU Capacity Control" is selectable.
 3) To control fan speeds, DO port of the fan speed status should be connected to the fan control panel.
 4) Standard III wired remote controller after version 2.10.5a.
 Note : For the Modbus memory map and more detail information, please refer to the product data book.

AHU Kit

Communication Kit Function

With LG Control System (Individual & Centralized Controller)









FUNCTION LIST	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 + PAHCMC000)	NOTE
Operation On / Off	On / Off	On / Off	-
Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	Available operation mode can vary depending on the settings of Communication Kit
Return (Room) Air Temperature ²⁾	16 ~ 30 °C	-	-
Discharge Air Temperature ²⁾	-	○	Standard II : 16 ~ 30 °C Standard III ⁴⁾ : 12 ~ 50 °C Central Controllers : 12 ~ 50 °C
Fan Speed ³⁾	High / Mid / Low	High / Mid / Low	To control the AHU fan, dip switch 1-3 'DO type' should be set 'On (Fan Speed)' (PAHCMR000)
Operation	On / Off	On / Off	-
Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	-
Return (Room) Air Temperature	○	-	-
Discharge Air Temperature	-	○	Standard II : 11 ~ 39.5 °C Standard III ⁴⁾ : 0 ~ 100.0 °C Central : -50.0 ~ 100.0 °C
Fan Speed	High / Middle / Low	High / Middle / Low	-
Defrost Operation	On / Off	On / Off	Only with Individual Controller
Error Alarm	Error Code	Error Code	Error code will be displayed on the screen
Compressor On / Off	On / Off	On / Off	Only with Individual Controller

※ ○ : Applied, - : Not Applied

- 1) Control functions for LG individual and central controller are not available in case of using together with DDC via contact signal.
 2) The range of setting temperature is different depending on the type of the controllers. And operation may different from setting range.
 3) To control fan speeds, DO port of the fan speed status should be connected to the fan control panel.
 4) Standard III wired remote controller after version 2.10.5a.

Note : For more detail information, please refer to the product data book.

Compatibility with LG HVAC Controllers

CONTROLLER	INDIVIDUAL CONTROLLER			CENTRALIZED CONTROLLER					PDI
	PREMIUM	STANDARD III	STANDARD II	AC EZ	AC EZ TOUCH	AC SMART 5	ACP 5	AC MANAGER 5 ¹⁾	PREMIUM STANDARD
									
Model no.	PREMTA000 PREMTA000A PREMTA000B	PREMTB100 PREMTB10	PREMTB001	PQCSZ250S0	PACEZA000	PACSSA000	PACP5A000	PACM5A000	PQNUD1S40 PPWRDB000
PAHCMR000	○	○	○	○	○	○	○	○	○
PAHCMS000	-	○	○	-	-	○	○	○	-

※ ○ : Applied, - : Not Applied

- 1) AC Manager 5 is an integrator, so the installation with AC Smart 5 or ACP 5 is required.
 Note : 1. Dry contact for indoor unit (PDRYCB000 / 400 / 300 / 500) is not applied.
 2. For more details, please refer to the product data book.

Outdoor Unit Compatibility

For Small Size Application (~ 15kW) - Single Split

TYPE	MODEL	UUA1 (2.5 ~ 5.0 KW) 1)	UUB1 (5.0 ~ 8.0 KW) 1)	UUC1 (7.1 ~ 10.0 KW) 1)	UUD1 / UUD3 (10.0 ~ 15.0 KW) 1)
Communication Kit (Controller Module)	PAHCMR000 (PAHCMC000)	-	○	○	○
	PAHCMS000 (PAHCMM000 + PAHCMC000)	-	○	○	○
Control Kit	PAHCNM000	-	-	-	-

1) When connecting to Single Split outdoor unit, please check the compatibility to the regional sales office.

For Medium-Large Size Application (~ 672 kW) - MULTI V

TYPE	MODEL	MULTI V					MULTI V WATER		
		i	S	IV	III	S	S	IV	II
Communication Kit (Controller Module)	PAHCMR000 (PAHCMC000)	○	○	○	○	○	○	○	○
	PAHCMS000 (PAHCMM000 + PAHCMC000)	○	○	○	○	○	○	○	○
Control Kit	PAHCNM000	○	○	○	○	○	○	○	○

EEV Kit Compatibility

EEV KIT MODEL	CAPACITY INDEX (kW)		AHU APPLICATION KITS (MAXIMUM CONNECTABLE EEV KITS)			CONNECTION BY ODU SYSTEM		
	MIN.	MAX.	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 + PAHCMC000)	PAHCNM000	MULTI V		SINGLE SPLIT
					HEAT PUMP		HEAT RECOVERY	
PRLK048A0	3.6	28	○ (1)	○ (1)	○ (6)	○	○	-
PRLK096A0	28.1	56	○ (1)	○ (1)	○ (6)	○	○ (Max. 33.7 kW)	-
PRLK396A0	56.1	112	○ (1)	○ (1)	○ (6)	○	-	-
PRLK594A0	112.1	168	-	○ (1)	○ (3)	○	-	-

※ ○ : Applied, - : Not applied

- Note 1. Table of the outdoor unit compatibility is based on European regional model.
 2. When connecting outdoor units in other areas, please check whether they are compatible or not.
 3. Expansion application kit compatibility is based on capacity index of the system, it may changed according to system design condition.

AHU Kit

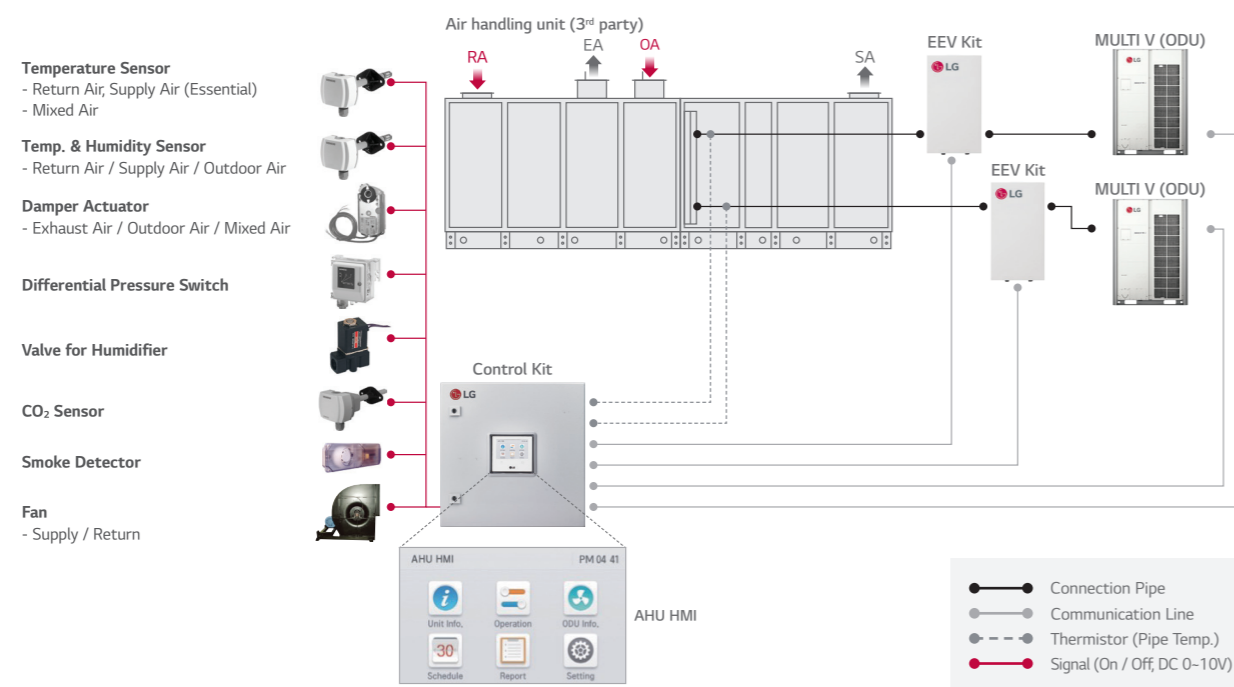
Control Kit

Field Supplied Item

LIST	REQUIRED SPECIFICATION	APPLY LOCATION
Temperature / Humidity Sensor	- Power : AC 24 V - Output signal : DC 0 ~ 10 V - Temperature range : -40 °C ~ 70 °C - Humidity range : 0 ~ 95 % RH	Supply air duct, Return air duct, Outdoor air duct
Temperature Sensor	- Power : AC 24 V - Output signal : DC 0 ~ 10 V - Temperature range : -50 °C ~ 50 °C	Supply air duct, Return air duct, Mixed air duct
Damper Actuator	- Power : AC 24 V - Input / output signal : DC 0 ~ 10 V - Torque : 15 N·m - Operation time : 150 s - Rotation Angle : 90°	Outdoor air damper, Exhaust air damper, Mixed damper
Filter Differential Pressure Sensor	- Power : AC 24 V - Output signal : DC 0 ~ 10 V - Range: 0 ~ 1,000 Pa - Switch type : Relay open / close	Filter
Static Pressure Sensor	- Power : AC 24 V - Output signal : DC 0 ~ 10 V - Range : 0 ~ 1,000 Pa	Supply air duct
CO ₂ Sensor	- Power : AC 24 V - Output signal : DC 0 ~ 10 V - Range : 0 ~ 2,000 ppm	Return air duct
Smoke Detector	- Power : AC 24 V - Type : Contact	Return air duct

Various Control with Control Kit – Multiple MULTI V + EEV Kits

Field Supplied Item



Water Communication Module

PAHCMW000

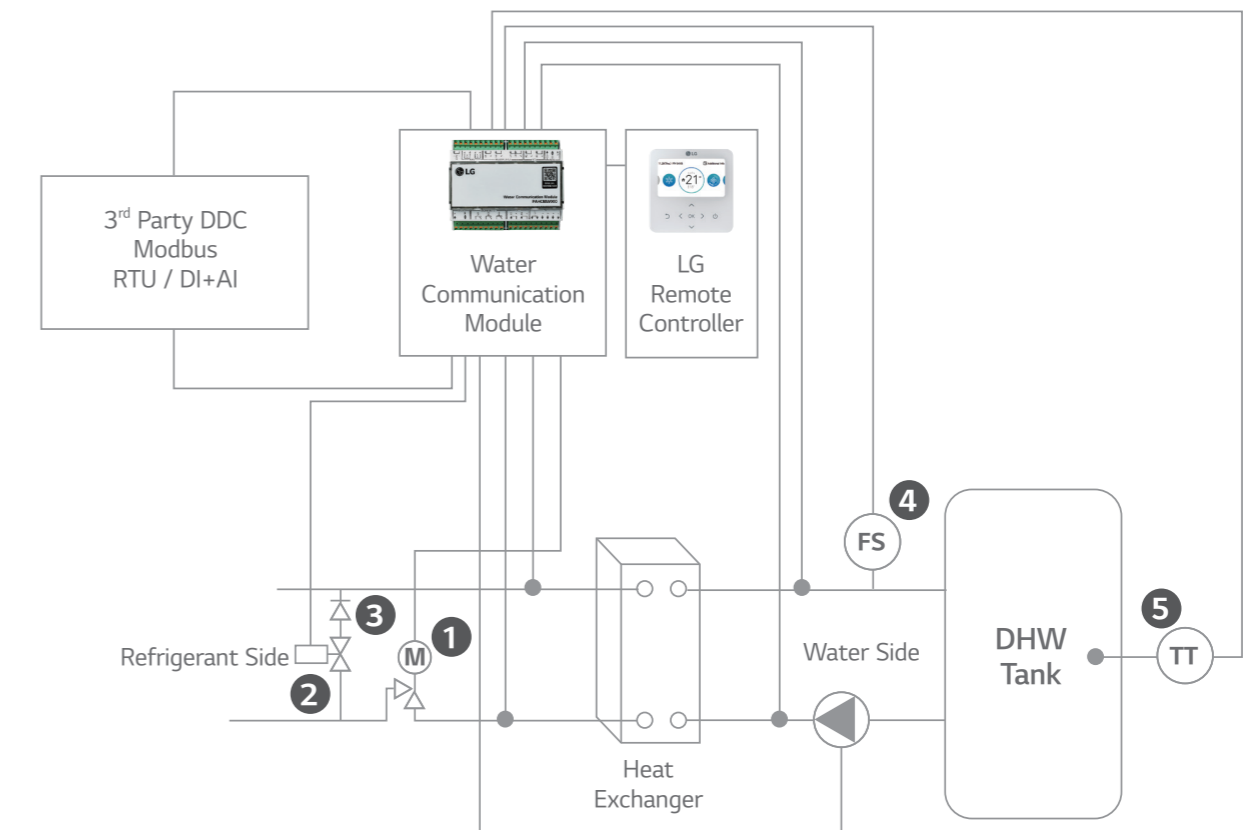
This module is intended to connect 3rd party plate heat exchanger to LG outdoor unit with the ability to control water temperature from 3rd party DDC or LG remote controller.



Overview

Interlocking with 3rd parties can make various solution with LG Multi V outdoor unit.

1. EEV
2. Solenoid Valve (NC)
3. Non-Return Valve
4. FS : Flow Switch
5. TT : DHW Temperature Transmitter



• 3rd party solenoid, non-return valve, heat exchanger, flow switch and DHW temperature transmitter (Optional) must be purchased separately. (Field supplied items)

Water Communication Module

Features & Benefits

Interlocking with 3rd parties can make various solution with LG MULTI V outdoor unit.

Interlocking with 3rd Party Equipment

CONTENTS	CONNECTION PORT	FUNCTION
RS485	CH1 (A+ / B-)	Module Comm. Port Communication Port Modbus
	CH2 (A+ / B-)	IDU Comm. Port Communication with Multi V Outdoor
UNIVERSAL INPUT (Cooling / Heating Setting)	UI1	Flow Switch Flow Switch Input by 3rd party
	UI2	0 ~ 10V Set Temp. Target Temp. Setting
	UI3	Cooling Thermostat Signal Thermostat Cooling Signal
	UI4	Heating Thermostat Signal Thermostat Heating Signal
UNIVERSAL INPUT (DHW Only)	UI1	Flow Switch Flow Switch Input by 3rd party
	UI2	0-10V Set Temp. Target Temp. Setting
	UI3	DHW Temperature Transmitter 0 ~ 10V Measured Water Temp. Input by 3rd party 0 ~ 10 V sensor
	UI4	DHW Thermostat Signal DHW Heating Signal
NTC	RI1	Water Inlet Sensor PHEX Water Inlet Sensor
	RI2	Water Outlet Sensor PHEX Water Outlet Sensor
REMO	+12V / SIG / GND	LG Remote Controller
SINGLE	Reserved	-
DIGITAL OUTPUT	DO1	Defrost / Mode Output for defrost signal and / or cool mode
	DO2	Pump Output signal for pump on / off
	DO3	Bypass Output signal for PHEX Bypass Valve
NTC	RI3	Thermistor Pipe In PHEX Ref. Inlet Pipe Sensor
	RI4	Thermistor Pipe Out PHEX Ref. Outlet Pipe Sensor
EEV	+12V / 1 / 2 / 3 / 4	Expansion Valve EEV Control

Compatibility & Accessory

EEV (LG MODEL)

MODEL	CAPACITY (KW)		PAHCMW000
	MIN.	MAX.	
PAEEVC000	3.6	28	HP / HR
PRLK048A0	3.6	28	HP / HR
PRLK096A0	28.1	56	HP

Note : Water communication module can accept plate heat exchangers from 3, 6 to 112 kW for combination with Multi V Outdoor units.

LG Controllers

CONTROLLER	INDIVIDUAL CONTROLLER	CENTRALIZED CONTROLLER		DRY CONTACT
	HEATING STANDARD III	AC EZ TOUCH	AC SMART 5	
	PREMTW101	PACEZA000	PACSSA000	PDRYCB000

Specification for Field supply item

- The 3rd party can select the for best usable version

Solenoid valve for Bypass

CAPACITY (KW)		EEV TYPE	SYSTEM	KV VALUE OF SOLENOID AND NON-RETURN VALVE	PIPE SIZE
MIN.	MAX.				
3.6	28	PAEEVC000	HP / HR	0.95	3 / 8" / 9.52mm
		PRLK048A0			
28	56	PRLK096A0	HP	1.9	1 / 2" / 12.7mm

Flow switch

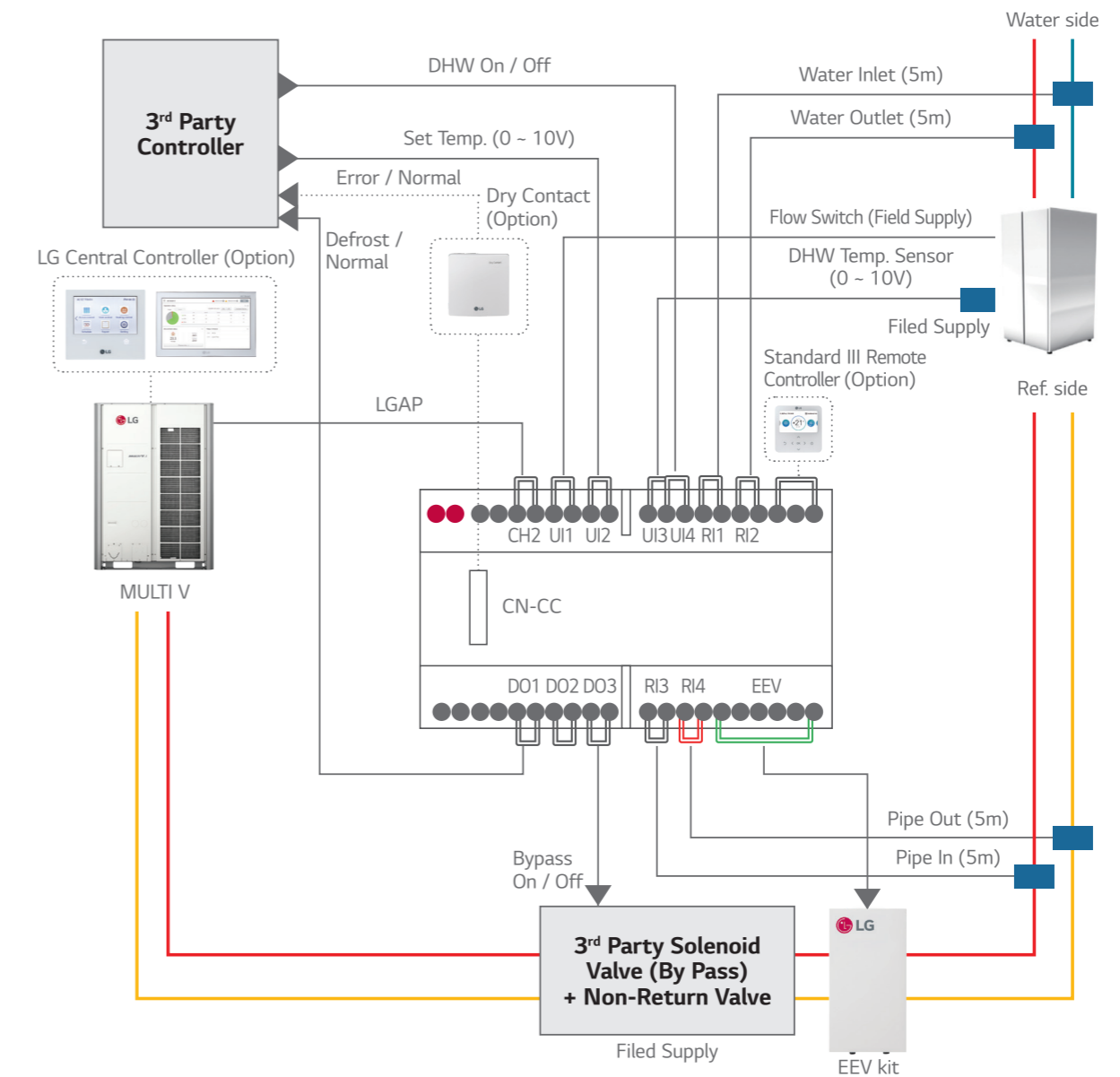
- The nominal flow and cut of flow can be calculated using the values below.

CONTROLLER	NOMINAL FLOW	FLOW SWITCH CUT OFF
L / min*kW	3.29	1.23

* Example : ODU nominal Cooling Capacity 28 kW, 28 x 3.29 = 92.12 L / min. nominal flow, 28 x 1.23 = 34.44 L / min. flow switch cut off

Installation Scene with Contact Connection

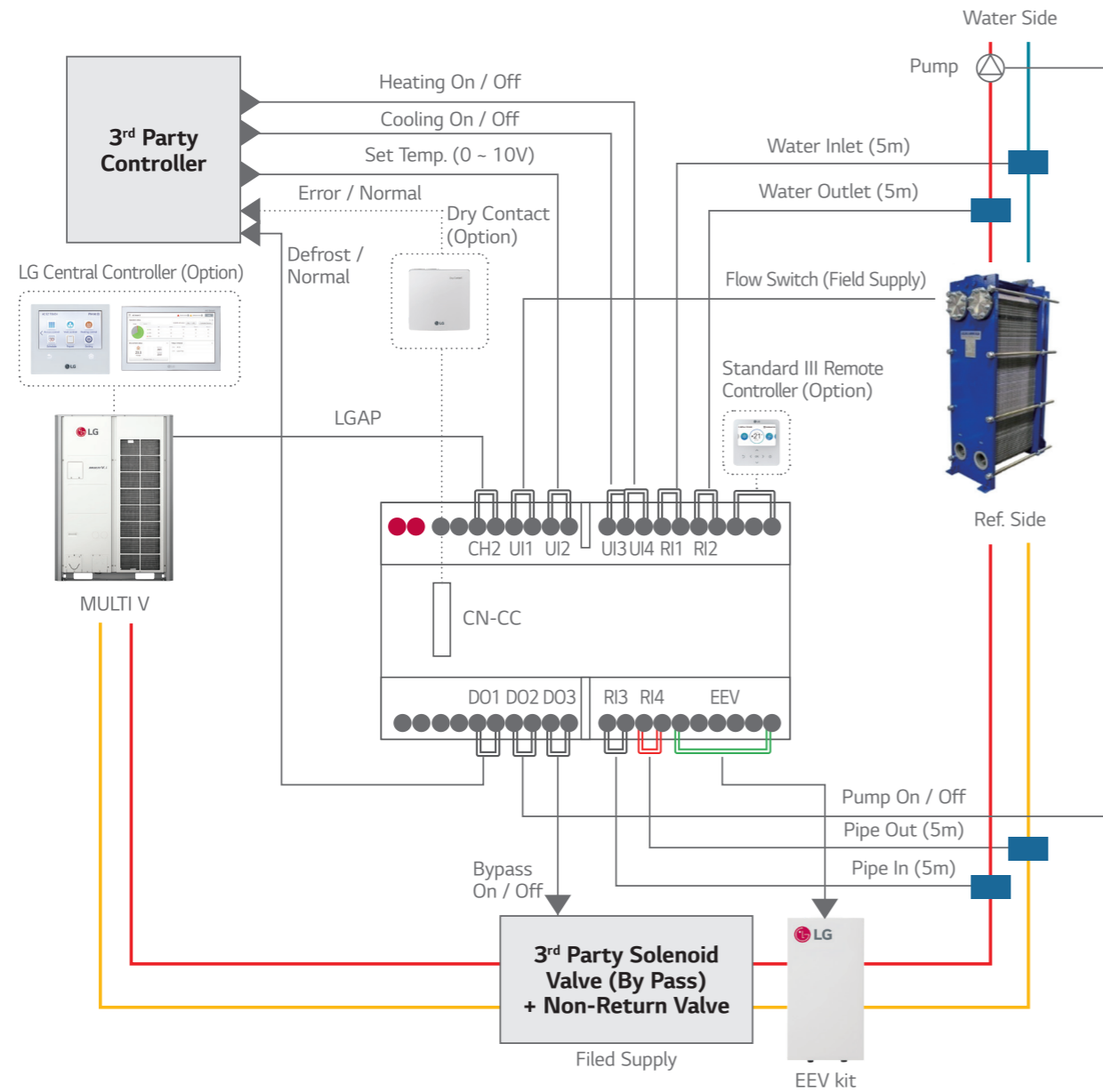
Contact signal + DHW Only Setting



Water Communication Module

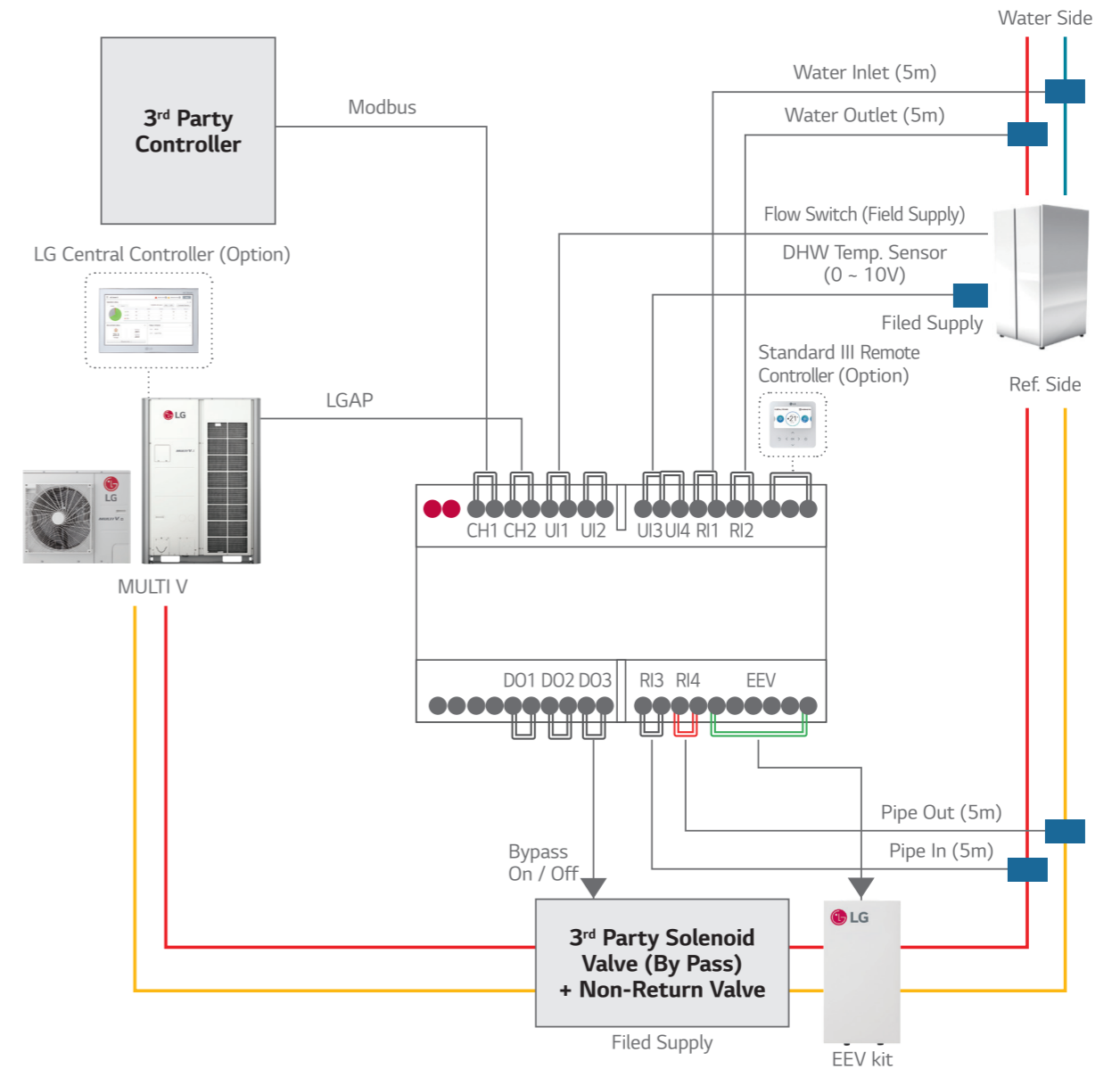
Installation Scene with Contact Connection

Contact signal + Heating / Cooling Setting



Installation Scene with Modbus / LG Control (Optional) Connection

Modbus + DHW Only Setting



Water Communication Module

Installation Scene with Modbus / LG Control (Optional) Connection

Modbus + Heating / Cooling Setting

