

244 - 319

CONTROL SOLUTIONS

INDIVIDUAL CONTROL / CENTRALIZED CONTROL / INTEGRATION DEVICE



The perfect choice for innovative building management

LG BECON HVAC SOLUTION

Innovative building management solution in your hands.
Our optimized solutions provide integrated control for customers configuration of various equipment in building and intuitive interface to maximize efficiency of operations.

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Air Solutions information,
please visit our
Youtube channel
through QR code.



ENERGY
SAVING



SMART
MANAGEMENT



EASY
EXPANDABILITY

SMART MANAGEMENT



Standard III
Remote Controller



Premium
Remote Controller



Wi-Fi Modem
(with ThinQ)

EASY EXPANDABILITY



Modbus Gateway



ACP Lonworks



Dry Contact



ACP 5



ACS IO Module



ACU IO Module

ENERGY SAVING



PDI



AC Smart 5



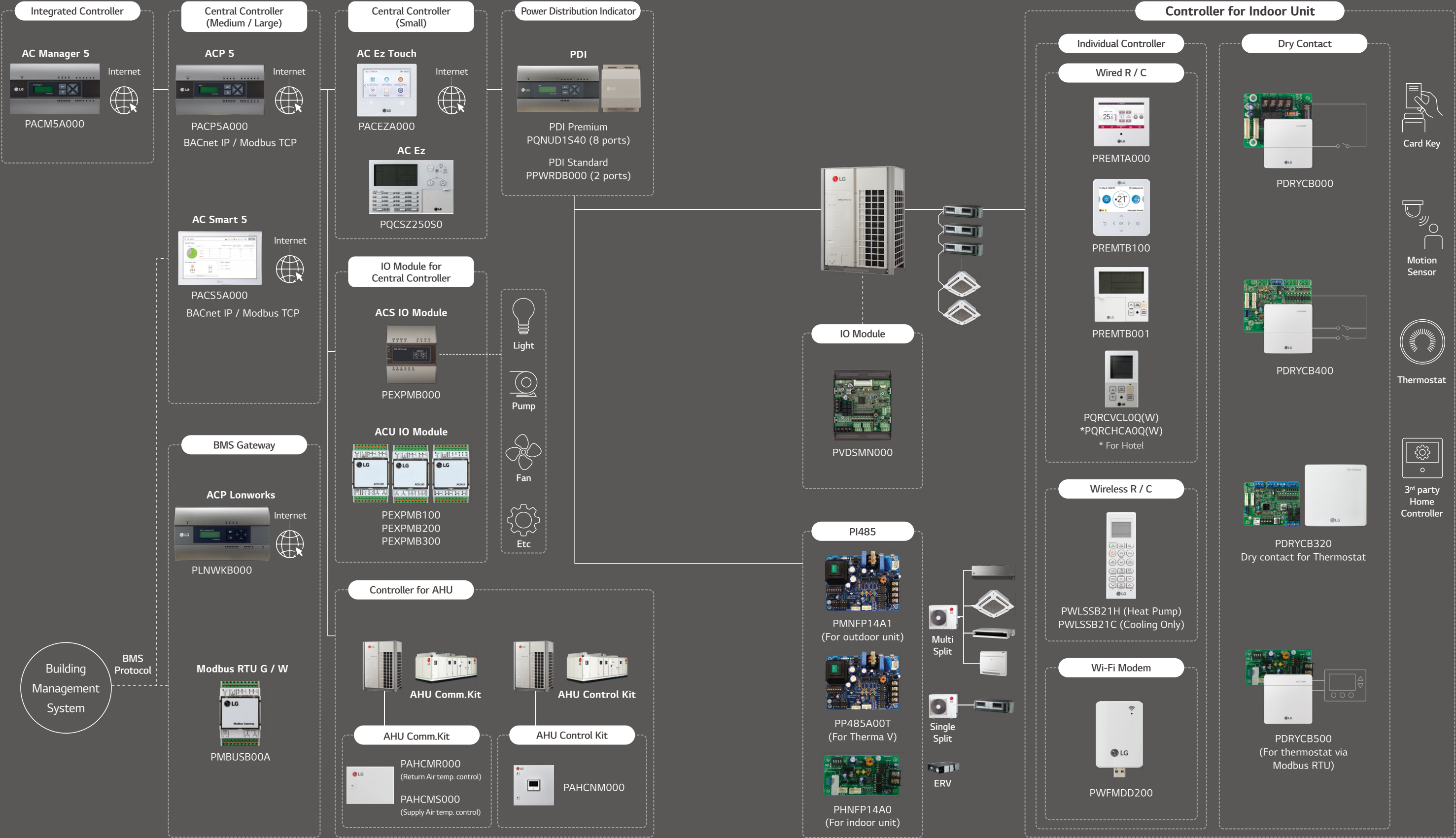
AC Manager 5



AC Ez Touch

CONTROL SYSTEM ARCHITECTURE

LG BECON HVAC SOLUTION offers a diverse range of effective control solutions that satisfy specific needs of each building and its user scene. These control systems are equipped with user-friendly interface, flexible interlocking environment, energy management and smart individual controller for optimized controlling conditions and smart building management.





Feature Functions

Controller Name		Wired Remote Controller					Wireless Remote Controller	Wi-Fi Modem
		Premium	Standard III	Standard II	Simple	Simple (Hotel)		
Model Name								
		PREMTA000 PREMTA000A PREMTA000B	PREMTB100 PREMTBB10	PREMTB001 PREMTBB01	PQRCVCL0Q PQRCVCL0QW	PQRCHCA0Q PQRCHCA0QW	PWLSSB21H (H/P) PWLSSB21C (C/O)	PWFMD200
Basic	On / Off	○	○	○	○	○	○	○
	Fan Speed Control	○	○	○	○	○	○	○
	Temperature Setting	○	○	○	○	○	○	○
	Mode	○	○	○	○	-	○	○
	Auto Swing	○	○	○	○	○	○	○
	Vane Control (Louver Angle)	○	○	○	○	○	○	○
	E.S.P (External Static Pressure)	○	○	○	○	○	-	-
	Electric Failure Compensation	○	○	○	○	○	-	○
	Indoor Temperature Display	○	○	○	○	○	○	○
	All Button Lock (Child Lock)	○	○	○	○	○	-	-
	Schedule / Timer	Weekly - Yearly	Weekly - Yearly	Weekly	-	-	Sleep / On / Off	Weekly
	Wi-Fi AP Mode Setting	○	○	○	○	○	○	-
Advanced	Additional Mode Setting ¹⁾	○	○	○	-	-	-	-
	Time Display	○	○	○	-	-	○	-
	Humidity Display	○	○	-	-	-	-	-
	Advanced Lock (Mode, Set point, Set point range, On / Off Lock)	Advanced Lock	Advanced Lock	-	-	-	-	-
	Filter Sign	○	○	○	-	-	-	-
	Energy Management ²⁾	○	○	○	-	-	-	-
	Dual Set Point	○	○	-	-	-	-	-
	Human Detection	-	○	-	-	-	-	-
	Temp, Humidity Compensation	○	○	-	-	-	-	-
	Air Purify Control	-	○	-	-	-	○	○
ETC	Operation Status LED	○	○	○	○	○	-	-
	Wireless Remote Controller Receiver	○ ³⁾	-	○ ³⁾	○ ³⁾	○ ³⁾	-	-
	Display	5 inch Color	4.3 inch Color	4.3 inch mono	2.6 inch mono	2.6 inch mono	2 inch mono	-
	Size (W x H x D, mm)	137 x 121 x 16.5	120 x 120 x 16	120 x 121 x 16	70 x 121 x 16	70 x 121 x 16	51 x 153 x 26	48 x 68 x 14
	Black Control for Screen Saver	○	○	-	-	-	-	-

※ ○ : Applied, - : Not Applied
1) It might not be indicated or operated at the partial product.
2) Centralized control (PACEZA000 / PACS5A000 / PACP5A000 / PLNWKB000) and PDI (PQNUD1S40 / PPWRDB000) should be installed for this function.
3) For ceiling type duct
Note :
1. Indoor unit should have functions requested by the controller.
2. If you need more detail, please refer to the manual of product. (<http://partner.lge.com> : Home > Doc.Library > Manual)



Design

- 4.3 inch color LCD / Intuitive GUI
- Seamless design / Touch button
- Humidity sensor embedded

Comfort & Air Purification

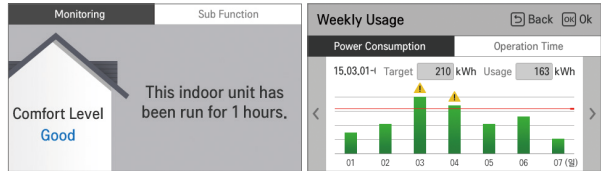
- CO₂ level monitoring (For ERV)
- Air quality level monitoring
- Air purify control

Energy Contents

- Power consumption monitoring
- Operation time monitoring
- Temperature setback
- Time limit control

Advanced Functions

- Comfort cooling setting
- Smart Load Control setting
- Outdoor unit low noise setting
- Defrost noise setting
- ODU capacity control
- Schedule functions



Error History		Back
06:19 21:15	>	
06:19 21:15	>	
06:19 14:08	>	
06:19 14:04	>	

Error History

Standard III Wired Remote Controller

PREMTB100 (White) / PREMTBB10 (Black)

4.3 inch colored screen with modern design.



New Modern Design

Comfort & Reliability
(Air Purify)

Schedule

Convenience

Energy Management

Interlocking

MODEL NAME	PREMTB100 / PREMTBB10
On / Off	○
Fan Speed Control	○
Temperature Setting	○
Mode	Cool / Heat / Dry / Fan / Auto
Additional Mode Setting ¹⁾	Energy-Saving Cooling / Robot Cleaning / Heater / Humidification / Comfort Cooling
Auto Swing	○
Vane Control (Louver direction)	○
E.S.P (External Static Pressure) ²⁾	○
Reservation	Simple / Sleep / On & Off timer / Weekly / Yearly / Holiday
Time Display	○
Electric Failure Compensation	○
Lock	All / On & Off / Mode / Set temperature range
Filter Sign	○ (Remain time + Alarm)
Energy Management	Check Energy Usage ³⁾ / Check Operation Time / Target Setting (Energy, Operation Time) / Time Limit Operation / Alarm Popup / Initialization Usage Data
Operation Status LED	○
Air Purify Control ⁴⁾	○
Air Quality Level ⁴⁾	○
Indoor Temperature Display	○
Indoor Humidity Display	○
Human Detection	○
Display	4.3 inch TFT color LCD (480 x 272)
Size (W x H x D, mm)	120 x 120 x 16
Black Light for Screen Saver	○
Home Leave	2 set points control

※ ○ : Applied, - : Not Applied
1) The function is available in some product. (Refer to the product data Book).
2) This function is available for duct type.
3) This function requires PDI (PQNUD1S40 / PPWRDB000) to be installed.
4) This function is available for indoor units that provide corresponding function.
Note :
1. Indoor unit needs to have functions requested by the controller.
2. 2 set points control works normally with MULTI V Heat Recovery and Single Split Heat Pump. But in case of MULTI V Heat Pump, It may not work properly.

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Standard III Wired Remote Controller

Air Quality Level Display

Easy check for indoor air quality

· PM10 / PM2.5 / PM1.0 · Status / Monitoring

'Good'

'Moderate'

'Unhealthy'

'Poor'

CLASSIFICATION	GOOD	MODERATE	UNHEALTHY	POOR
* PM10 (µg / m3)	0 ~ 54	55 ~ 154	155 ~ 254	255 ~
* PM2.5 (µg / m3)	0 ~ 12	13 ~ 35	36 ~ 55	56 ~
* PM1.0 (µg / m3)	0 ~ 12	13 ~ 35	36 ~ 55	56 ~

Note : Display color may change depending on the region / country.
This function is available for indoor units that provide corresponding function.
* PM (Particulate matter)
- PM10 : Coarse Particulate matter / PM2.5 : Fine Particulate matter / PM1.0 : Ultra Fine Particulate matter
- PM designated as a carcinogen as like an asbestos, widely known as carcinogen.
If the dust diameter is under 10 micrometers, it is PM10. And under 2.5 micrometers, it's PM2.5.

Environment Display

Displaying environment information for the more user comfort

Temperature / Humidity / Comfort level / CO₂ concentration

MonitoringSub Function

MonitoringSub Function

MonitoringSub Function

Dual Set Point

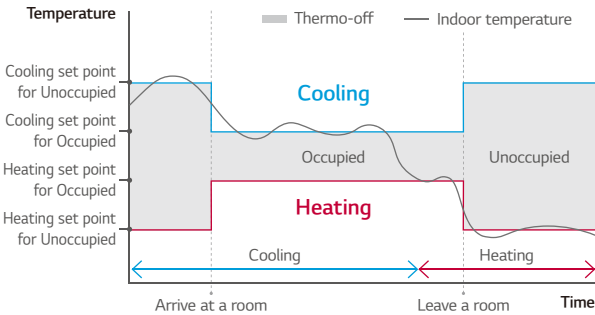
Auto changeover for convenience

- Indoor unit will keep the indoor temperature within the range of dual set point by automatically switching the unit operation.

Setback for energy savings and comfort

- In the user's absence, the room temperature will remain between two set points rather than switching off, providing quick comfort when the mode is changed to 'occupied'.

※ This function is for Heat Recovery system or Single heat pump.
Otherwise it is not guaranteed.



Energy Savings

Energy Management

- Energy Monitoring & Alarm
Real-time and day / week / month / year energy usage monitoring is possible. In addition, it can set target for energy usage and operation time, and alarm will be displayed when exceeded.

※ PDI (PQNUD1S40 / PPWRDB000) is required.

Instantaneous Power

Instantaneous Power Check

Weekly Usage

Energy Usage Target Setting

Schedule Function

Simple Schedule Status

Standard III remote controller provides clock type daily schedule.

Schedules & Edit

Daily Schedule Status

External Device On / Off

External Equipment Control

User can control the external equipment through additional contact signal output.

Time Limit Control

- Monitoring the unit's continuous running time.
And prevent the wasting energy by turning the unit off automatically.

Exception Day Settings

Possible to set up exceptional date on regular schedule.

Exception Day

Customized Interlocking Control

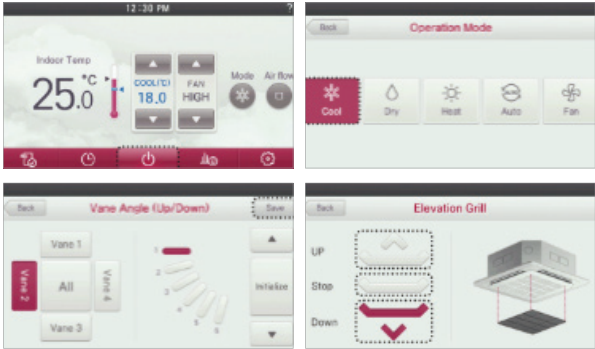
User can create a automatic control pattern. For example, turning the temperature drops below or rises above a certain temperature.

On Condition

Premium Wired Remote Controller



Full Touch Screen



PREMTA000 ¹⁾ / PREMTA000A ²⁾ / PREMTA000B ³⁾

5 inch full touch screen with a premium design.



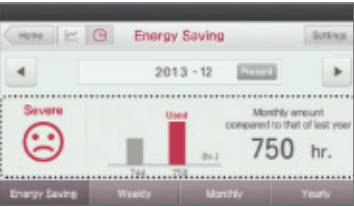
* Supported languages list
1) English / Portuguese / Spanish / French
2) English / Italian / Russian / Chinese
3) English / German / Polish / Czech

MODEL NAME	PREMTA000 / PREMTA000A / PREMTA000B
On / Off	○
Fan Speed Control	○
Temperature Setting	○
Mode	Cool / Heat / Dry / Fan / Auto
Additional Mode Setting ¹⁾	Energy-Saving Cooling / Robot Cleaning / Heater / Humidification
Auto Swing	○
Vane Control (Louver direction)	○
E.S.P (External Static Pressure) ²⁾	○
Reservation	Simple / Sleep / On / Off / Weekly / Yearly / Holiday
Time Display	○
Electric Failure Compensation	○
Child Lock	○
Filter Sign	○ (Remain time + Alarm)
Energy Management	Check Energy Usage ³⁾ / Check Operation Time / Target Setting (Energy, Operation Time) / Time Limit Operation / Alarm Popup / Initialization Usage Data
Operation Status LED	○
Indoor Temperature Display	○
Wireless Remote Controller Receiver	○ ⁴⁾
Display	5 inch TFT color LCD (480 x 272)
Size (W x H x D, mm)	137 x 121 x 16.5
Black Light for Screen Saver	○
Home Leave	2 set points control

※ ○ : Applied, - : Not Applied
1) It might not be indicated or operated at the partial product.
2) This function is available for duct type.
3) This function requires PDI (PQNUD1S40 / PPWRDB000) to be installed.
4) For ceiling type ducted unit
Note : 1. Indoor unit needs to have functions requested by the controller
2. 2 set points control works normally with MULT V Heat Recovery and Single Split Heat Pump. But in case of MULTI V Heat Pump, It may not work properly

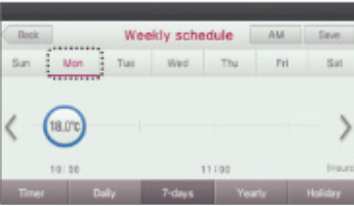
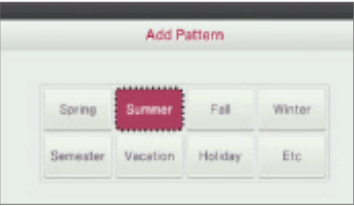
Easy Energy Management

- Check the operation hour or electricity usage
- Comparison of usage by year
- Set the target usage and time



Easy Scheduling

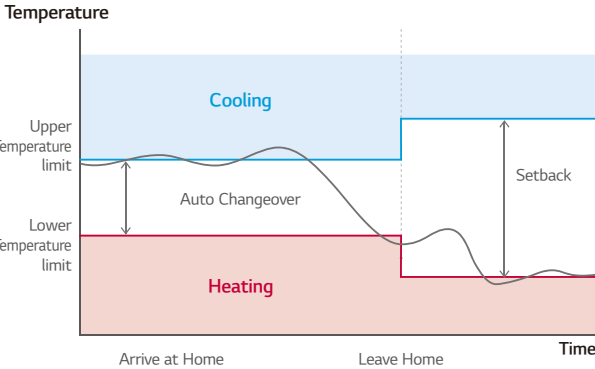
- Daily, Weekly, Yearly schedule function
- Schedule pattern setting
- Schedule copy



Dual Set Point

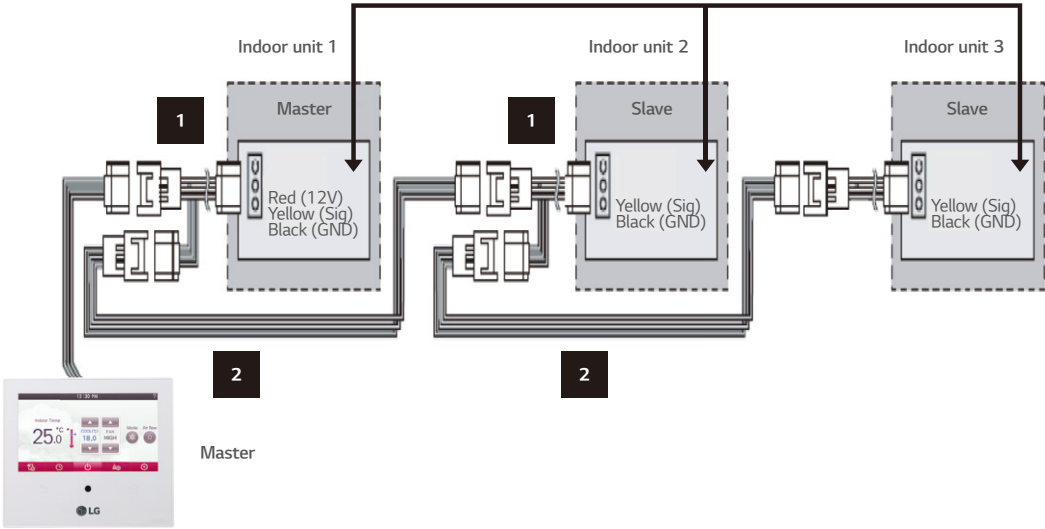
- Auto changeover switching the operation mode automatically
- Setback (Leave Home) Changing status by occupied / unoccupied

* This function is only for Heat Recovery system and Single heat pump.



Group Control

- Max. 16 Indoor units by one remote controller



Standard II Wired Remote Controller

PREMTB001 / PREMTBB01

Providing easy control of one or a group of indoor units with various functions.



Features & Benefits

- Wired remote controller that can implement various functions such as scheduling or filter alert.

MODEL NAME	PREMTB001 / PREMTBB01
On / Off	○
Fan Speed Control	○
Temperature Setting	○
Mode	Cool / Heat / Dry / Fan / Auto
Additional Mode Setting	Energy-Saving Cooling / Robot Cleaning / Heater / Humidification
Auto Swing	○
Vane Control (Louver direction)	○
E.S.P (External Static Pressure)	○
Reservation	Simple / Sleep / On / Off / Weekly / Holiday
Time Display	○
Electric Failure Compensation	○
Child Lock	○
Filter Sign	○ (Remain time + Alarm)
Operation Status LED	○
Indoor Temperature Display	○
Wireless Remote Controller Receiver	○ ¹⁾
Size (W x H x D, mm)	120 x 121 x 16
Black Light	○
Power Consumption Monitoring	○ ²⁾
Check Model Information	○

※ ○ : Applied, - : Not Applied
1) For ceiling type ducted unit
2) This function requires PDI (PQNUD1S40 / PPWRDB000) to be installed.
Note : Indoor unit needs to have functions requested by the controller.

Simple Wired Remote Controller

PQRCVCLOQW (White) / PQRCVCLOQ (Black) / PQRCHCA0QW (White) / PQRCHCA0Q (Black)

A simple way to control office or hotel systems in a compact design.



Features & Benefits

- Small remote control with minimal functionality.

MODEL NAME	PQRCVCLOQW / PQRCVCLOQ	PQRCHCA0QW / PQRCHCA0Q
On / Off	○	○
Fan Speed Control	○	○
Temperature Setting	○	○
Mode	Cool / Heat / Dry / Fan / Auto	-
Auto Swing	○	○
Vane Control (Louver direction)	○	○
E.S.P (External Static Pressure)	○	○
Electric Failure Compensation	○	○
Child Lock	○	○
Indoor Temperature Display	○	○
Wireless Remote Controller Receiver	○ ¹⁾	○ ¹⁾
Size (W x H x D, mm)	70 x 121 x 16	70 x 121 x 16
Black Light	○	○

※ ○ : Applied, - : Not Applied
1) For ceiling type ducted unit
Note : Indoor unit needs to have functions requested by the controller.

Wireless Remote Controller

PWLSSB21H (Heat Pump), PWLSSB21C (Cooling Only)

Handy and portable wireless type.



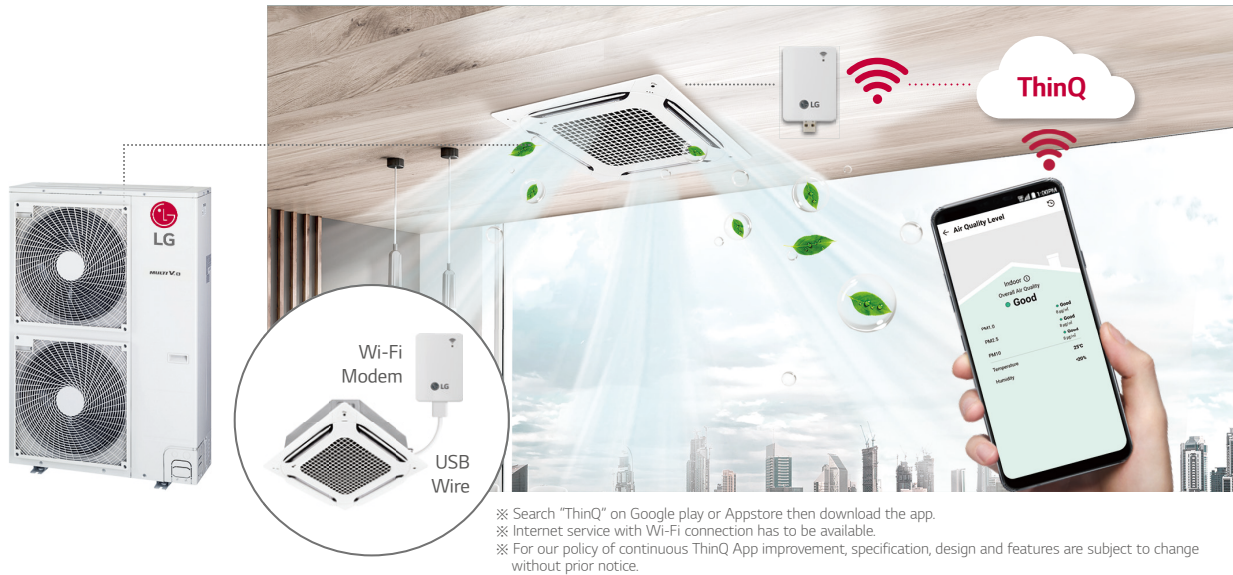
Features & Benefits

- Easy to use while moving.
- Main functions are available.

MODEL NAME	PWLSSB21H (H/P), PWLSSB21C (C/O)
On / Off	○
Fan Speed Control	○ ¹⁾
Temperature Setting	○
Mode	Cool / Heat / Dry / Fan / Auto
Additional Mode Setting	Air Purification / Energy-Saving Cooling / Robot Cleaning / Auto Dry
Auto Swing	○
Vane Control (Louver direction)	○
Reservation	Sleep / On / Off
Time Display	○
Indoor Temperature Display	○
Sleep Mode Auto	Max. 7 hours
Size (W x H x D, mm)	51 x 153 x 26

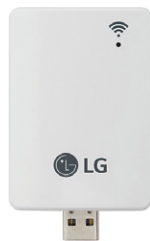
※ ○ : Applied, - : Not Applied
1) For some products, you can use "slow" fan speed function.

Wi-Fi Modem



PWFMDD200

Control conditioners by using internet devices as Android or iOS smartphones.



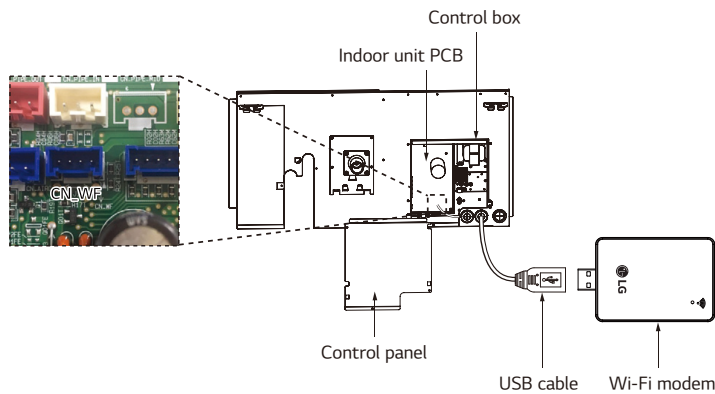
Features & Benefits

- User can enjoy anytime, anywhere access with Wi-Fi equipped device through LG's ThinQ mobile app.
 - This allows the user to access the unit remotely to switch unit on or off before or after leaving the vicinity.
 - LG's exclusive Home Appliances control app (ThinQ) is available.
 - Simple operation for various functions.
- On / Off
 - Operation Mode
 - Current / Set Temperature
 - Fan Speed
 - Vane Control ¹⁾
 - Reservation (Sleep, Weekly On / Off)
 - Energy Monitoring ²⁾
 - Filter Management
 - Error Check
 - Air Purify ³⁾

MODEL NAME	PWFMDD200
Size (W x H x D, mm)	48 x 68 x 14
Interfaceable Products	System Air Conditioner ³⁾
Connection Type	Indoor unit 1:1
Communication Frequency	2.4 GHz
Wireless Standards	IEEE 802.11b / g / n
Mobile Application	ThinQ (Android v4.1 (Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional Extension Cable	PWYREW000 (10m extension)

- 1) Vane Control may not be possible according to the type of Indoor unit.
2) LG Centralized controller and PDI installation is required for this function.
3) For the compatibility with Indoor unit, please contact regional LG office.
- Note :
1. Functionality may be different according to each IDU model.
2. User interface of application shall be revised for its design and contents improvement.
3. Application is optimized for smartphone use, so it may not be well functioning with tablet devices.

Installation Scene



※ The Wi-Fi communication distance and reliability may be vary due to the type of Wi-Fi router and the installation environment, Please refer to the manual.

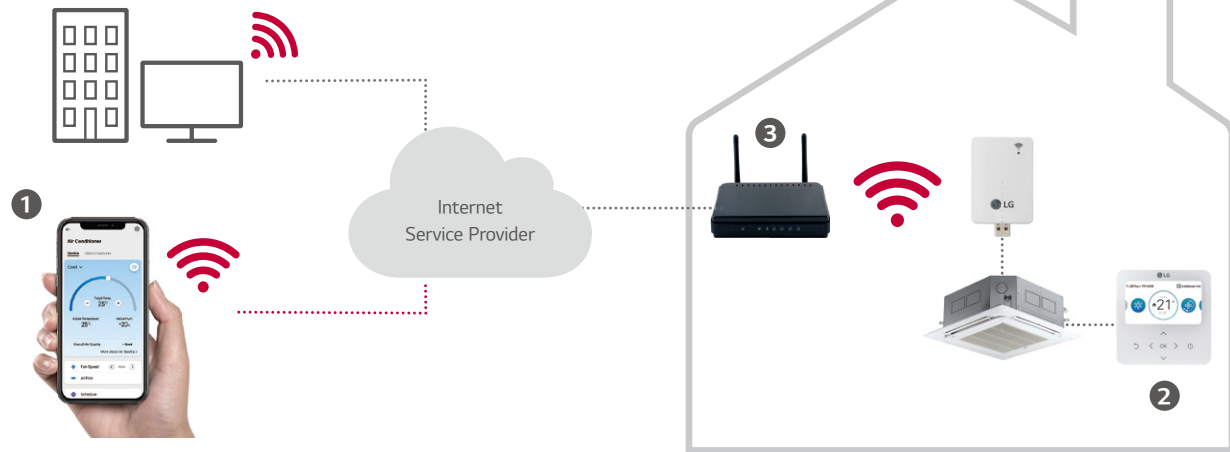
ThinQ Connectivity

Connection (Pairing) Order

- 1 Make LG account on ThinQ (Application) and login.
- 2 Select the installed product and set AP (Access Point) mode by wired / wireless remote controller.
- 3 Select the Wi-Fi network that will be used and insert the passwords.
- 4 Product registration progress is completed.

* 5GHz networks may not be supported.

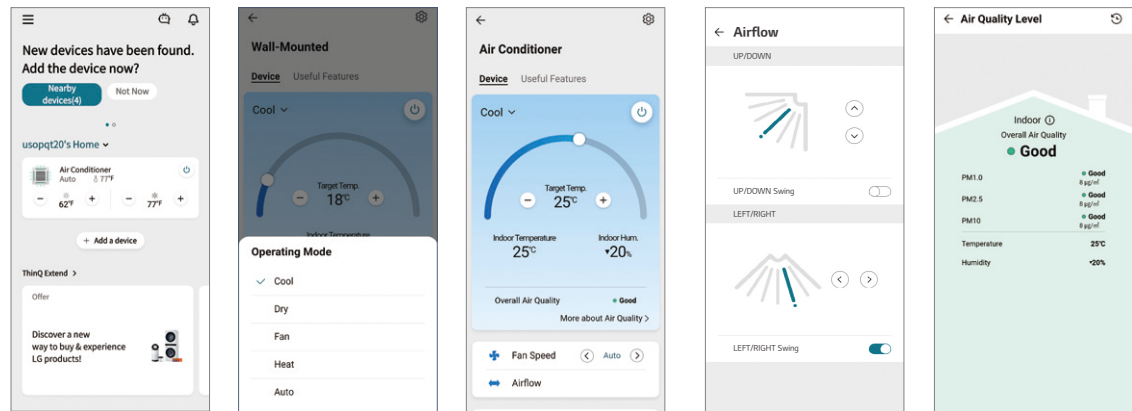
4 ThinQ



ThinQ Mobile App

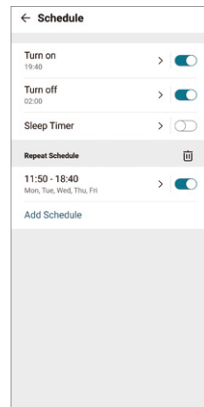
Simple operation for various functions

On, Off, Current Temp., Mode, Set Temp.

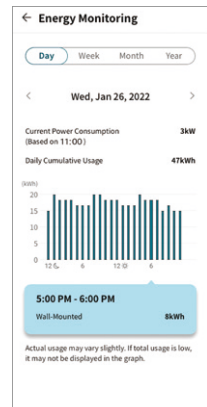


Easy Management

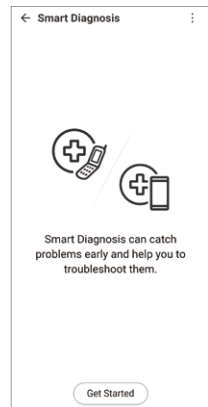
Reservation



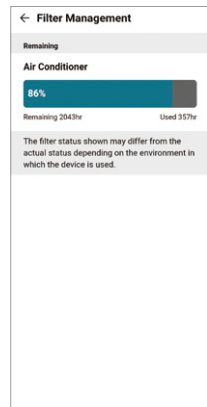
Energy Monitoring



Smart Diagnosis



Filter Management



※ For our policy of continuous ThinQ App improvement, specification, design and features are subject to change without prior notice.

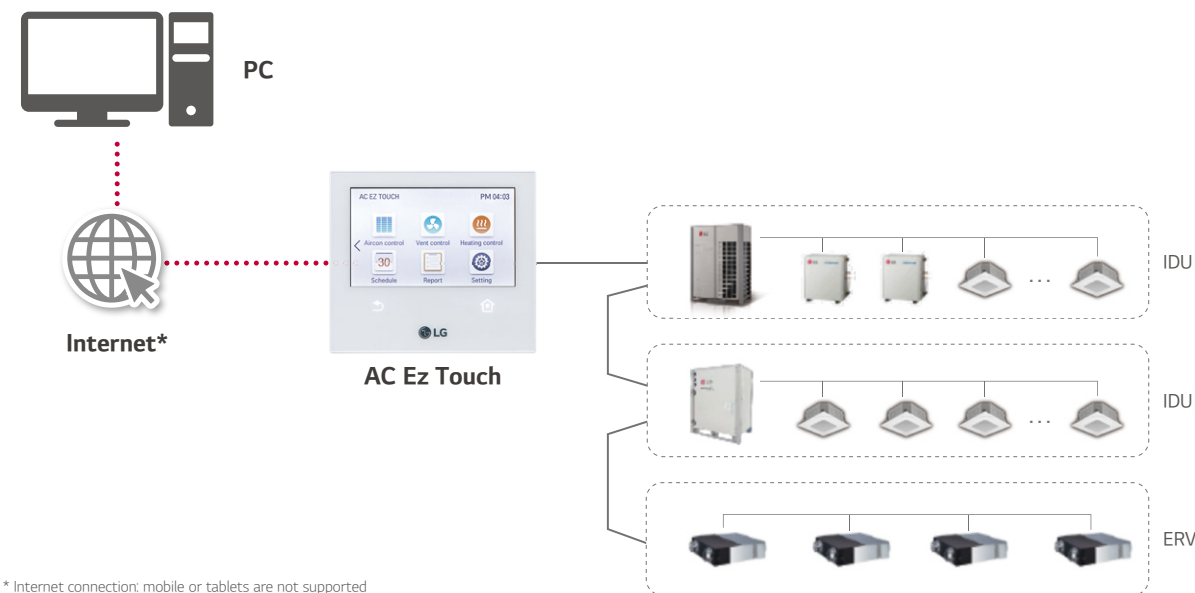


Feature Functions

Controller Name			AC Ez	AC Ez Touch	AC Smart 5 ⁶⁾	ACP 5 ⁶⁾	ACP Lonworks	AC Manager 5 ⁷⁾
Model Name								
			PQCSZ250S0	PACEZA000	PACS5A000	PACP5A000	PLNWKB000	PACM5A000
Product	DO		-	-	2	4	2	-
	DI		-	1	2	10	2	-
	Max. Connectable No.	IDUs	32	64	128	256	64	8,192
		ERV	32	64	128	256	64	8,192
		A / C + ERV	32	64	128	256	64	8,192
		AHU	-	-	16	16	16 ⁵⁾	16 x 32
		Chiller	-	-	5 Optional ⁴⁾	10 Optional ⁴⁾	-	10 x 32
Compatibility	Commercial Air Purifier ¹⁾		-	-	64	128	-	128 x 32
	Air Conditioner		○ ³⁾	○	○	○	○	○
	Ventilation (ERV / ERV DX)		○ ⁴⁾	○	○	○	○	○
	Heating		-	○	○	○	○	○
	AHU		-	-	○	○	○	○
	Chiller		-	-	○ ⁵⁾	○ ⁵⁾	-	○
	Commercial Air Purifier ¹⁾		-	-	○ ⁵⁾	○ ⁵⁾	-	○
Additional Function	ACS IO		-	-	○	○	○ ⁵⁾	○
	Add Drawing		-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Group Management		-	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Auto Changer Over		-	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Set Back		-	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Dual Setpoint		-	○	○	○	○ ⁵⁾	○
	Change Alarm		-	Filter	Filter	Filter	Filter	Filter
	Indoor Unit Lock		○ ²⁾	○	○	○	○ ⁵⁾	-
	Cycle Monitoring		-	-	○	○	○ ⁵⁾	○
Schedule	Air Purify		-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	-	○
	Energy & Priority Control		○	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Peak Control	Outdoor Unit Capacity Control	-	○	○	○	○ ⁵⁾	○
		Time limit control	-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
Energy Navigation	Interlocking		-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Power		-	-	○ ⁵⁾	○ ⁵⁾	-	○
	Gas		-	○	○	○	○ ⁵⁾	○
	Run time		-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
Trend Reporting	Save to PC / USB (Excel)		-	-	PC / USB ⁵⁾	PC	PC	PC
	Report (Control / Error)		-	-	○ ⁵⁾	○ ⁵⁾	-	○
History	Send Email		-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	Save to PC / USB (Excel)		-	-	PC / USB	PC	○ ⁵⁾	PC
	Summer Time		-	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
etc	Outdoor Unit Oil-Return Operation		-	-	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	-
	User Authority		-	Password	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○
	PC Access		-	○	○ ⁵⁾	○ ⁵⁾	○ ⁵⁾	○

※ ○ : Applied, - : Not Applied
1) The Commercial Air purifier must additionally install PI485 (PHNFP14A0).
2) Hard Lock
3) Except for some feature (Individual lock, Limit temp., etc.)
4) Except for some feature (User mode, additional function, etc.)
5) This function is not applied for BMS points.
6) Without additional device, ACP 5 and AC Smart 5 provide BACnet IP and Modbus TCP interface for BMS.
7) ACP 5 or AC Smart 5 is required.

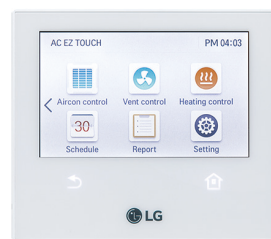
AC Ez Touch



* Internet connection: mobile or tablets are not supported
* Appropriate PI485 should be used according to PDB.

PACEZA000

Smart management with 5 inch touch screen for small site.



MODEL NAME	PACEZA000
Size (W x H x D, mm)	137 x 121 x 25
Interfaceable Products	MULTI V / ERV / ERV DX / Hydro Kit / THERMA V
Maximum number of units	64
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	Temperature / Mode / Fan speed / All
Error Check	○
Slave Mode (Interlocking with higher level controller)	○
Schedule	Weekly / Monthly / Yearly / Exception day
Remote Access	By client S/W (Neither Android nor IOS are supported)
Emergency Stop & Alarm Display	○
Power Consumption Monitoring (with PDI)	○
Auto Changeover / Setback	○
Temperature Limit	○
Operation History	Error record
ODU Low Noise ¹⁾	○
Daylight Saving Time	○
External IO Port	DI 1
IPv6 Support	○
Air Purify Control	○
Air Quality Level	○

※ ○ : Applied, - : Not Applied
1) It is only available in some products.

PC Access

Users can control each space efficiently through PC access.



* IPv6 supported
- Open port 80 & 9300
- Fix public IP is mandatory. Router configuration of NAT is required.

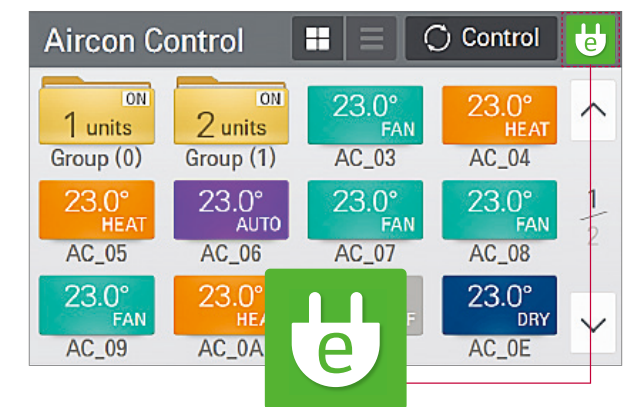
Energy Statistics (with PDI)

Statistics of operational status (Time, Power consumption) are provided to help make intelligent system operation decisions.

Energy		
2020.2.8 ~ 2020.3.19		
Today Week Month		
Name	Usage(kWh)	Accumulated(kWh)
Group1	110	3021
Group2	150	6186
Group3	130	4267
Group4	120	7614

Energy Mode

When using energy mode function, operation Modes from cooling to fan or heating to off mode by force.
(It is available only for operating indoor unit)



Air Purify Control & Monitoring

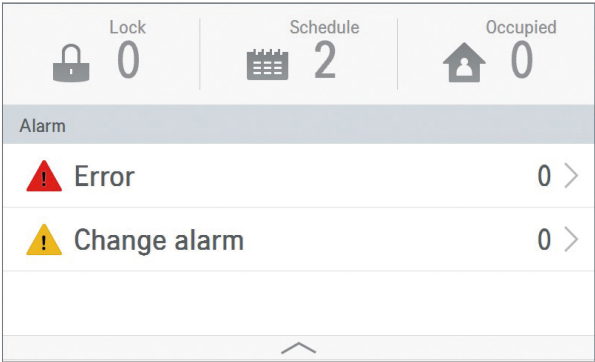
AC_UNIT_00			
Room temp	Now working	UVnano	Lock
23.0°		ON	Clear
Air Purification	Overall Air Quality	PM10	30
ON		PM2.5	10
		PM1.0	10

Aircon control(1unit)			
Set temp	Air Clean	Clear	UVnano
--	ON		ON
23.0°	Swing	Set temp range	2set point
	OFF	16.0°~30.0°	OFF
Cancel		Apply	

AC Ez Touch

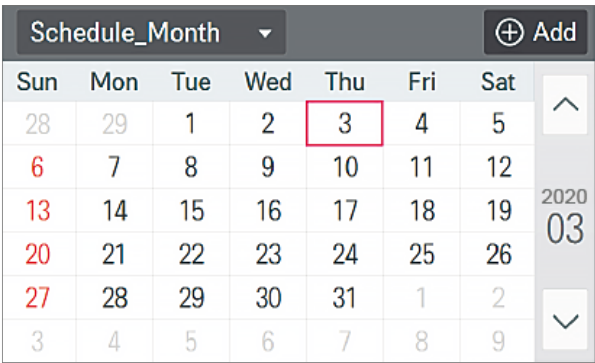
Alarm Indicator

It shows errors and alarm information. Users can respond immediately according to alarm indicator therefore HVAC system is monitored consistently.



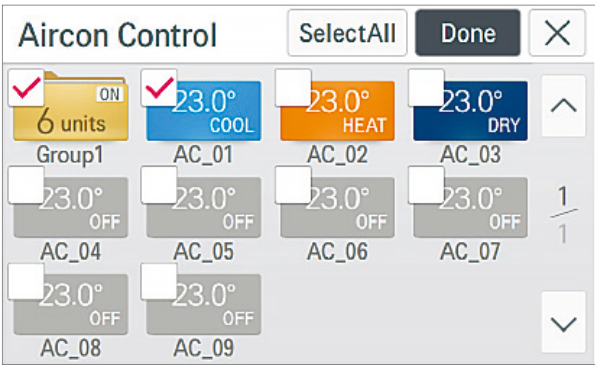
Schedule

Schedule control allows user to set the events in advance to maximize system performance. Also, by blocking unnecessary operation, it prevents a waste of energy.

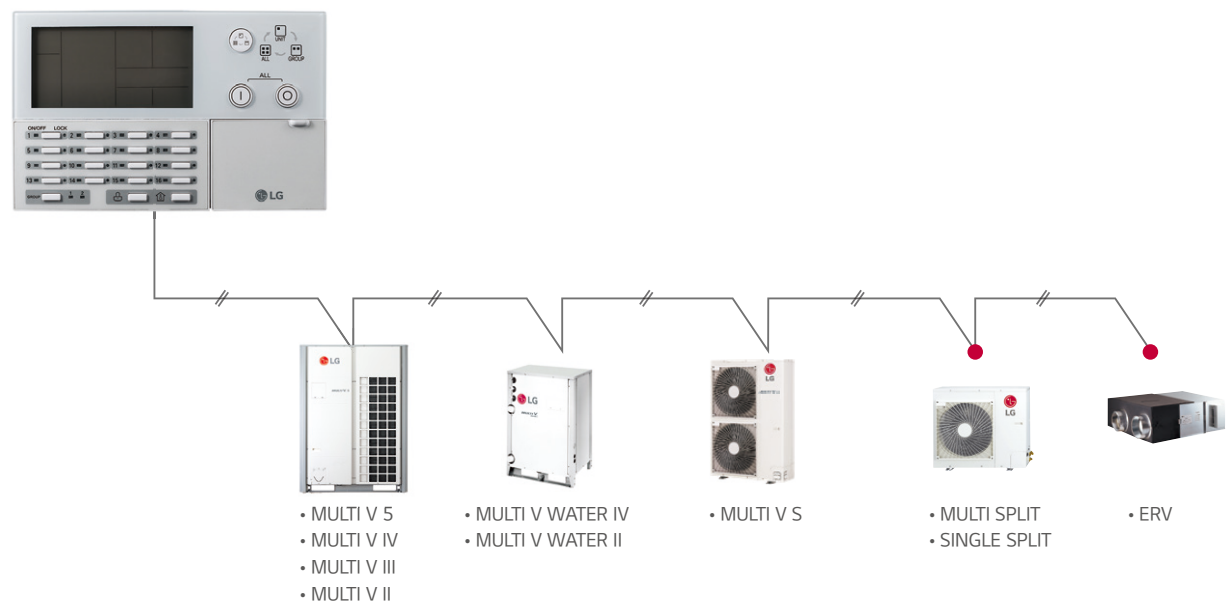


Group / Individual Control

User can control each indoor unit individually or by group by simply clicking each unit on control screen.



AC Ez



• Appropriate PI485 should be used according to PDB.

PQCSZ250S0

Easy to manage up to 32 indoor units, including ERV with simple interface.

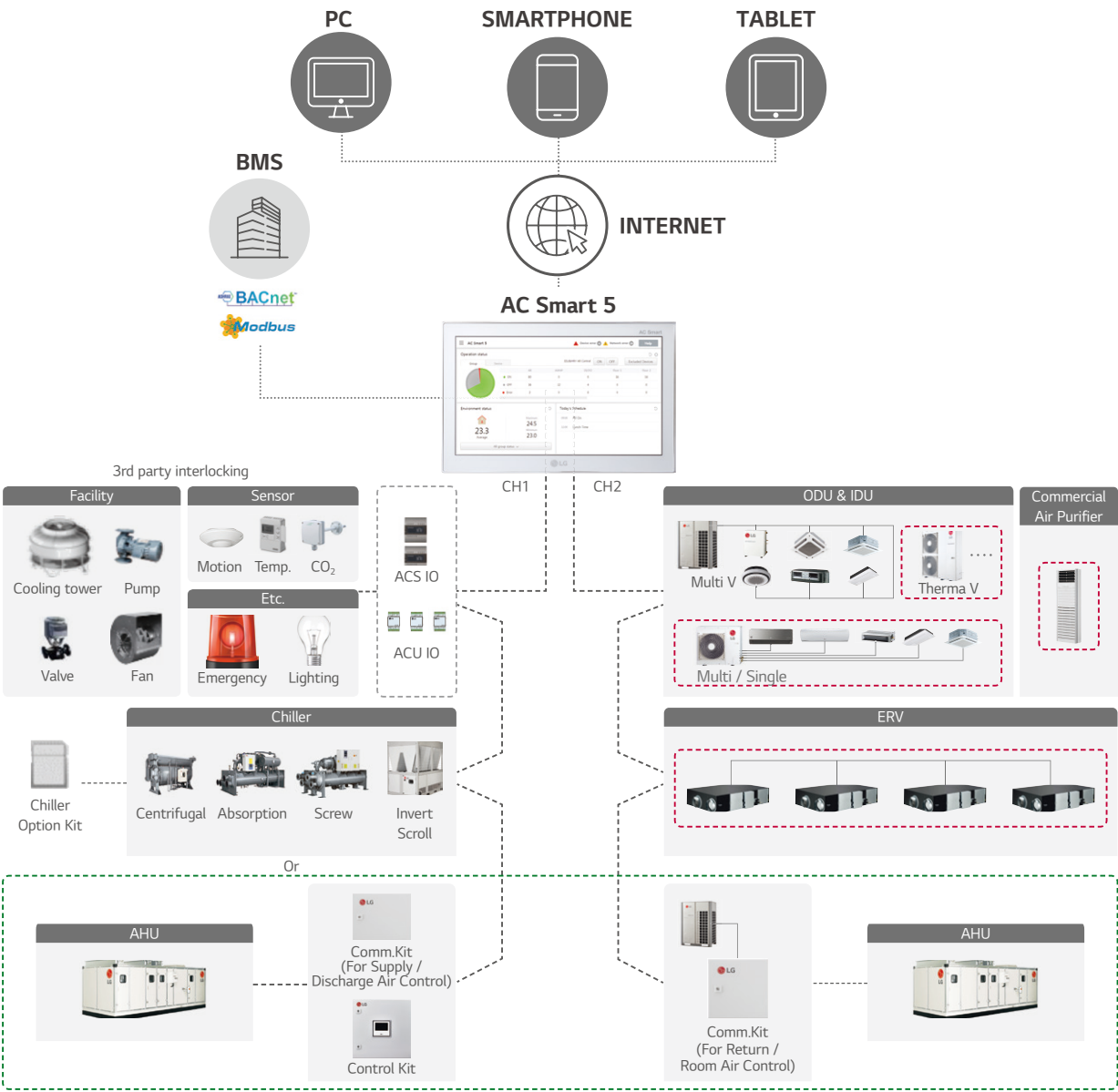


Features & Benefits

- 32 indoor units control
- Weekly Schedule
- Individual / Group Control

MODEL NAME	PQCSZ250S0
Size (W x H x D, mm)	190 x 120 x 20
Interfaceable Products	MULTI V / ERV / ERV DX
Display	LED / LCD Display
Power	DC12V, 1A
Maximum number of units	32
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	All
Error Check	○
Slave Mode (Interlocking with higher level controller)	○
Schedule	Weekly

※ ○ : Applied, - : Not Applied

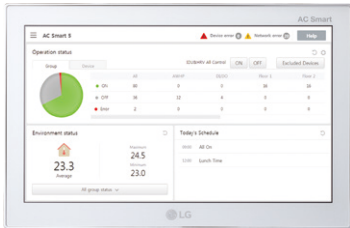


1) According to CH1 setting, normal ODU can be connected to CH1.
(Flexible wiring design with 2 ports)
2) Appropriate P1485 should be used according to PDB (Product Data Book).
3) For details, refer to the product PDB or manual.

AC Smart 5

PAC55A000

10-inch touch screen with HTML5 GUI (Graphic User Interface) for easy control.



Max. 128 IDU control



Schedule



Map view
(Visual navigation)



Energy monitoring



Air Purify



Multi level grouping

MODEL NAME	PAC55A000
Size (W x H x D, mm)	253.2 x 167.7 x 28.9
Interfaceable Products	MULTI V / ERV / ERV DX / Hydro kit / THERMA V / AHU Kit / LG Chiller ¹⁾ / Commercial Air Purifier
Maximum number of units	128
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	Temperature / Mode / Fan speed / All
Advanced Function Setting and Display ²⁾	Comfort Cooling / ODU Low Noise / ODU Defrost Mode / Comfort Level display / CO2 Level display (for ERV / ERV DX) / Night Time Free Cooling (for ERV / ERV DX)
Error Check	○
Slave Mode (Interlocking with higher level controller)	○
Schedule	Weekly / Monthly / Yearly / Exception day
Web Access	○
Emergency Stop & Alarm Display	○
Power Consumption Monitoring (with PDI)	○
Auto Changeover / Setback	○
Temperature Limit	○
Operation Time Limit	○
Visual Navigation	○
Operation Trend	○
Air Purify Control	○
Air Quality Level	○
Interlock Control	○
Virtual Group Control	○
ODU Capacity Control	○
Energy Navigation (with PDI)	○
Daylight Saving Time	○
External IO Port	DI 2 / DO 2
BMS Integration ³⁾	BACnet IP / Modbus TCP
IPv6 Support	○

※ ○ : Applied, - : Not Applied
1) Chiller Option Kit (PCHLLN000) is required.
2) It is only available in some products.
3) For the detail point list, please refer to the installation manual.

For more LG Commercial Air Solutions information, please visit our Youtube channel through QR code.



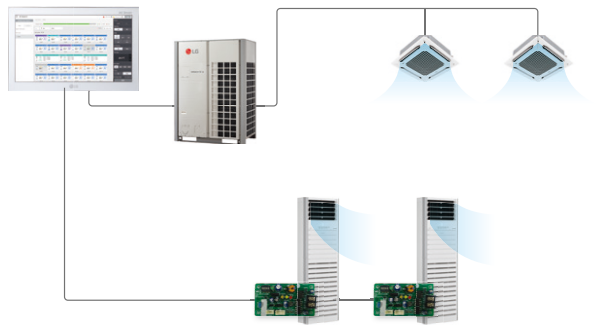
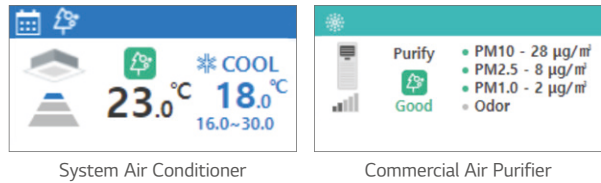
AC Smart 5

Air Purify Total Solution

Air Purify Control



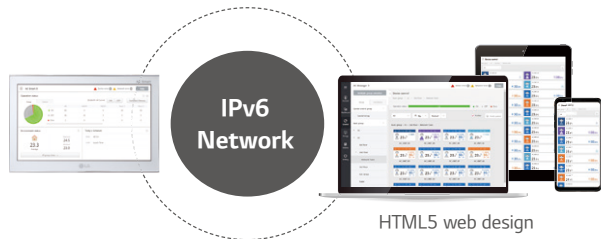
Air Quality Level Monitoring



* The Commercial Air purifier must additionally install PI485(PHNFP14A0).

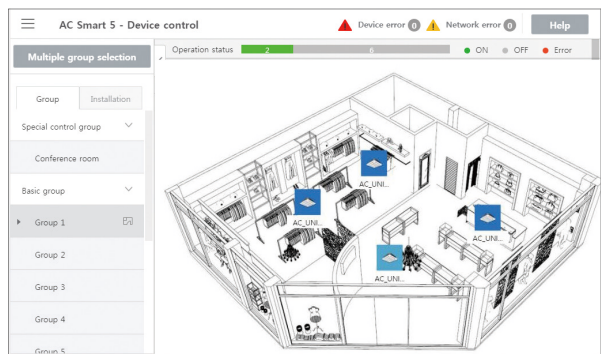
Advanced Network Accessibility

AC Smart 5 reflects the state of the art of network technology trend. IPv6 (Internet Protocol version 6), which is the most recent version of the Internet Protocol provides accessibility to the IPv6 compatible network environment. In addition, HTML5 allows you to easily control LG HVAC system on a variety of platforms (PC, Mobile, Tablet), at any time and from any location, not just on the touch screen.



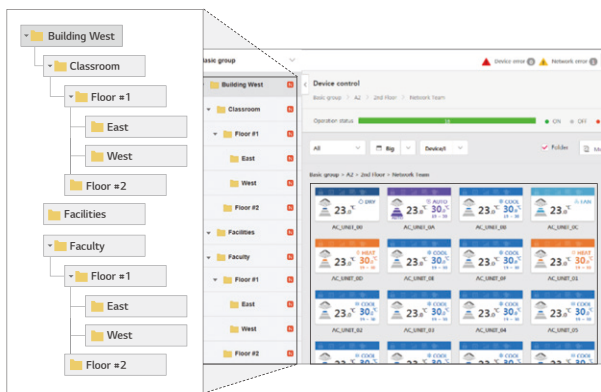
Visualized Control

Visual navigation enables controlling and monitoring the unit on floor, plan view for the intuitive management.



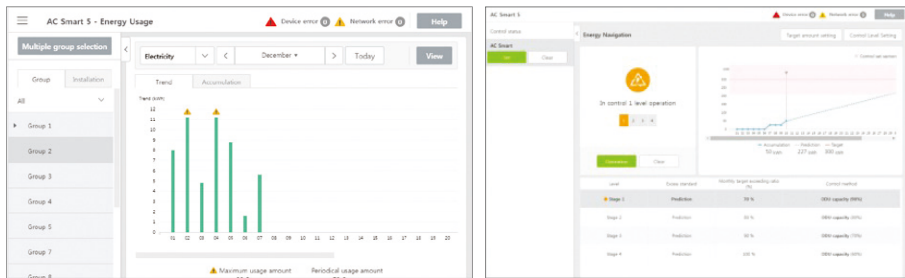
Multi Level Group Composition

User can make frequent and multi level group to control and monitor the device easily.



Energy Management

The energy navigation function allows the air conditioner's operational energy usage to be managed monthly, weekly and yearly. By analyzing present energy consumption and comparing with the plan, overuse of system operational costs can be prevented.



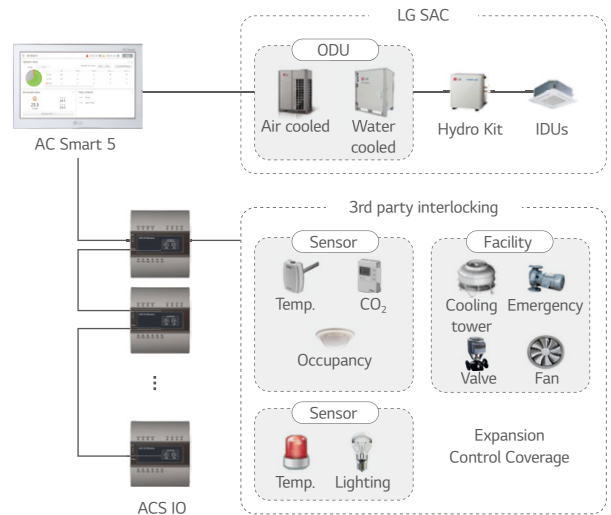
Building Management System (BMS) Integration

Without additional device, AC Smart 5 provides BACnet IP & Modbus TCP interface for BMS integration as well as its own management function.

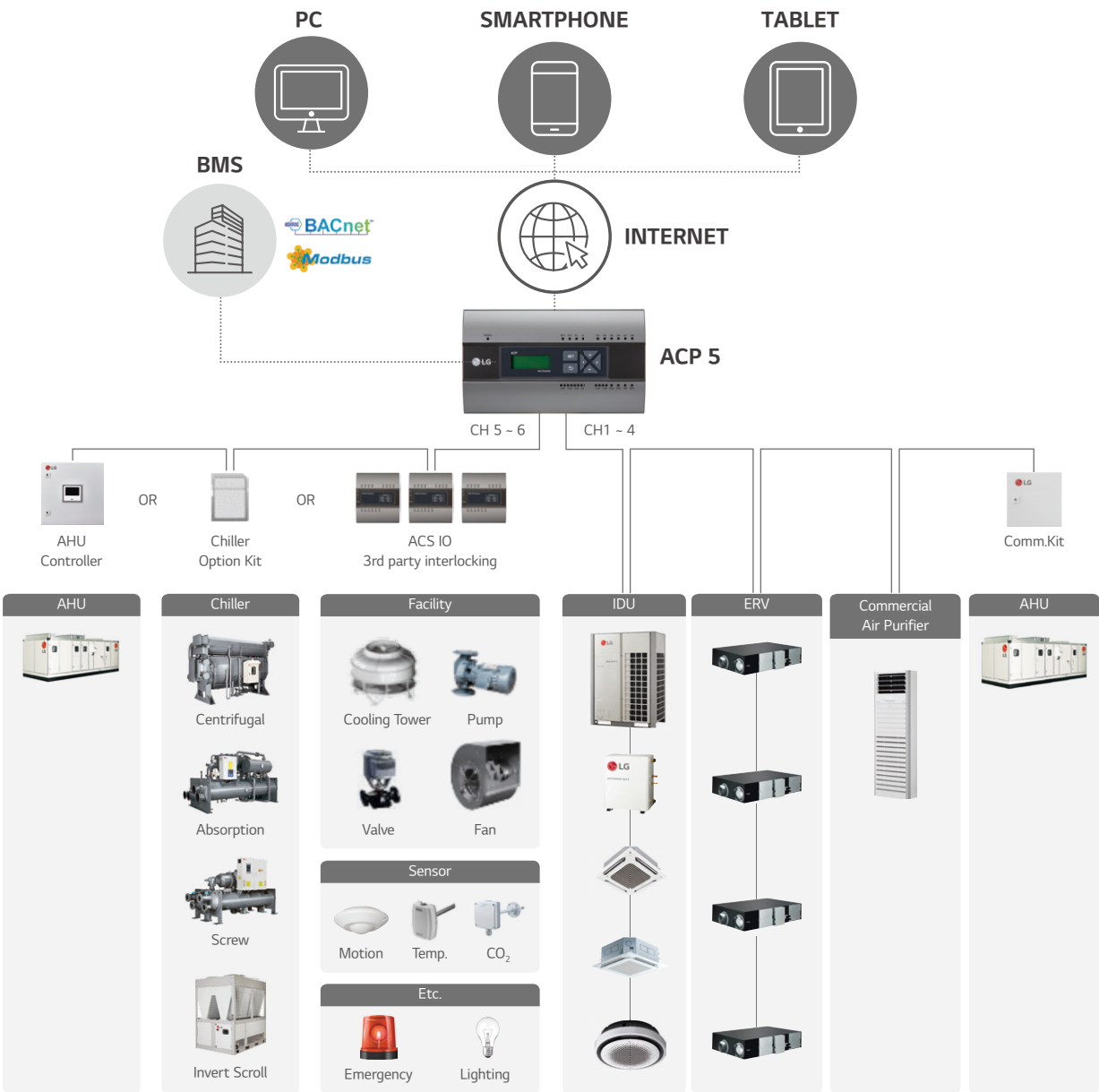


Interlocking with 3rd Party Equipment

AC Smart 5 can make operation scenario with 3rd party equipment by ACS IO Module and ACU IO Module. Control coverage is expanded. (Air conditioner only → Sensors, Fans, Pumps, Switches...)



ACP 5

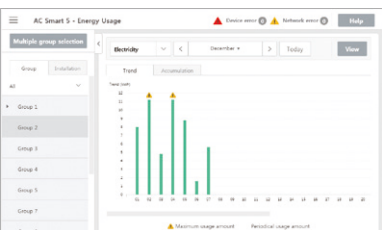


Advanced Network Accessibility

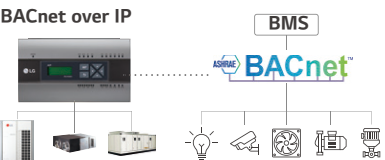


* Fix Public IP is mandatory.
* Router's Configuration of NAT is mandatory. Open port 80 & 9300.

Energy Navigation



BACnet IP & Modbus TCP



PACP5A000

Advanced solution for BMS integration up to 256 units via BACnet and Modbus protocol as well as its own smart management function with web server interface.



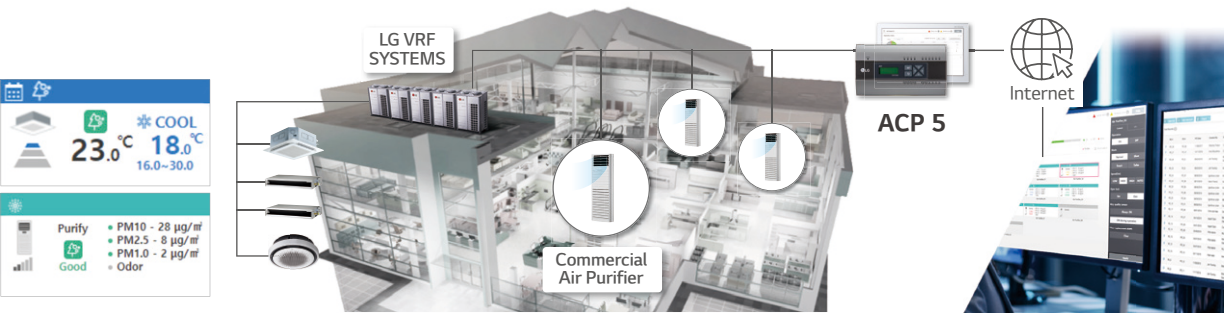
MODEL NAME	PACP5A000
Size (W x H x D, mm)	270 x 155 x 65
Interfaceable Products	MULTI V / ERV / ERV DX / Hydro kit / THERMA V / AHU Kit / LG Chiller ¹⁾ / Commercial Air Purifier
Maximum number of units	256
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	Temperature / Mode / Fan speed / All
Advanced Function Setting and Display ²⁾	Comfort Cooling / ODU Low Noise / ODU Defrost Mode / Comfort Level display / CO ₂ Level display (for ERV / ERV DX) / Night Time Free Cooling (for ERV / ERV DX)
Error Check	○
Schedule	Weekly / Monthly / Yearly / Exception day
Web Access	○
Emergency Stop & Alarm Display	○
Power Consumption Monitoring (with PDI)	○
Auto Changeover / Setback	○
Temperature Limit	○
Operation Time Limit	○
Visual Navigation	○
Operation Trend	○
Air Purify Control	○
Air Quality Level	○
Interlock Control	○
Virtual Group Control	○
ODU Capacity Control	○
Energy Navigation (with PDI)	○
Daylight Saving Time	○
External IO Port	DI 10 / DO 4
BMS Integration ³⁾	BACnet IP / Modbus TCP
IPv6 Support	○

※ ○ : Applied, - : Not Applied
1) Chiller Option Kit (PCHLLN000) is required.
2) It is only available in some products.
3) For the detail point list, please refer to the installation manual.

Air Purify Control / Monitoring

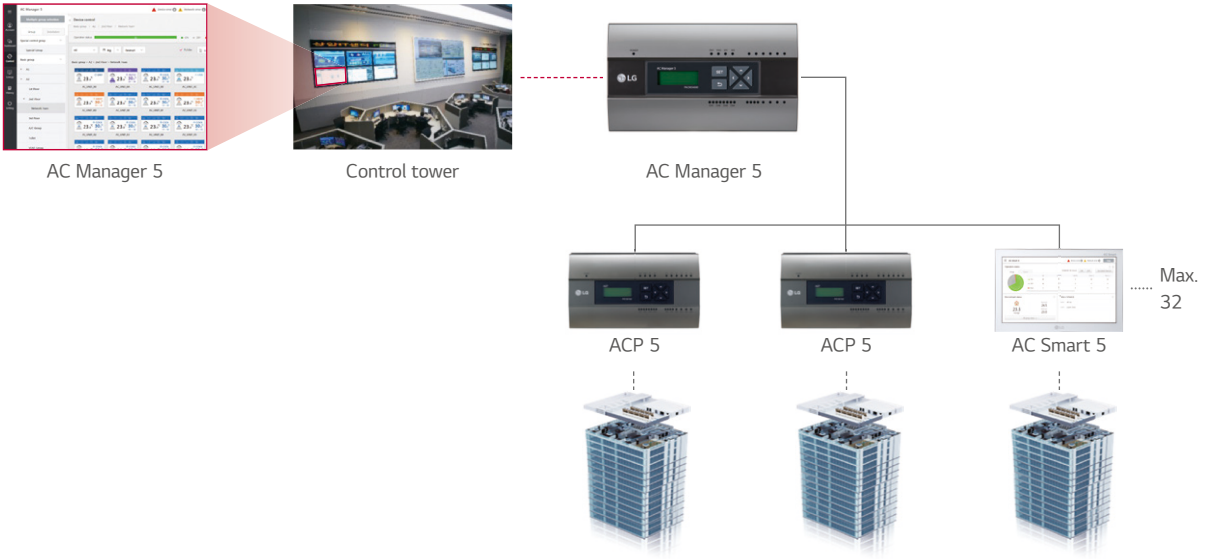
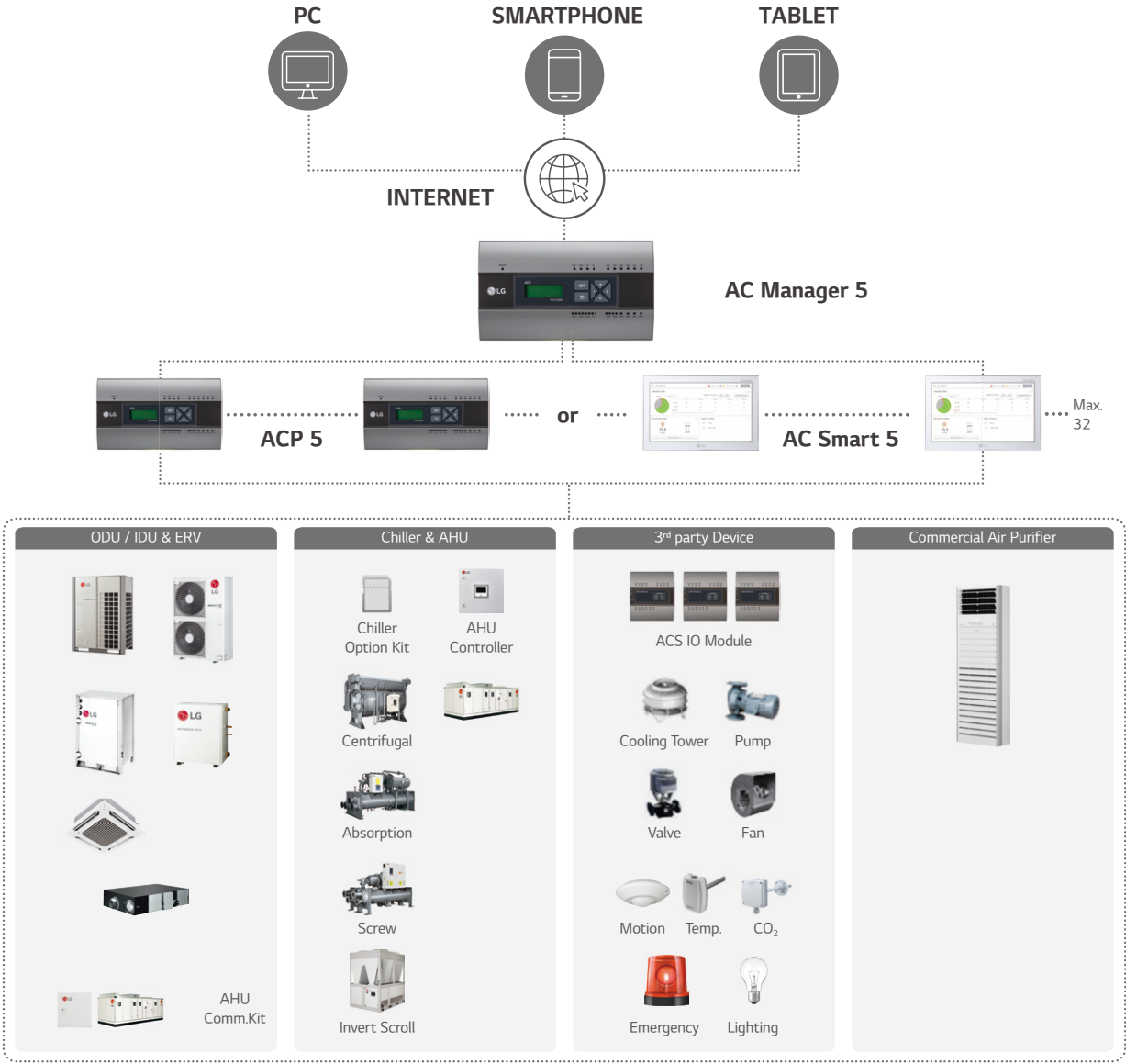
Integrated Management

The Commercial Air Purifier can be used with LG central controller to monitor and control.



AC Manager 5

For more
LG Commercial
Air Solutions
information,
please visit our
Youtube channel
through QR code.



PACM5A000

Multiple ACP and AC Smart integration solution to manage multi sites up to 8,192 units as a single system.



MODEL NAME	PACM5A000
Size (W x H x D, mm)	270 x 155 x 65
Interfaceable Products	MULTI V / ERV / ERV DX / Hydro kit / THERMA V / AHU Kit / LG Chiller ¹⁾ / Commercial Air Purifier
Maximum number of units	8,192 (Supports 32 ACP 5 or AC Smart 5)
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	Temperature / Mode / Fan speed / All
Error Check	○
Schedule	Weekly / Monthly / Yearly / Exception day
Web Access	○
Emergency Alarm Display	○
Power Consumption Monitoring (with PDI)	○
Auto Changeover / Setback	○
Temperature Limit	○
Operation Time Limit	○
Visual Navigation	○
Operation Trend	○
Air Purify Control	○
Air Quality Level	○
Interlock Control	○
Virtual Group Control	○
ODU Capacity Control	○
Energy Navigation (with PDI)	○

※ ○ : Applied, - : Not Applied
1) Chiller Option Kit (PCHLLN000) is required for ACP 5 or AC Smart 5.
· Note : AC Manager 5 required for ACP 5 or AC Smart 5

Up to 8,192 Connections for Indoor Units

Administrators can easily and conveniently manage a variety of LG HVAC equipment. Also, it is available to manage many buildings or areas at one place via AC Manager 5.

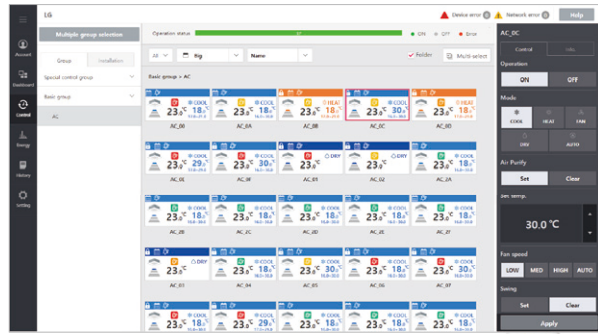


AC Manager 5

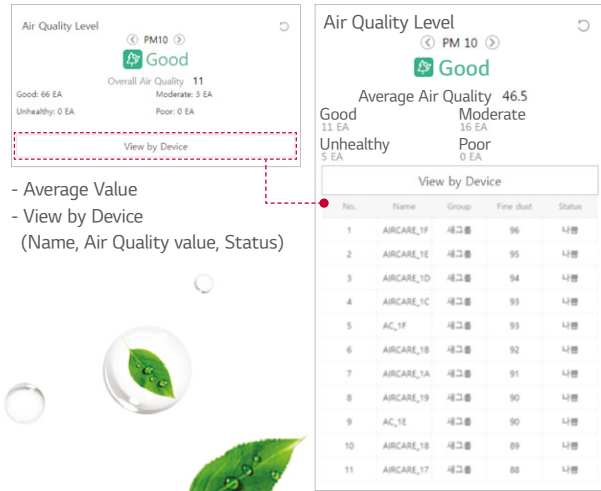
Smart Air Purify Solution

Total management of air purify function creates clean environment everyday.

Air Quality Multi Status view

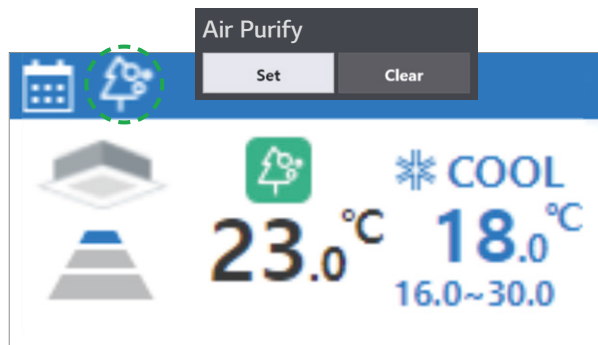


Air Quality Summary Widget



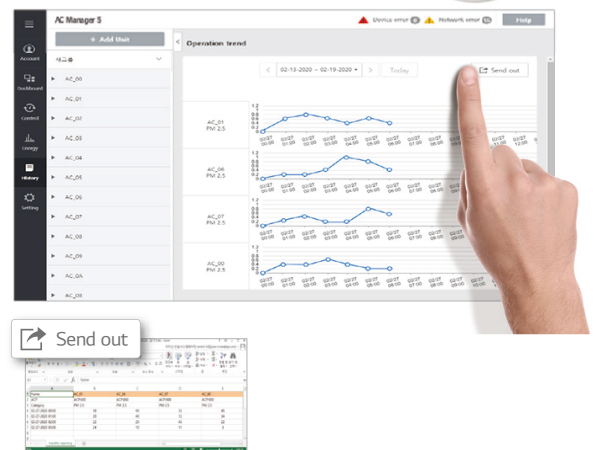
- Average Value
- View by Device (Name, Air Quality value, Status)

Air Purify Control



- Easy setting of Air Purify function (Set / Clear)

View Air Quality Trends



- Daily (per hour), period (30 days) shows trends
- Excel output / easy to manage

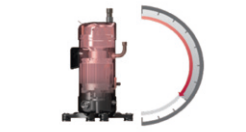
Advanced Network Accessibility & User Friendly GUI

As an advanced central controller, AC Manager 5 offers flexible interface for each user by assessing the device screen and automatically customizing the layout to provide the most optimized interface.

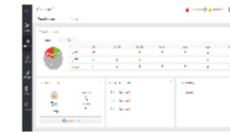


Energy Navigation & Energy Usage Graph

Energy navigation is the function to set the target usage amount to limit the monthly power consumption and to control so that the total accumulated power consumption does not exceed the target usage amount. It performs total of 7 control levels with the estimated / actual usage amount exceeding ratio compared to the monthly target usage amount. For the control method, there are indoor unit operation ratio, outdoor unit capacity control, and indoor unit operation control.



Compressor Capacity Control



IDU Operation Ratio Control



IDU Operation Level

Peak Control

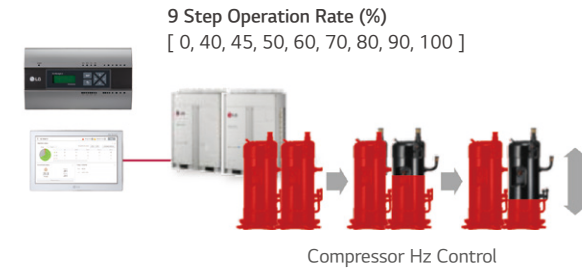
This function can reduce electricity use. There are two kinds of control logic. Energy saving effect by indoor unit operation rate control. Load management effect by outdoor unit capacity control.

Operation ratio (IDUs) Control



Indoor unit Priority Control
gradually stop depending on importance of room.

ODU Capacity Control

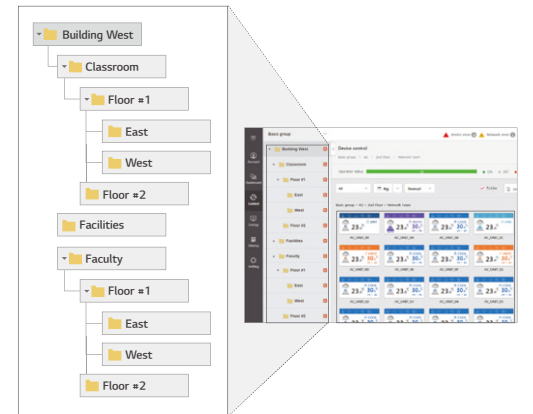


9 Step Operation Rate (%)
[0, 40, 45, 50, 60, 70, 80, 90, 100]

Compressor Hz Control

Multi Level Group Composition

User can make frequent and multi level group to control and monitor the device easily.



ACP Lonworks

PLNWKB000

Lonworks easily link LG Air conditioners and other existing building systems.
By including ACP control function, the controlling continues even when error occurs with BMS.

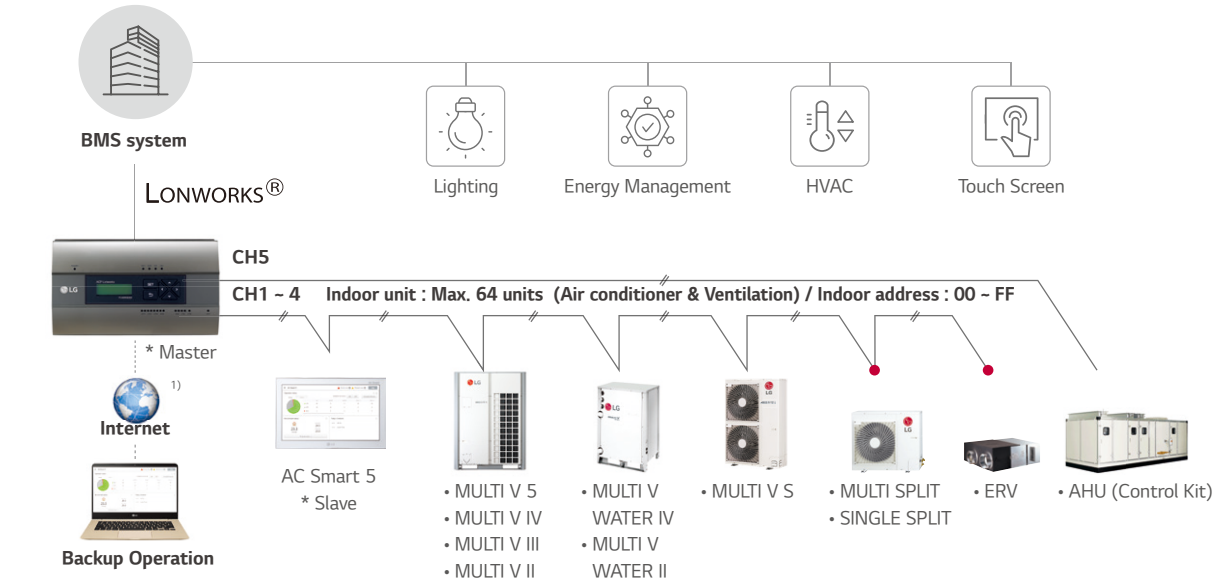


Features & Benefits

- Connect to use LonWorks protocol and LG Air conditioner protocol.
- Process ability (Max. connection) : Indoor unit 64EA, AHU Control Kit : Max. 16EA
- Self installation verification using internet (Web Server Included)
- Diagnosis of communication status on LG Air conditioner network
- It offers a variety of functions as ACP which allows the customer to efficiently control various types of equipment from the customer's own Integration.

CONTROL	MONITORING
On / Off Command	On / Off
Operation Mode Setting	Operation Mode
Lock	Lock
Temperature	Temperature
Fan Level	Fan Level
Fan Direction Auto	Fan Direction Auto
Mode Lock	Mode Lock
Fan Level Lock	Fan Level Lock
Temperature Lock	Temperature Lock
Temperature Lower Limit	Temperature Lower Limit
Temperature Higher Limit	Temperature Higher Limit
Peak Convert Cycle	Peak Convert Cycle
Peak Setting	Peak Setting
Temperature Unit	Temperature Unit
Total Temperature Lock	-
Total On / Off	-
Total Temperature	-
-	Product Type
-	Product Address
-	Current Temperature
-	Alarm
-	Power
-	Error Code
-	Peak Current Operating Percent
-	Total Accumulate Power

※ ○ : Applied, - : Not Applied



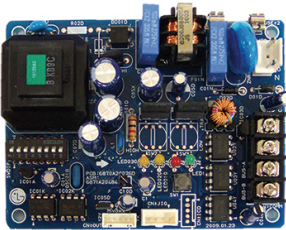
1) Assignment of public IP address is required to access central controller through internet. ● Appropriate PI485 should be used according to PDB (Product Data Book).

PI485

PI485 converts LG Air conditioners protocol to the RS485 protocol for the central controller.

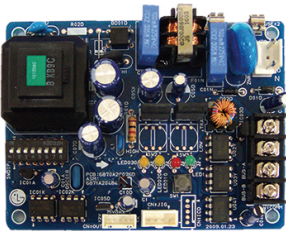
PMNFP14A1

Easy to manage up to 64 indoor units.



- Power : Single phase AC 220V 50 / 60Hz
- **1 for Each Outdoor Unit**
- Multi V MINI (ARUN40GS2A / ARUV40GS2A Only needs PI485)
- Single Split
- Multi Split

PP485A00T



- Power : Single phase AC 220V 50 / 60 Hz
- **1 for Each Indoor Unit**
- Therma V

PHNFP14A0

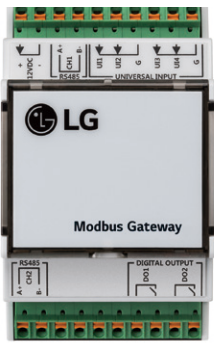


- Power : Connected with the Indoor Units
- **1 for Each Indoor Unit**
- Indoor Unit (ERV)

MODBUS RTU Gateway

PMBUSB00A

Providing Modbus RTU connection between LG Air conditioners and BMS.



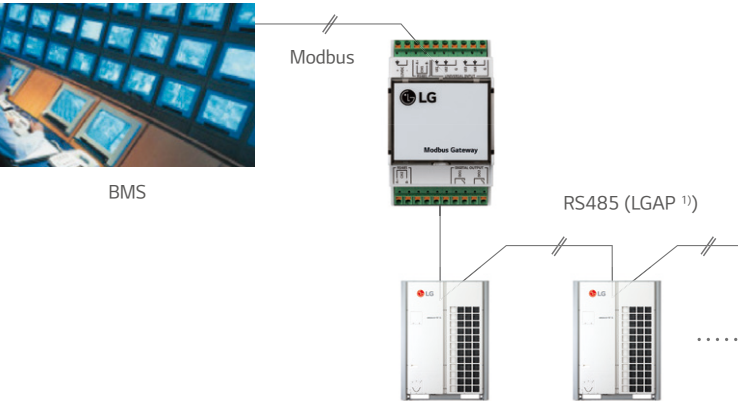
Features & Benefits

- Function
 - Modbus RTU communication with Modbus master controller
 - Modbus RTU slave (RS485) / 9,600 bps
 - Applicable for MULTI V 5, ERV, Heating
 - Size (W x H x D, mm) : 53.6 x 89.7 x 60.7
 - Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules
 - Power : DC 12V (250mA)
 - No slave allowed in LGAP

Installation Scene

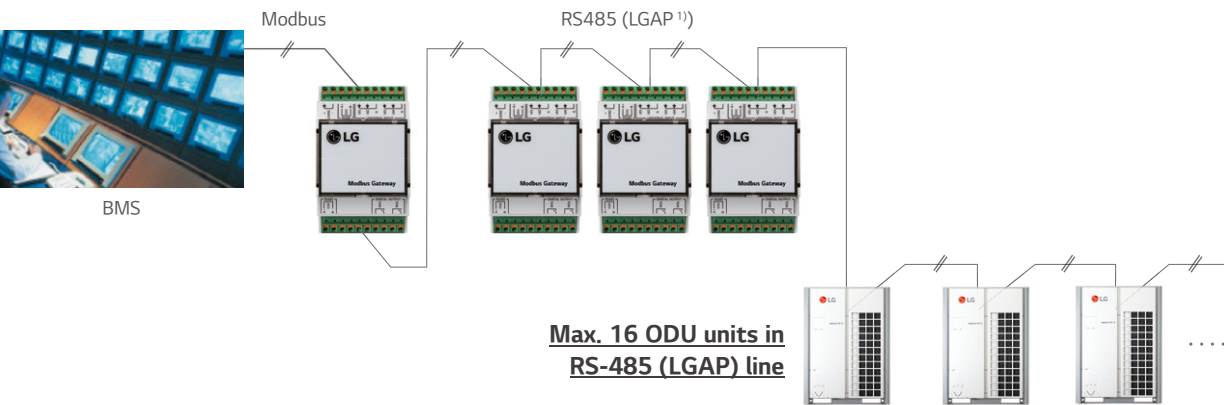
Single Module

Max. 16 indoor units with a single module



Multiple Module

Max. 64 indoor units with 4 modules in one Modbus communication line



1) LGAP is LG Protocol.
Max. 16 ODU units in RS-485

Modbus Gateway Memory Map

Baud Rate : 9,600 bps, Stop Bit : 1 stop bit, Parity : None Parity, Byte size : 8 bits

Coil Register (0 x 01)

NO.	DATA BIT			FUNCTION	REGISTER
	AIR CONDITIONER	ERV / DX ERV	HYDRO KIT & THERMA V		
1	Operate (On / Off)	Operate (On / Off)	Operate (On / Off)	0 : Stop / 1 : Run	Register = N X 16 + ① (N = Indoor Unit Central Address)
2	Auto Swing	Aircon Operate (On / Off)	Hot Water Mode (On / Off)	0 : Disable / 1 : Enable	
3	Filter Alarm Release	Filter Alarm Release ¹⁾	Reserved	0 : Normal / 1 : Alarm Release	
4	Lock Remote Controller	Lock Remote Controller	Lock Remote Controller	0 : UnLock / 1 : Lock	
5	Lock Operate Mode	Lock Operate Mode ¹⁾	Reserved	0 : UnLock / 1 : Lock	
6	Lock Fan Speed	Lock Fan Speed ¹⁾	Reserved	0 : UnLock / 1 : Lock	
7	Lock Target Temp.	Lock Target Temp. ¹⁾	Reserved	0 : UnLock / 1 : Lock	
8	Lock IDU Address	Lock IDU Address ¹⁾	Reserved	0 : UnLock / 1 : Lock	
9	Reserved	Quick Ventilate	Reserved	0 : Disable / 1 : Enable	
10	Reserved	Energy Save	Reserved	0 : Disable / 1 : Enable	

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

Discrete Register (0 x 02)

NO.	DATA BIT			FUNCTION	REGISTER
	AIR CONDITIONER	ERV / DX ERV	HYDRO KIT & THERMA V		
1	Connected IDU	Connected IDU	Connected IDU	0 : Disconnected / 1 : Connected	Register = N X 16 + ① (N = Indoor Unit Central Address)
2	Alarm	Alarm	Alarm	0 : Normal / 1 : Alarm	
3	Filter Alarm	Filter Alarm ¹⁾	Hot Water Only ²⁾	• 0 : Normal / 1 : Alarm Hydro Kit • 0 : Normal / 1 : Hot Water Only	
4	Reserved	Reserved	Target Temp. Select	0 : Air / 1 : Water	
5	Reserved	Reserved	Error Division ²⁾	0 : CH type error / 1 : BC type error	

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

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

Holding Register (0 x 03)

NO.	DATA BIT			FUNCTION	REGISTER
	AIR CONDITIONER	ERV / DX ERV	HYDRO KIT & THERMA V		
1	Operate Mode	Operate Mode	Operate Mode	• 0 : Cooling, 1 : Dehumidifying, 2 : Fan, 3 : Auto, 4 : Heating Hydro Kit (Middle Temp. DHW) / AWHP • 0 : Cooling, 3 : Auto, 4 : Heating Hydro Kit (High Temp. DHW)	Register = N X 20 + ① (N = Indoor Unit Central Address)
2	Fan Speed	Fan Speed	Target Temp. DHW ²⁾	1 : Low, 2 : Mid, 3 : High, 4 : Auto	
3	Target Temp.	Target Temp. ¹⁾	Target Temp. ²⁾	16.0 ~ 30.0 [°C] x 10	
4	Target Temp. Limit (Upper)	Target Temp. Limit ¹⁾ (Upper)	Reserved	16.0 ~ 30.0 [°C] x 10	
5	Target Temp. Limit (Lower)	Target Temp. Limit ¹⁾ (Lower)	Reserved	16.0 ~ 30.0 [°C] x 10	
6	Reserved	Vent. Operate Mode	Reserved	0 : HEX, 1 : Auto, 2 : Normal	

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

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

Input Register (0 x 04)

NO.	DATA BIT			FUNCTION	REGISTER
	AIR CONDITIONER	ERV / DX ERV	HYDRO KIT & THERMA V		
1	Error Code	Error Code	Error Code	0 ~ 255 ※ Please refer to the product error table.	Register = N X 20 + ① (N = Indoor Unit Central Address)
2	Room Temp.	RA Temp.	Room Temp.	-99.0 ~ 99.0 [°C] x 10	
3	Pipe In Temp.	OA Temp. ¹⁾	Water Inlet Temp.	-99.0 ~ 99.0 [°C] x 10	
4	Pipe Out Temp.	SA Temp. ¹⁾	Water Outlet Temp.	-99.0 ~ 99.0 [°C] x 10	
5	Reserved	Pipe In Temp. ¹⁾	Sanitary Tank Temp.	-99.0 ~ 99.0 [°C] x 10	
6	Reserved	Pipe Out Temp. ¹⁾	Solar Temp. ²⁾	-99.0 ~ 99.0 [°C] x 10	

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

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

KNX Gateway

Technical and service support must come from Intesis directly.
LG Electronics Inc. warrants and assumes no liability for this product.
- This is the landing page of INTESIS MAPS: <https://www.intesis.com/products/intesis-maps-home>.

INKNXLGE0160036 / INKNXLGE0640036

Specially designed to allow monitoring and bidirectional control of all the parameters and functionality of LG air conditioners from KNX protocol.



Key features

- 2 model types
- Up to 64 connectable indoor units
- Direct connection to KNX TP1 bus
- Independent management of communications
- Power supply : 9 to 36V DC or 24V AC (not included)
- KNX Power consumption : 5mA
- Standard DIN-Rail 6 modules enclosure
- LG Slave Central controller (for example, AC Smart) and PDI can be operated with KNX gateway

Key benefits

- Easy & quick installation : user comfort
- Flexible integration (Intesis MAPS & KNX) Export Group Address by "csv" file to ETS5/6
- Compatibility with all LG products (Air-Conditioning, ERV, Hydrokits and AVVHP)
- Ergonomic & friendly user interface (using the supplied software Intesis MAPS)
- One single tool for settings, commissioning, SW update and troubleshooting

Key messages

- Manage your building with an advanced building automation solution
- Energy savings
- Power consumption measurement using additional LG PDI device
- Bidirectional communication between LG & KNX
- Your system diagnostics accessible through LG Error codes

MODEL NAME	MAX. CONNECTION INDOOR UNITS
INKNXLGE0160036	16
INKNXLGE0640036	64

Link BoxEIB Configuration Software for IntesisBox® KNX Serious

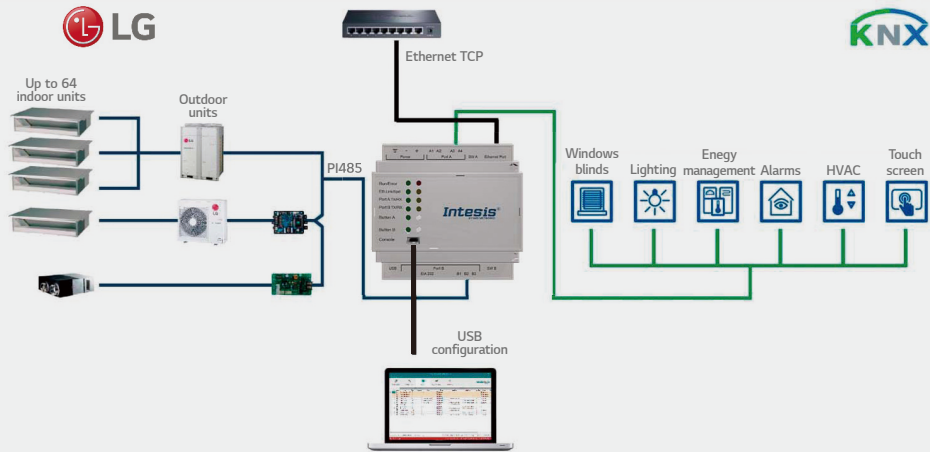
Easy to use tool for the configuration of intesisBox, in a fast and effective way.
It offers the maximum integration possibilities with a minimal knowledge required on the system to be integrated.



LinkBoxEIB
Configuration software

- Only needed during configuration.
- One single tool for the configuration of the whole range of IntesisBox KNX series gateways.
- Supplied with IntesisBox with no additional cost.
- Configuration examples for all systems that can be integrated.
- Mapping table editable using excel, allowing a simple and fast association of KNX Group Addresses, exported from ETS, to IntesisBox's datapoints.
- Includes powerful and useful features for configuration, setup and troubleshooting.

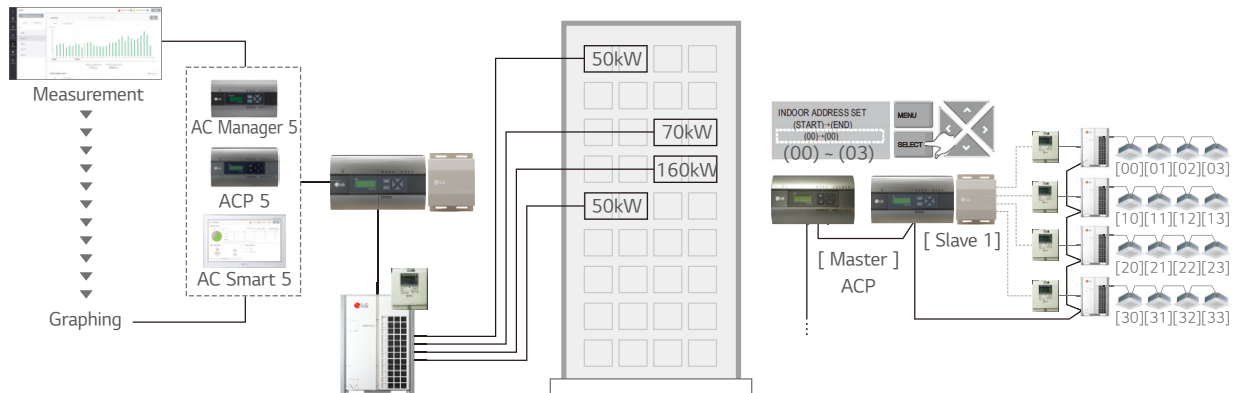
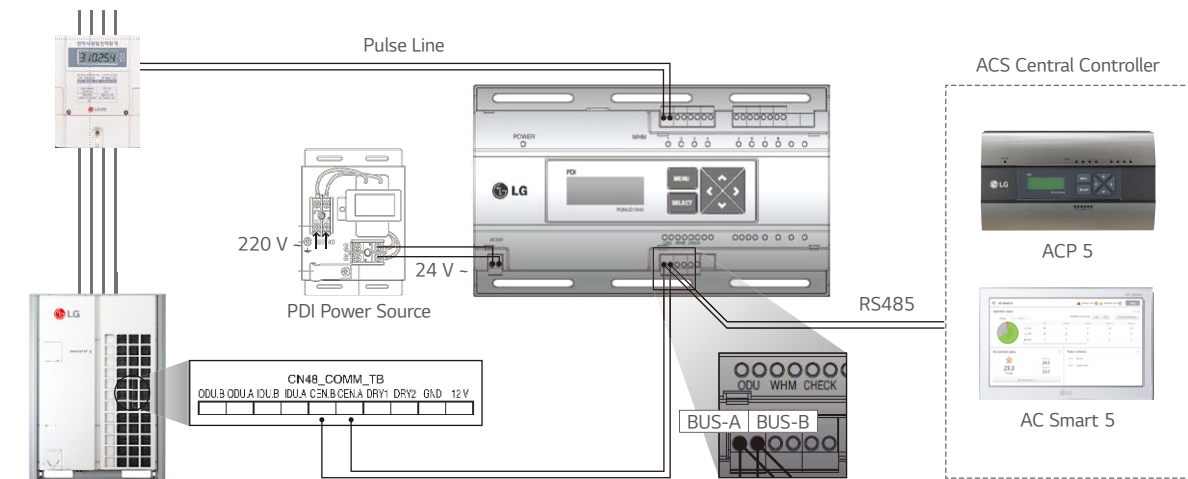
Installation Scene



Integration of LG VRF systems into KNX control systems







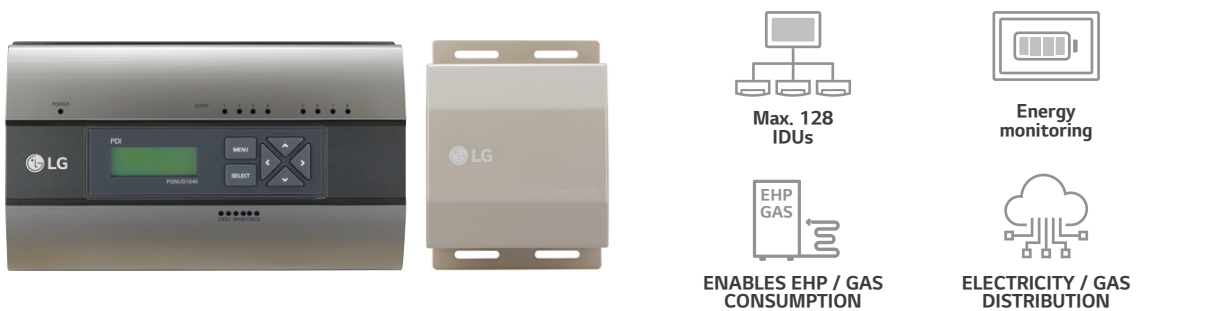
Note :

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)

PDI (Power Distribution Indicator)

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

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



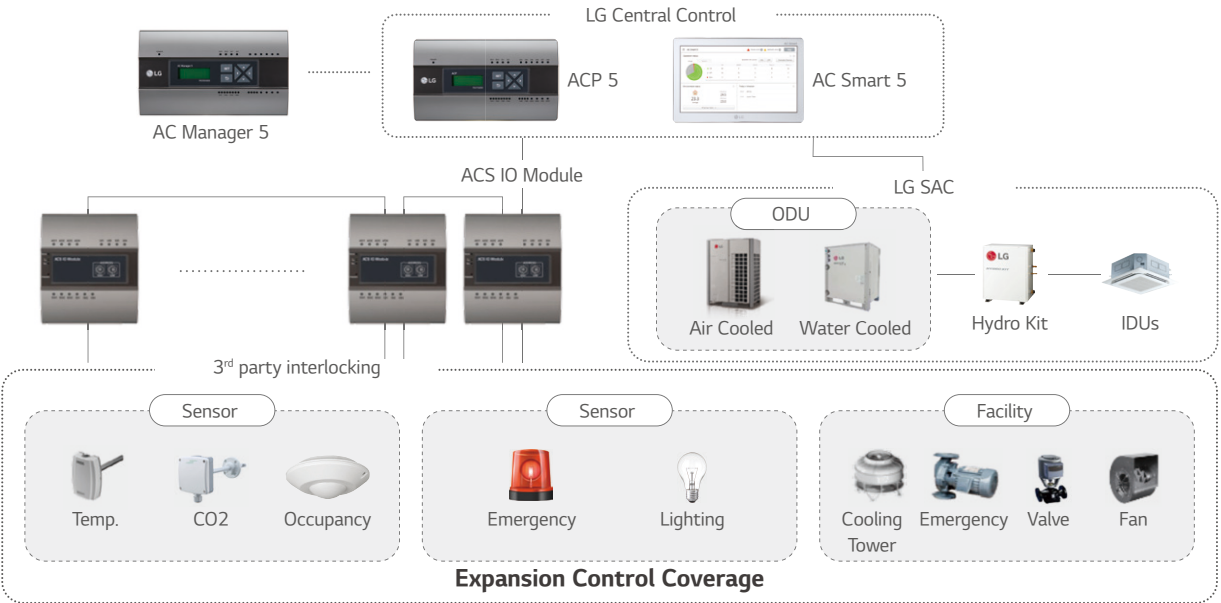
Features & Benefits

- 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

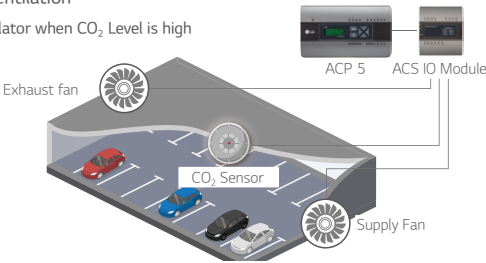
ACS IO Module



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

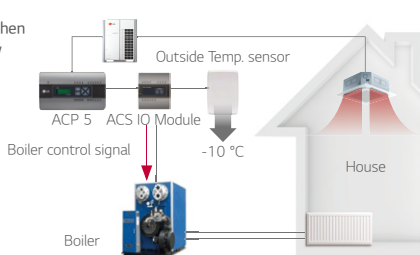
Case. 1

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)

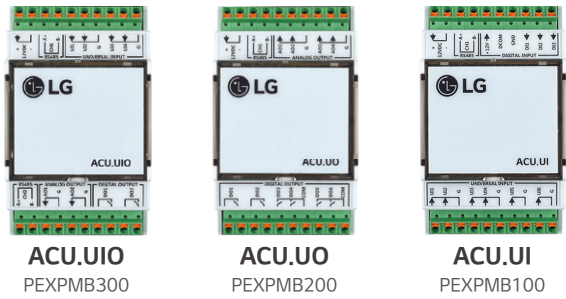
MODEL NAME		PEXPMB000		
Linkable Products		PACS5A000, PACP5A000		
I / O	Communication	RS-485	1 ch	
	Digital Input		3 ports	
	Digital Output		3 ports	
	Universal Input ¹⁾		4 ports	
	Analog Output		4 ports	
VALUE SPEC		MIN.	MAX.	
Analog Input	NTC 10k	0.68kΩ	177kΩ	
	PT 1000	803Ω	1,573Ω	
	Ni 1000	871.7Ω	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	PACS5A000, PACP5A000		
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	

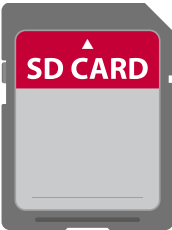
VALUE SPEC		MIN.	MAX.
Analog Input	DC (Voltage)	0V	10V
Analog Output	DC (Voltage)	0V	10V
Digital Input	Binary Input (Non Voltage)	-	-
Digital Output	Normal Open	-	30VDC, 1A

※ ○ : Applied, - : Not Applied
1) The type of UI (Universal Input) is selectable among Digital Input and Analog Input.

Chiller Option Kit

PCHLLN000

LG central controller 5 series with Chiller Option Kit can provide LG chiller remote control and cycle monitoring.



MODEL NAME	PCHLLN000
Monitoring Points	Evaporator status / Compressor status (Scroll, Screw, Centrifugal chiller only) / Condenser status / Generator status (Abs. chiller only)
On / Off	○
Target Temp. setting	○
Mode	Scroll chiller only
Schedule	○
Interfaceable Products	Scroll, Screw, Centrifugal, Absorption (LG Only)

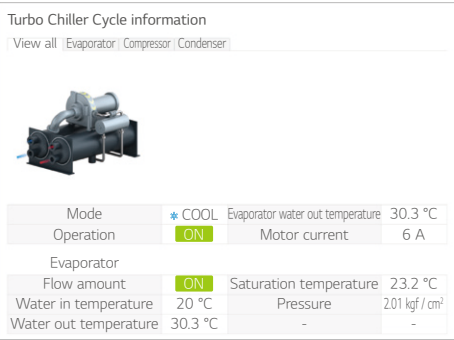
※ ○ : Applied, - : Not Applied

Installation Scene

- Chiller Option Kit installation of ACP, AC Smart should be conducted by a specialized installation service engineer.
- Chiller Option Kit installation can be achieved with a SD Card.
- The SD Card can install Chiller Option Kit in one ACP, AC Smart. Insert the SD Card in the ACP, AC Smart. If a backup SD Card is inserted, replace it with a Chiller Option Kit SD Card.

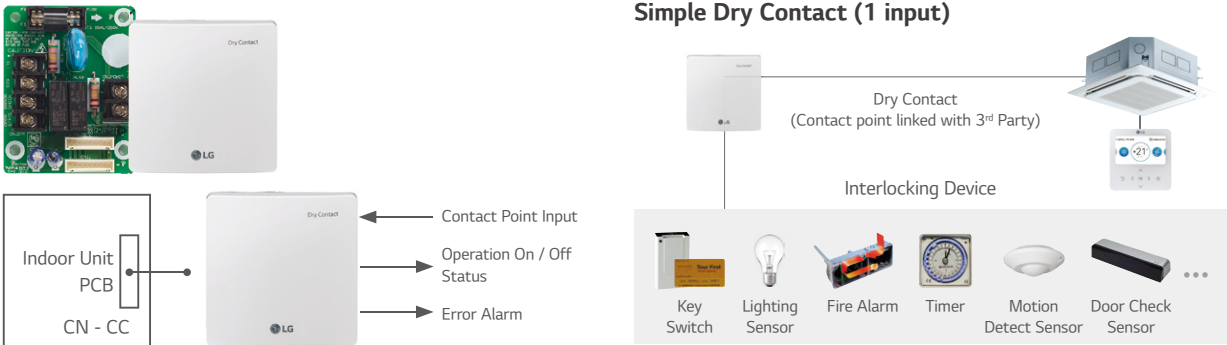


Cycle Display Example

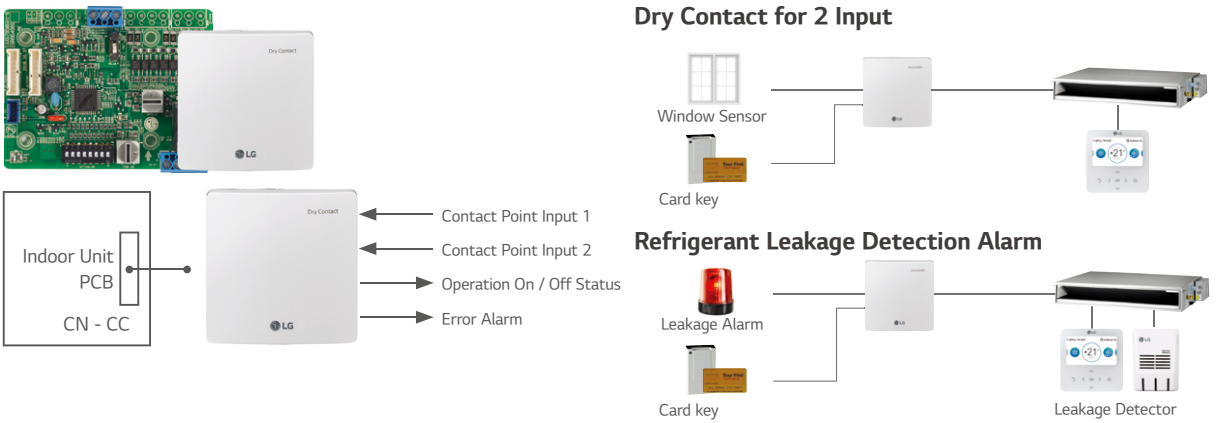


DRY CONTACT

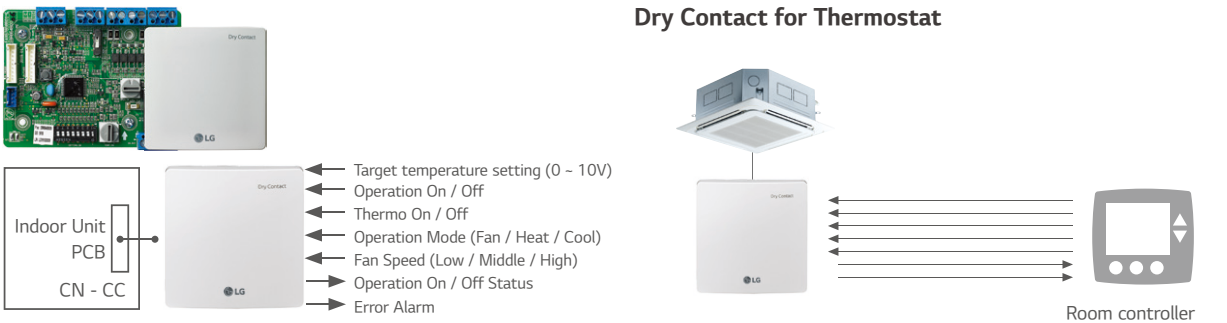
PDRYCB000



PDRYCB400

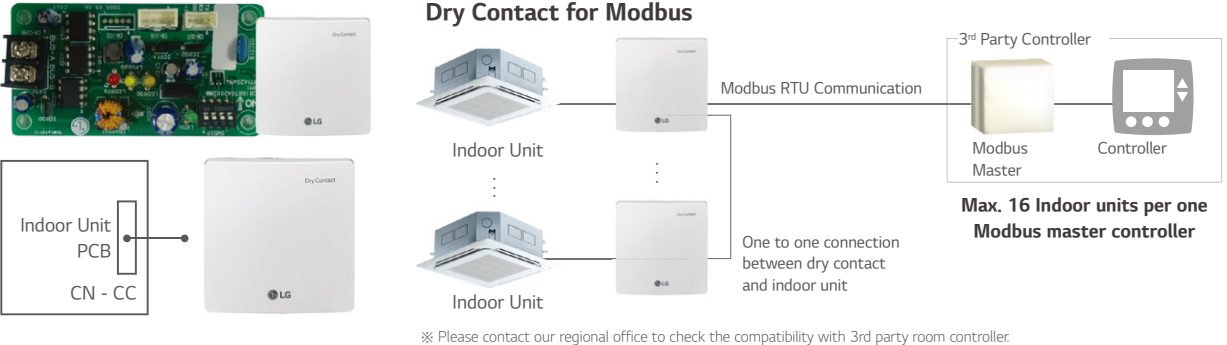


PDRYCB320



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

PDRYCB500



Specification

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

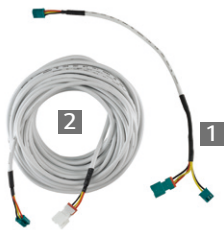
MODEL NAME		PDRYCB000	PDRYCB400	PDRYCB320	PDRYCB500
Case		○	○	○	○
Input Port		1	2	8	-
Universal Input port		-	-	1	-
Comm. Protocol		-	-	-	Modbus RTU
Power		AC 220V	Connect to Indoor unit PCB (CN_CC) : DC 12V		
Control	IDU	On / Off	○	○	○
		Operation Mode	-	○	○
		Set Temp.	-	(Select & Fix)	○
		Fan Speed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

※ ○ : Applied, - : Not Applied
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.

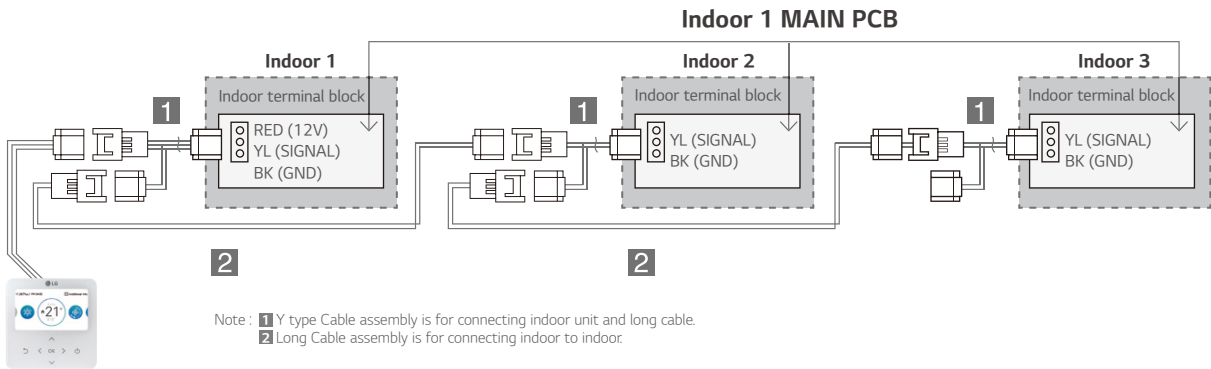
Group Control Wire

PZCWRCG3



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

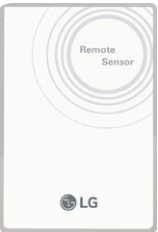
Installation Scene



Remote Temperature Sensor

PQRSTAO

Sensor for detecting the room temperature.

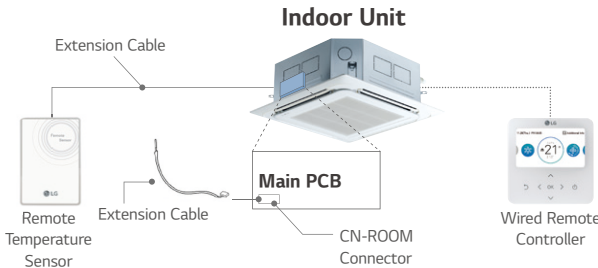


Features & Benefits

- 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

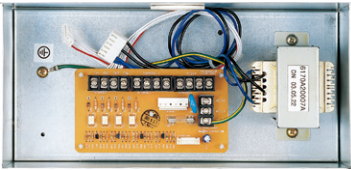
1. Wire to the control box in the indoor unit by removing the existing thermistor and connect the extension cable its place.
2. Cut the extension cable to the appropriate length and connect the screw terminal of the remote sensor.



Zone Controller

ABZCA

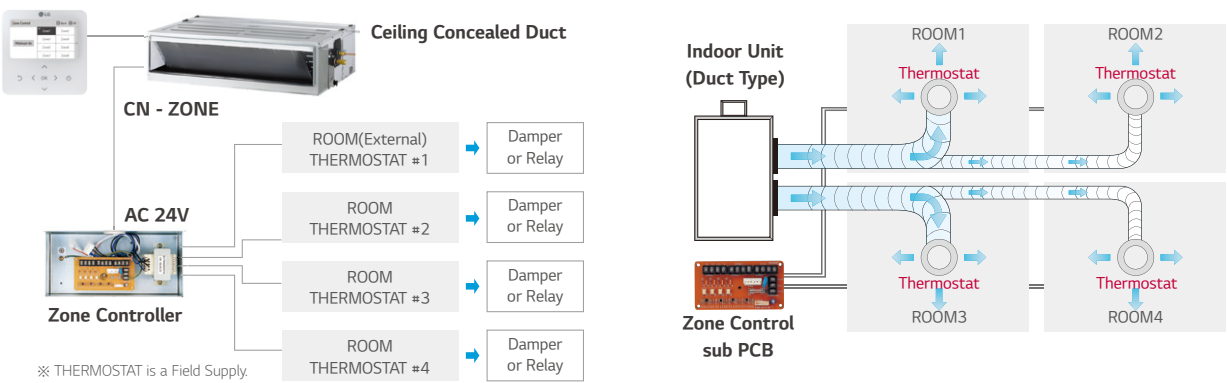
Controls air conditioning in up to 4 zones by external thermostat.



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 5 and external IO (Input / Output Module) devices.

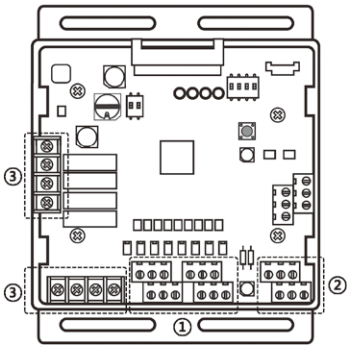
Models Applied

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

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

Part Description

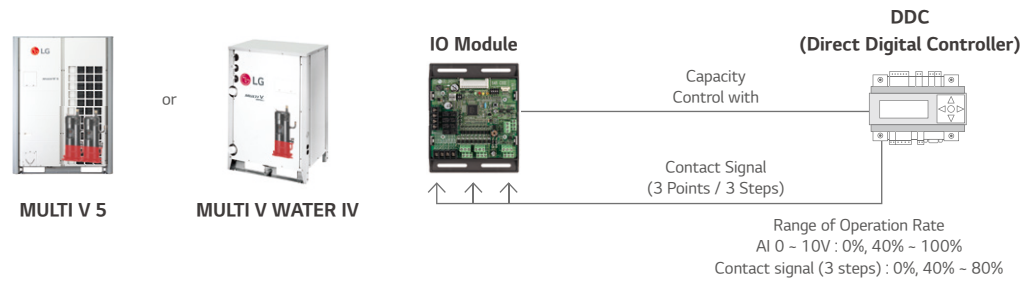
- 1) Digital Input Part (DI : Dry Contact Input)
 - Demand control by contact input (3 Step)
 - Low Noise Operation input
 - Priority Setting input : Setting the priority of demand control command (Capacity control for external signal from DDC vs Peak control by LG Central controller)
 - Open : External 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

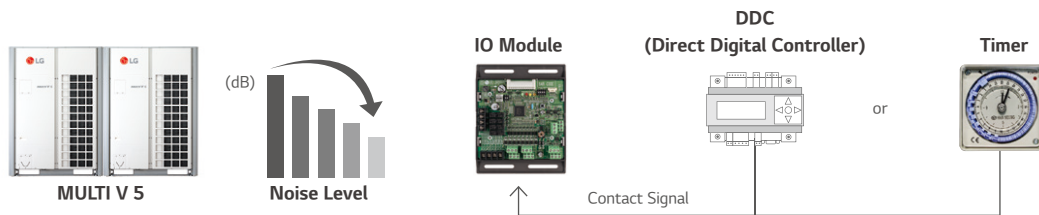
ODU Capacity Control

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

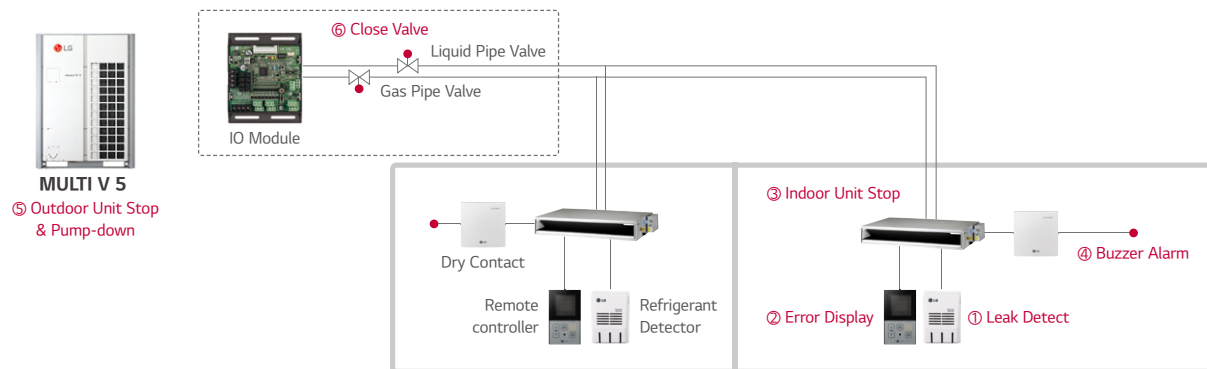
To reduce noise level, control outdoor unit's fan speed by dry contact input.



※ 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.

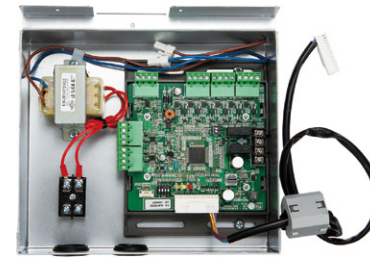


※ If the concentration of the refrigerant in the air exceeds 6,000 ppm more than 5 seconds, the function will be activated. (Refer to operation sequence which written in red, 1-6)

Variable Water Flow Control Kit

PWFCKN000 (MULTI V WATER IV)

Accessory for controlling the water flow.



Features

Function

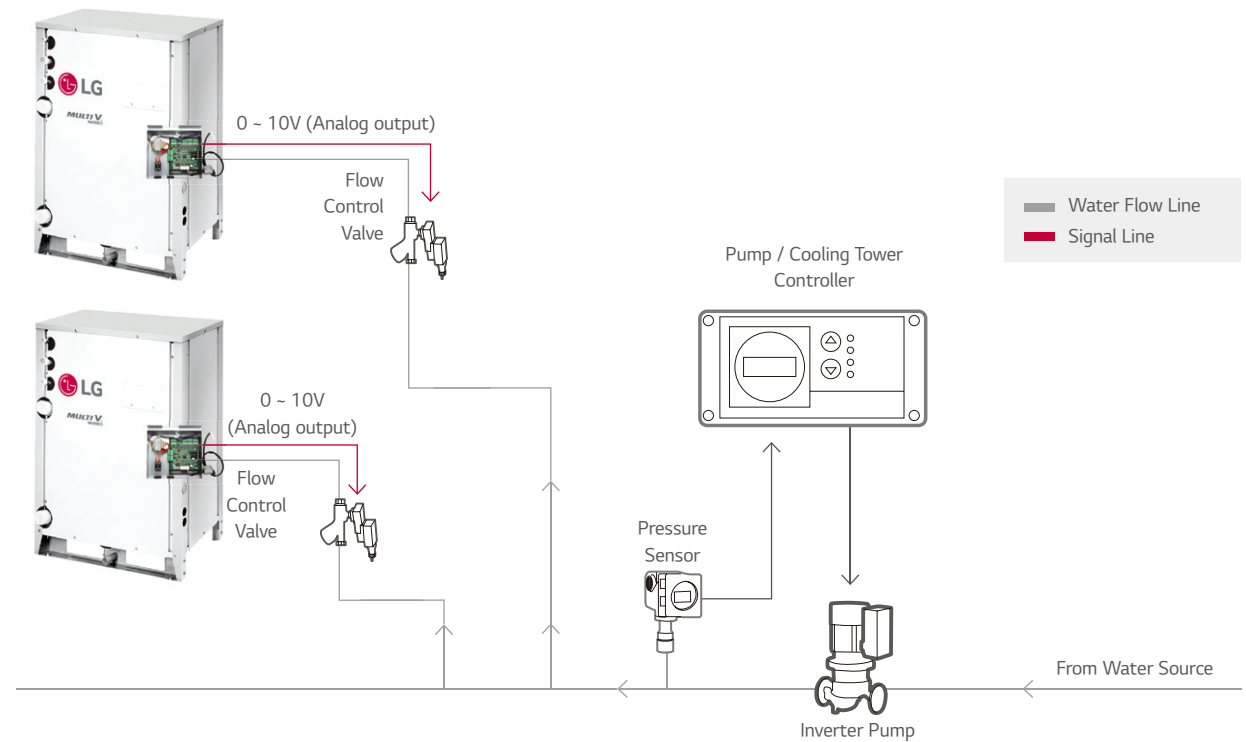
- Water pump or valve control (0 ~ 10V)
- Minimum output voltage setting available
- Operation, error output (AC 250V, Max. 1A)
- Dry contact input and analog output for demand control
- Digital output for operation, error status (AC 250V, Max. 1A)

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

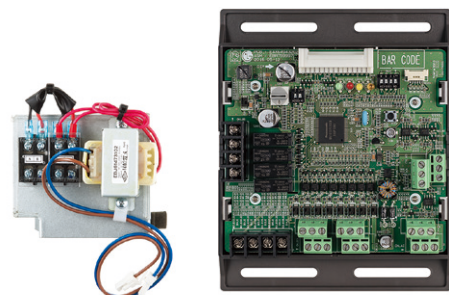
- Flow Control Valve : Regulates the flow or pressure of a fluid, normally responding to signals generated by independent devices.
- Flow Meter : Measures mass flow rate of a fluid traveling through a tube.
(The mass flow rate is the mass of the fluid traveling past a fixed point per unit time.)
- Pressure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

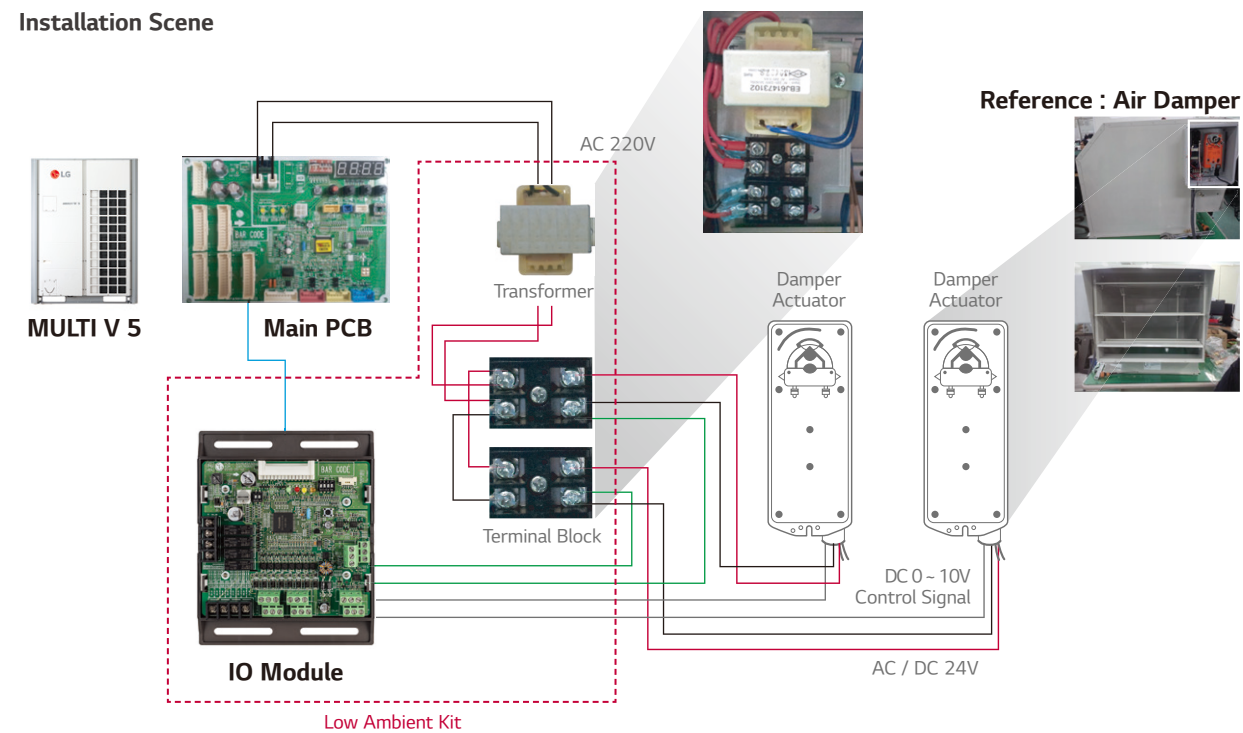
Description

- 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 5

Installation Scene



- Note
1. Damper Actuator can accept only DC 24V power input.
 2. Do not input AC power. Otherwise it will cause a serious damage.
 3. The IO Module can control maximum three actuators.
 4. Case of one valve, the slave signal connector must not use.
 5. 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 5
- MULTI V IV
- MULTI V WATER S
- MULTI V WATER II
- MULTI V S
- MUL TI V PLUS II, MULTI V PLUS
- MULTI V WATER IV

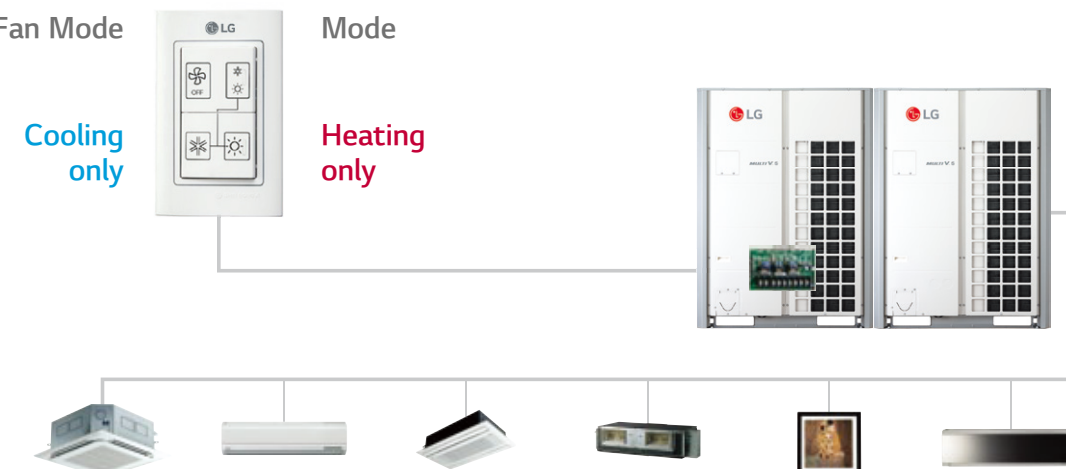
Note : Cool / Heat Selector is not compatible for Multi V S R32.

Fan Mode

Cooling only

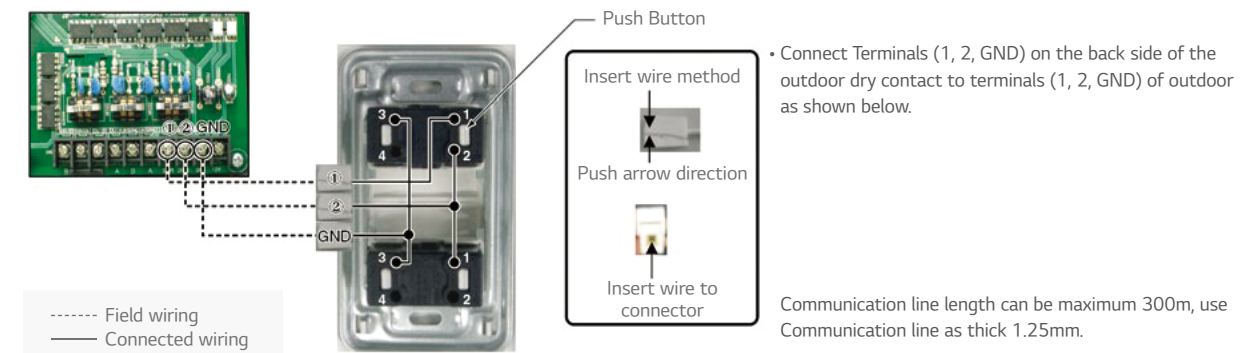
Mode

Heating only



Installation Scene

<Outdoor Main PCB >



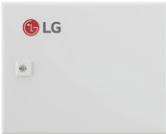
AHU Kit

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



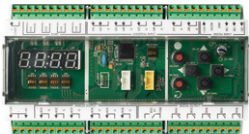
PAHCNM000

EEV KIT

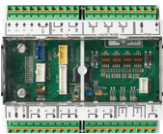


PRLK048A0
PRLK096A0

CONTROLLER MODULE



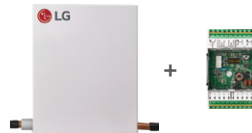
PAHCMM000



PAHCMC000



PRLK396A0



PRLK594A0

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

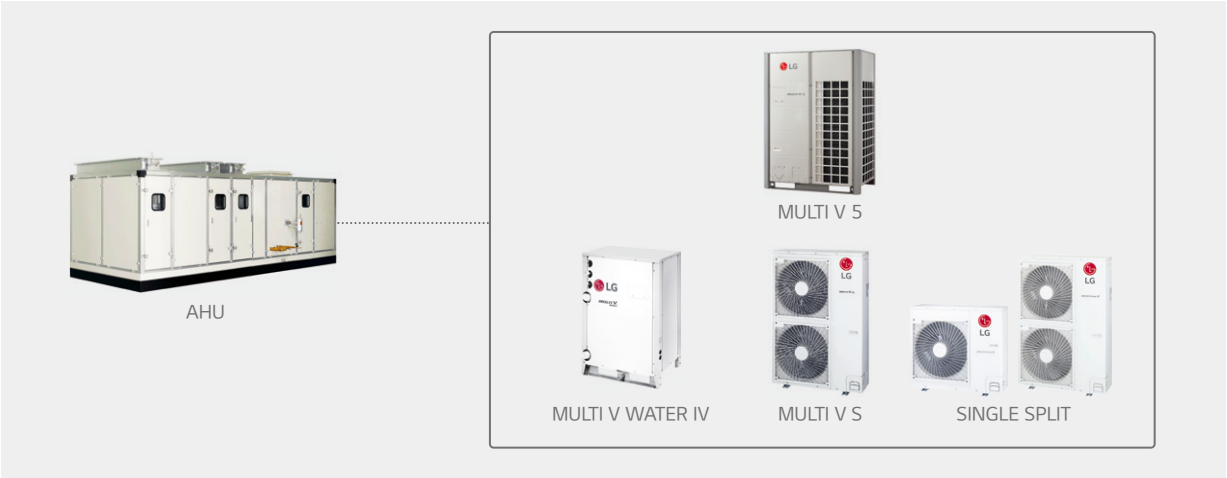
Communication Kit

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.



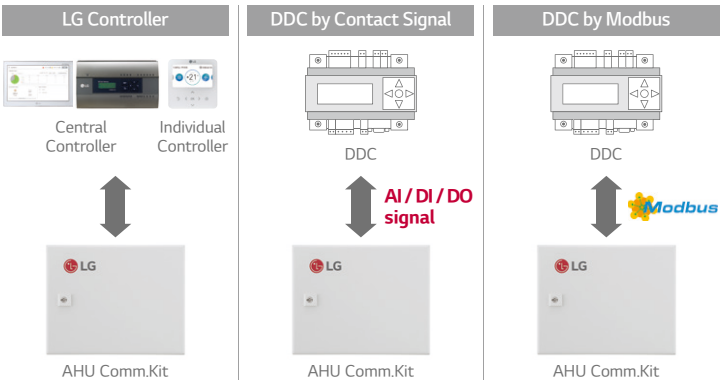
Diverse Options for Control

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



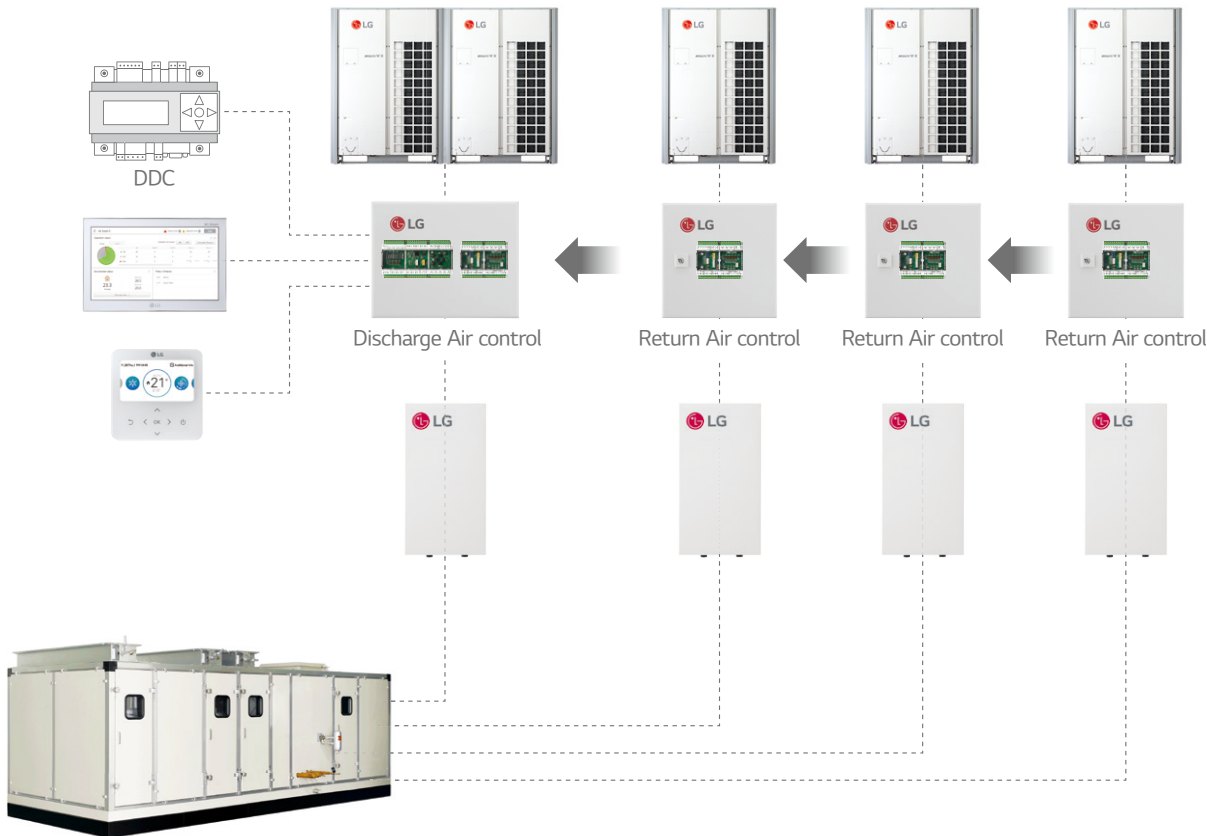
AHU Kit

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.

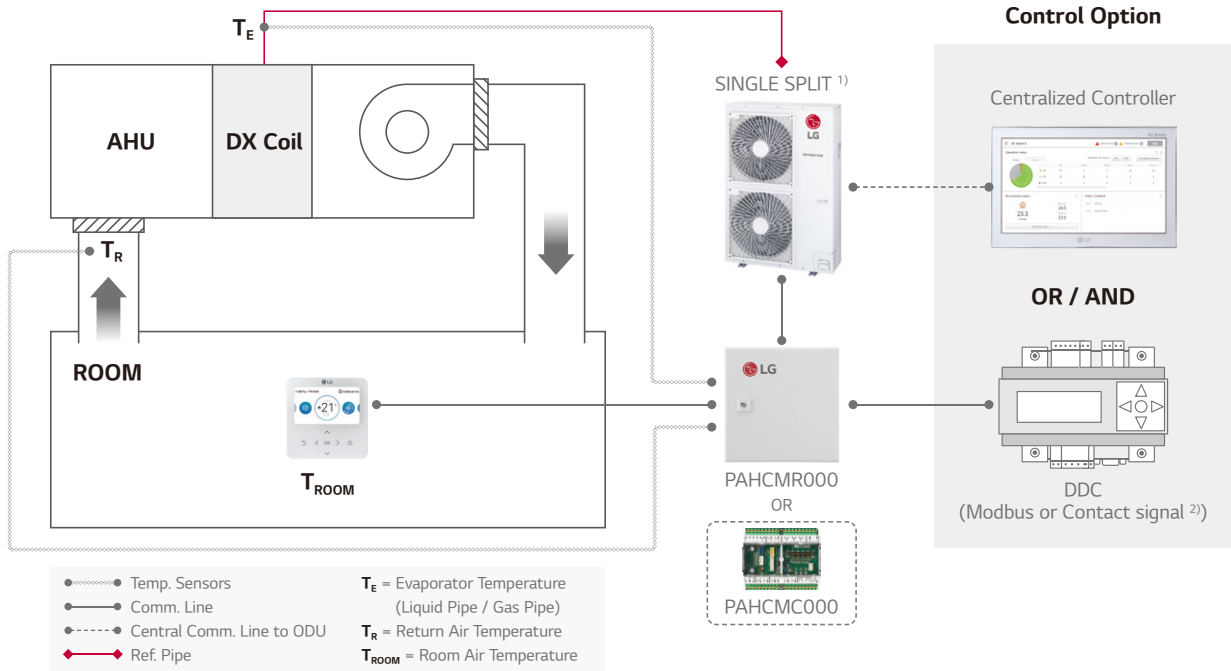
- Multiple module combination for large capacity AHU



Communication Kit & Controller Module

Single Split Application

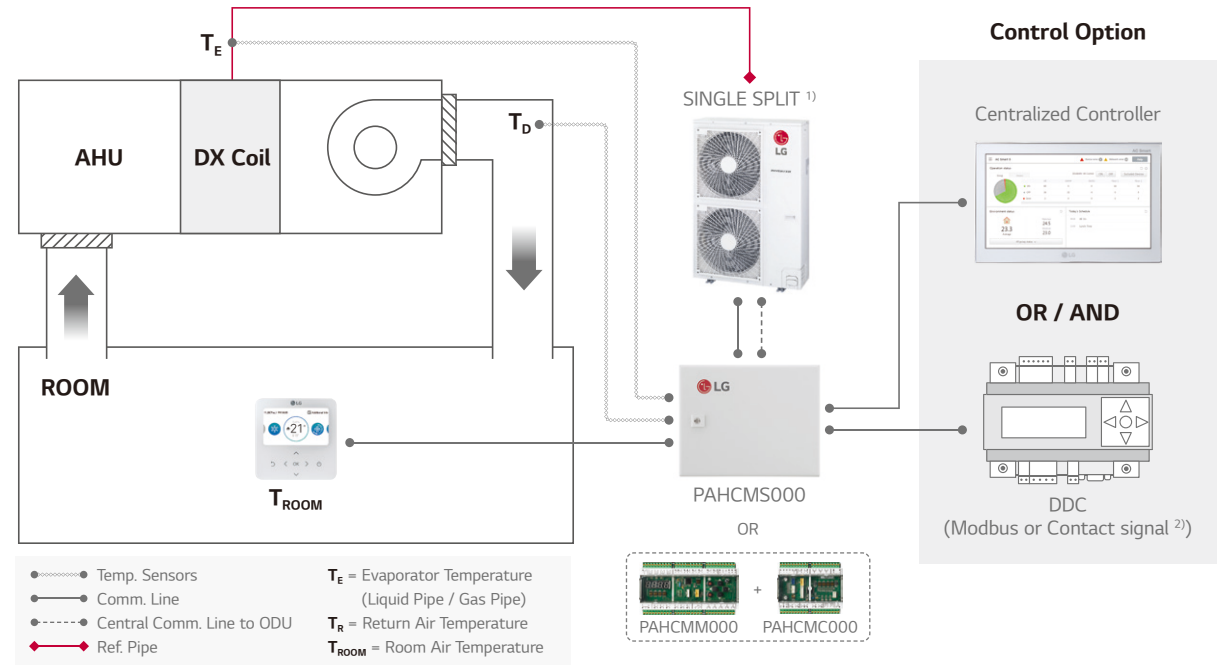
Single Split + Return / Room Air Temperature Control



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



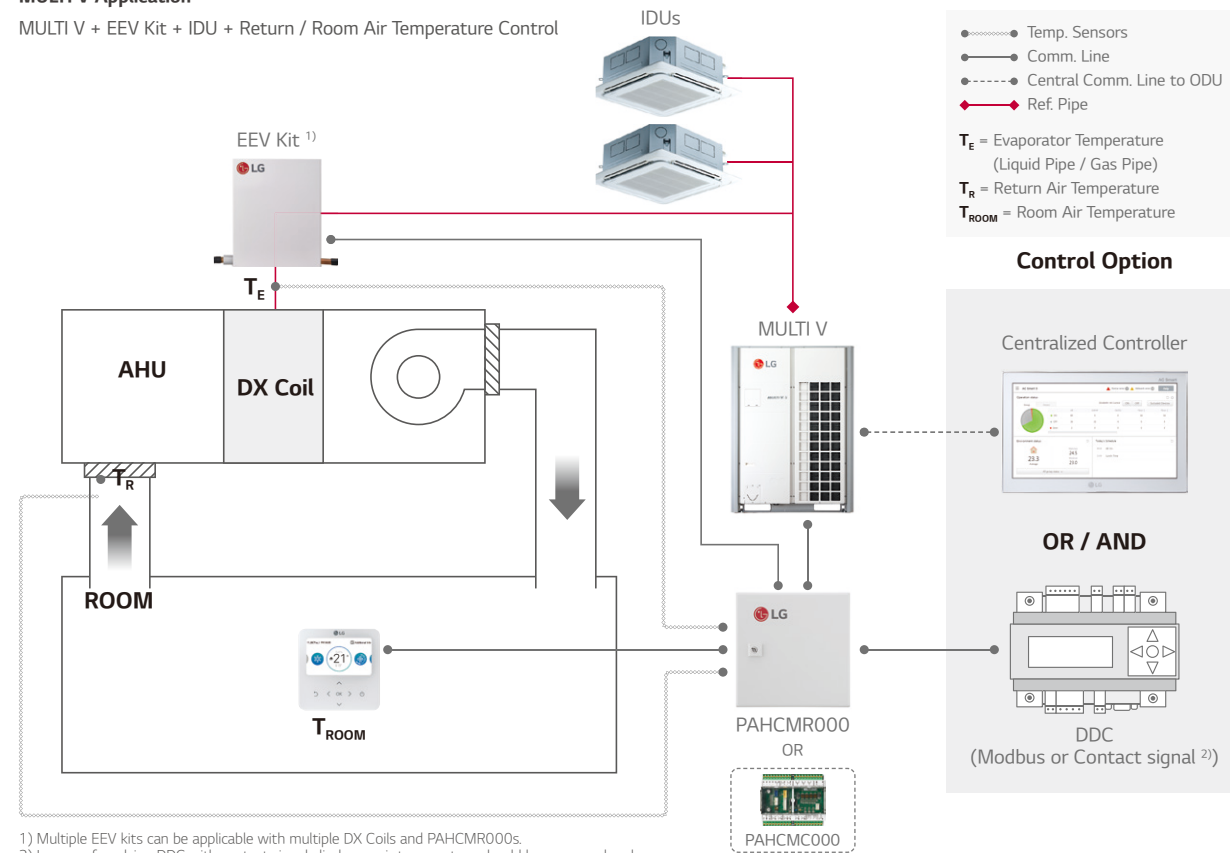
1) PI485 (PMNFP14A1) is required for centralized controller.
2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.
Note : For more detail, please refer to the PDB.

AHU Kit

Communication Kit & Controller Module

MULTI V Application

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



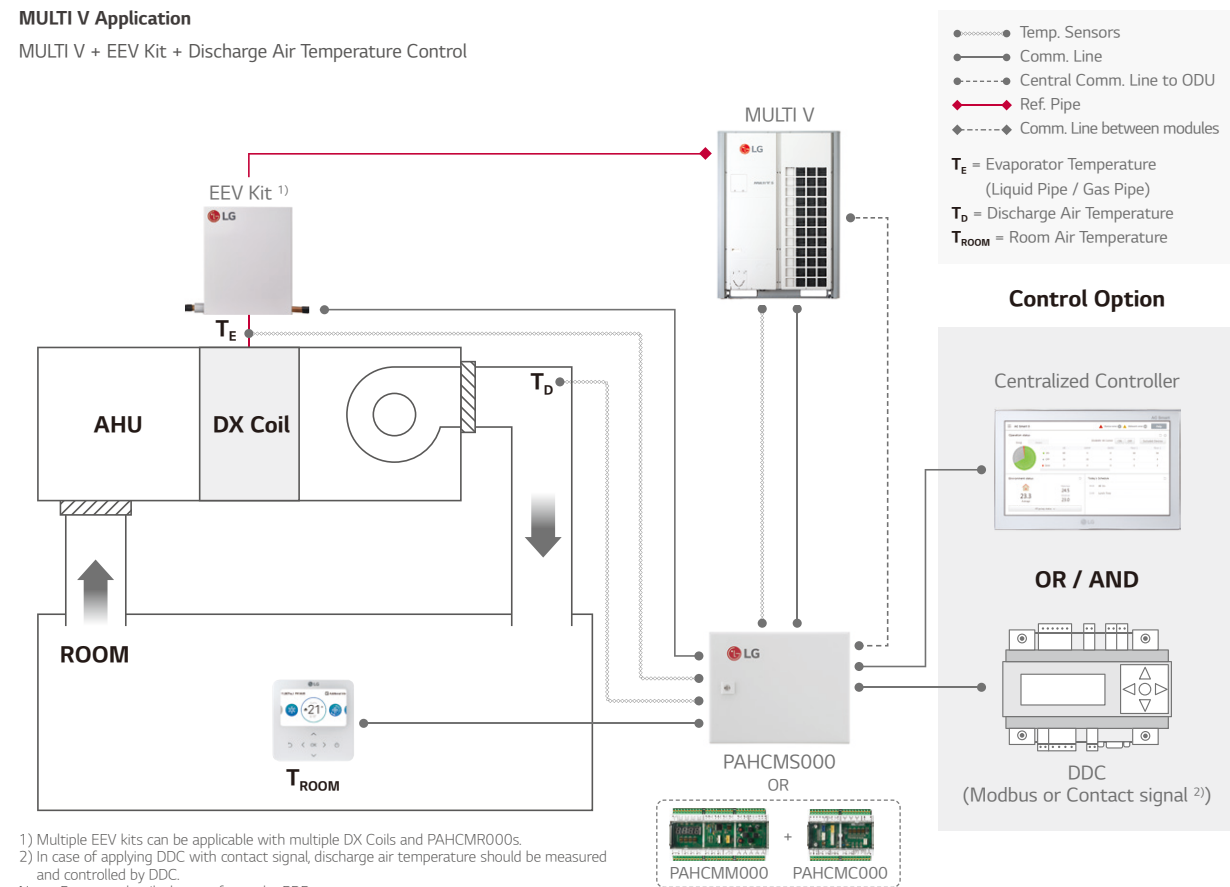
1) Multiple EEV kits can be applicable with multiple DX Coils and PAHCMR000s.

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 (PAHCM0000 + PAHCMC000)	TYPE	NOTE
Control ¹⁾	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)	-
	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)	-
Monitor	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),
	Error Alarm	Error / Normal	Error / Normal	Digital Output, Relay C contact (Max : DC 30 V / 1 A, AC 250V / 1 A)	In this case, 'fan speed' cannot be monitored by DO ports
	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
Control ¹⁾	Operation On / Off	On / Off	On / Off	
	Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	
	Return (Room) Air Temperature	16 ~ 30 °C	-	
	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	-	-	
Monitor	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
Control ¹⁾	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)
Monitor	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					BMS GATEWAY	PDI
	PREMIUM	STANDARD III	STANDARD II	AC EZ	AC EZ TOUCH	AC SMART 5	ACP 5	AC MANAGER 5 ¹⁾	ACP LONWORKS	PREMIUM STANDARD
										
Model no.	PREMTA000 PREMTA000A PREMTA000B	PREMTB100 PREMTBB10	PREMTB001	PQCSZ250S0	PACEZA000	PACS5A000	PACP5A000	PACM5A000	PLNWKB000	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	
		5	IV	III	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

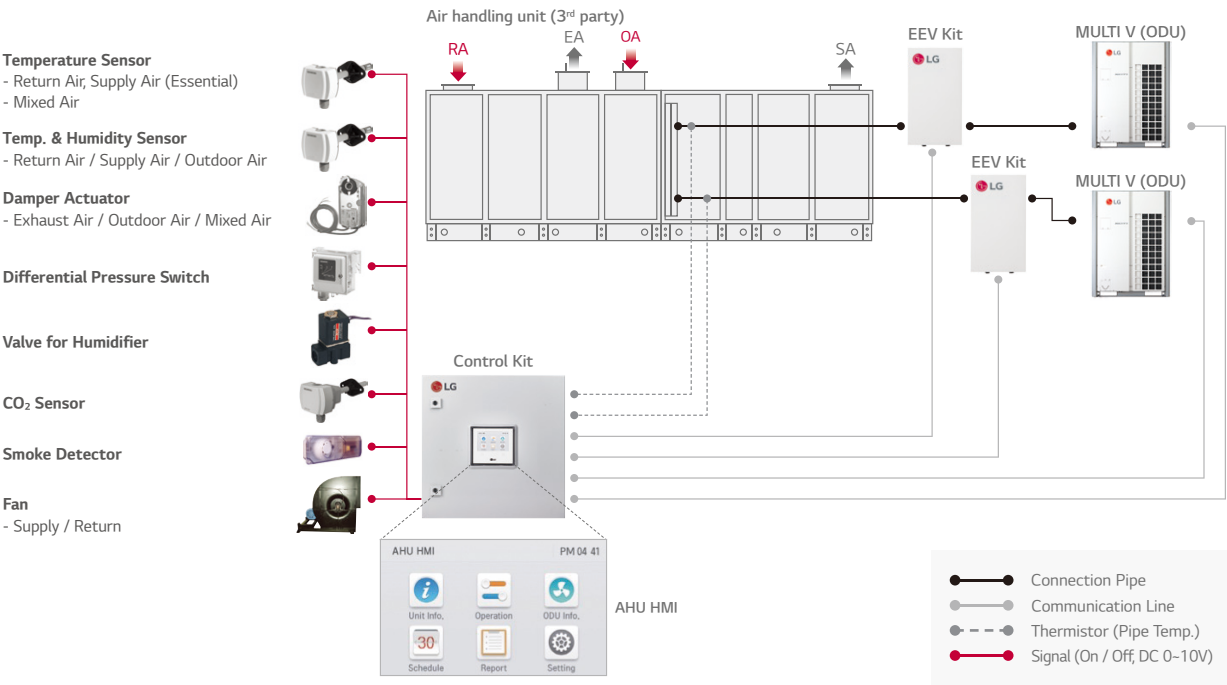
Control Kit

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

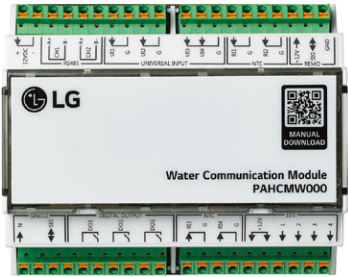
Field Supplied Item



Water Communication Module

PAHCMW000

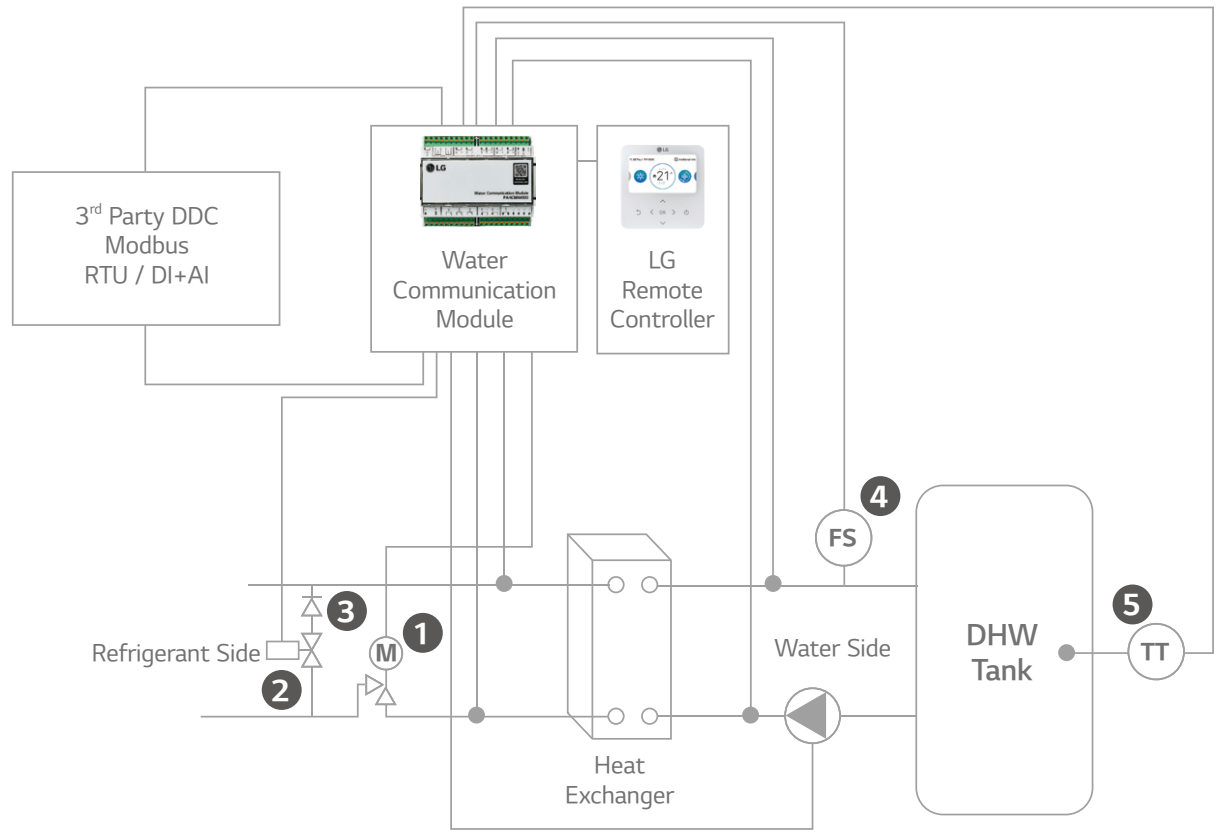
This module is intended to connect 3rd party plate heat exchanger to LG outdoor unit with the ability to control water temperature from 3rd party DDC or LG remote controller.



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

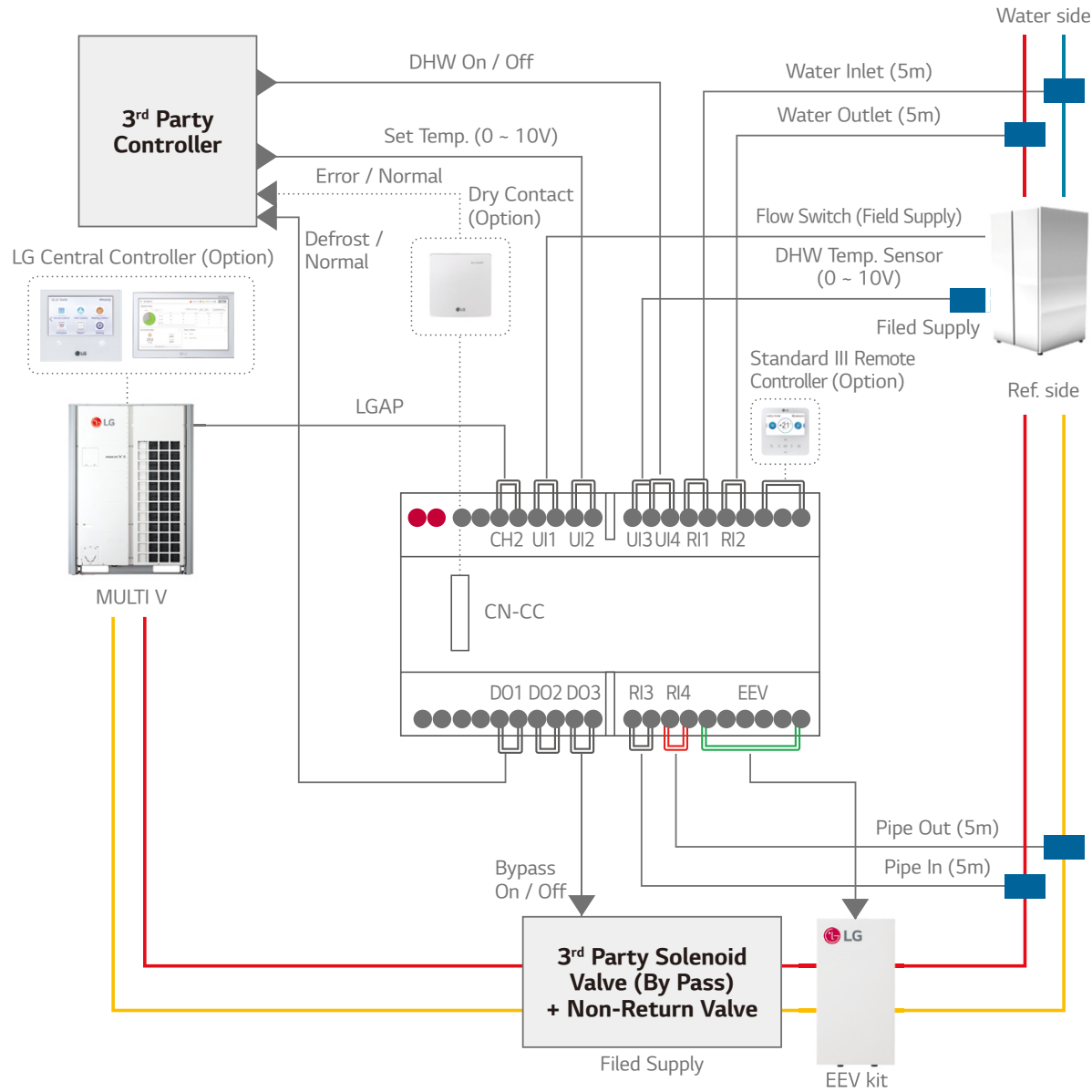
- The nominal flow and cut of flow can be calculated using the values below.

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

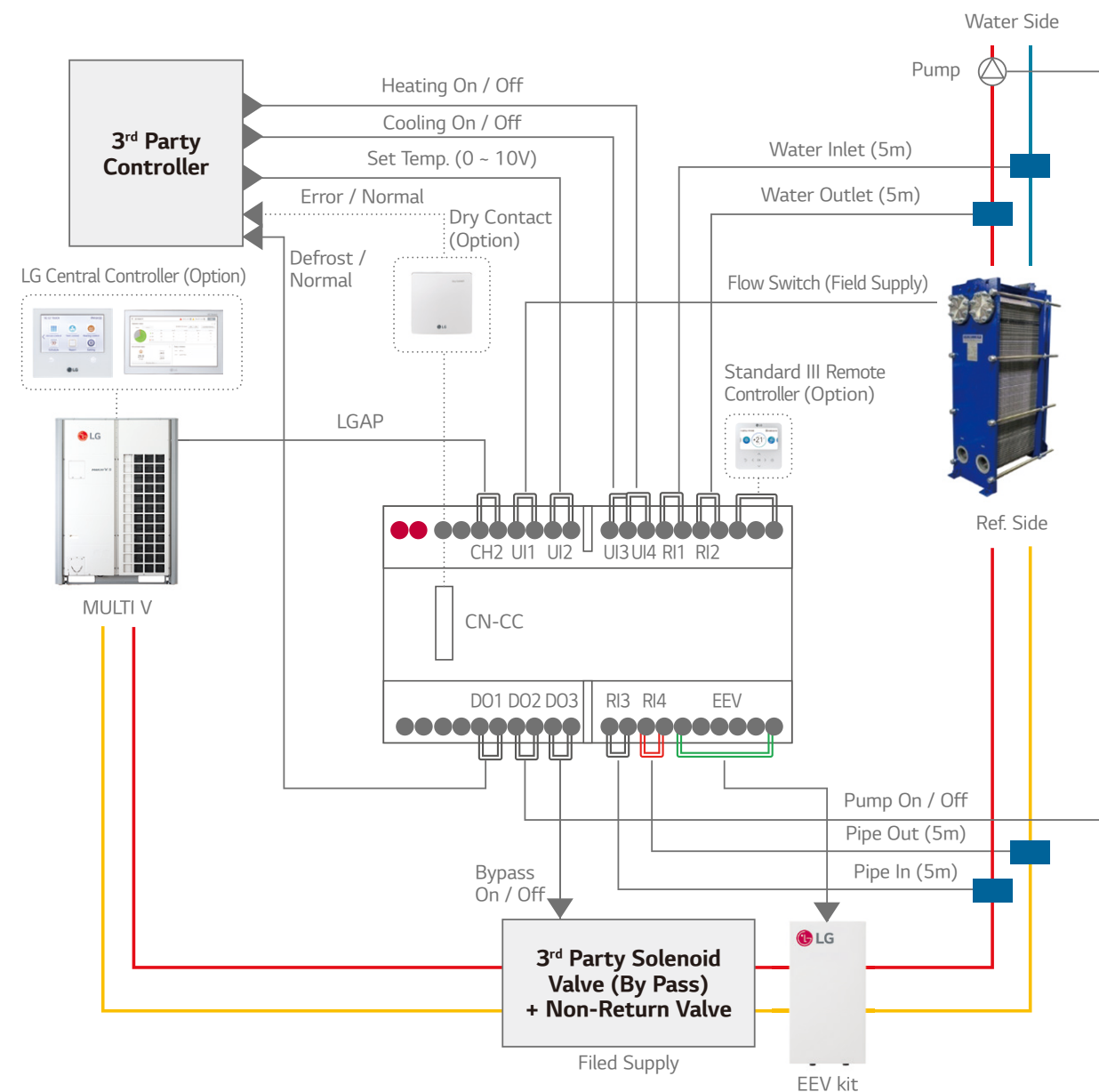
Contact signal + DHW Only Setting



Water Communication Module

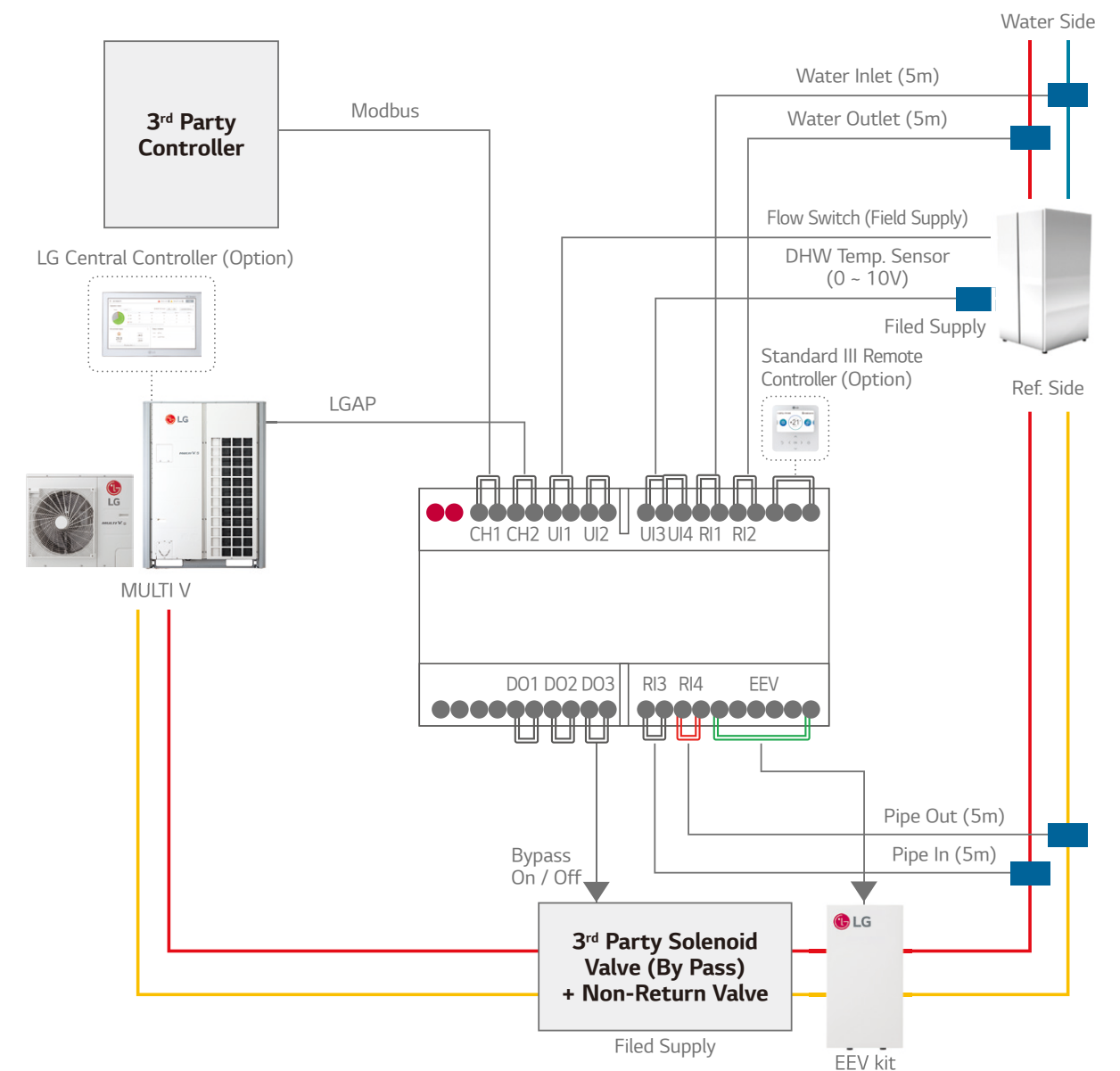
Installation Scene with Contact Connection

Contact signal + Heating / Cooling Setting



Installation Scene with Modbus / LG Control (Optional) Connection

Modbus + DHW Only Setting

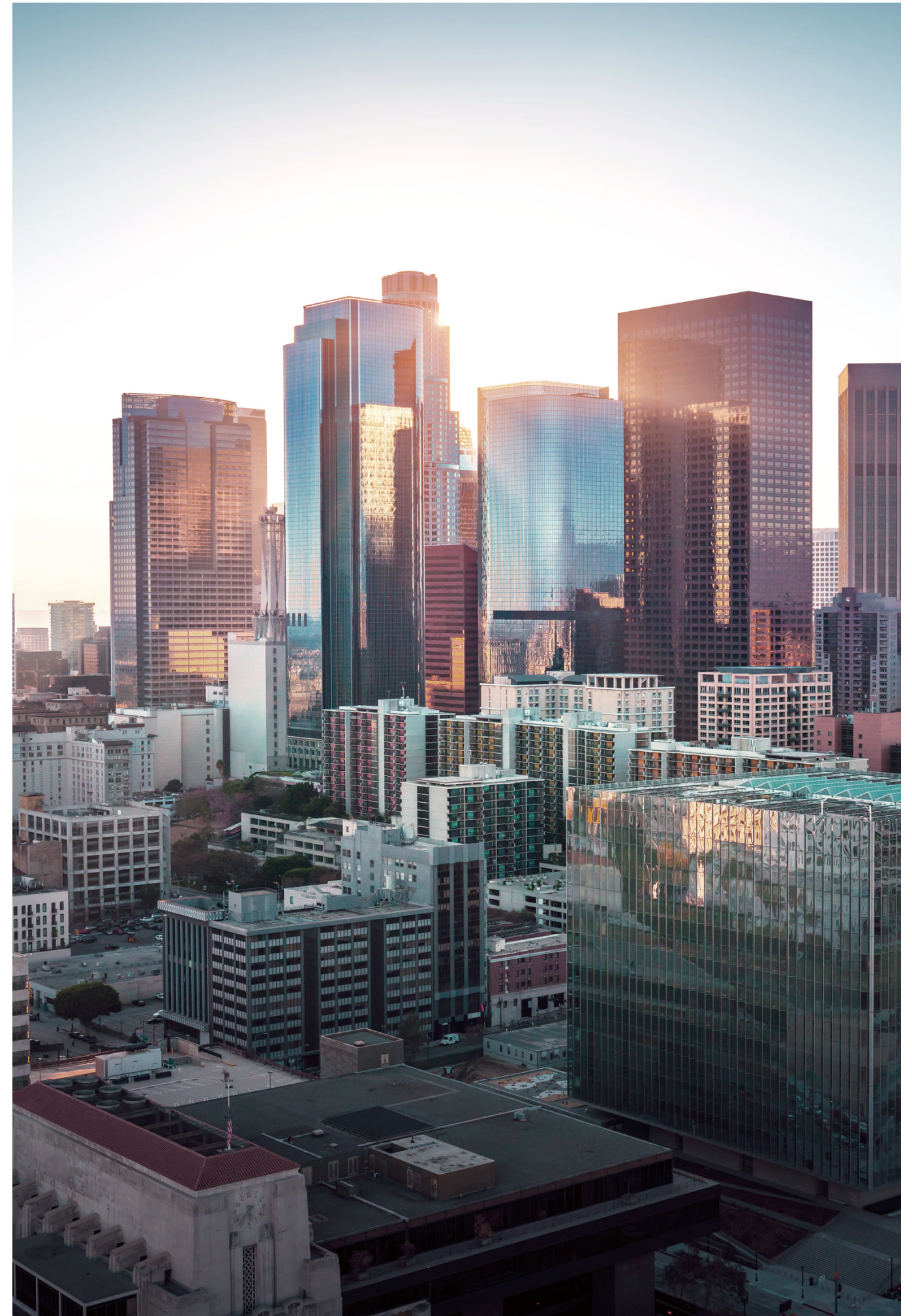
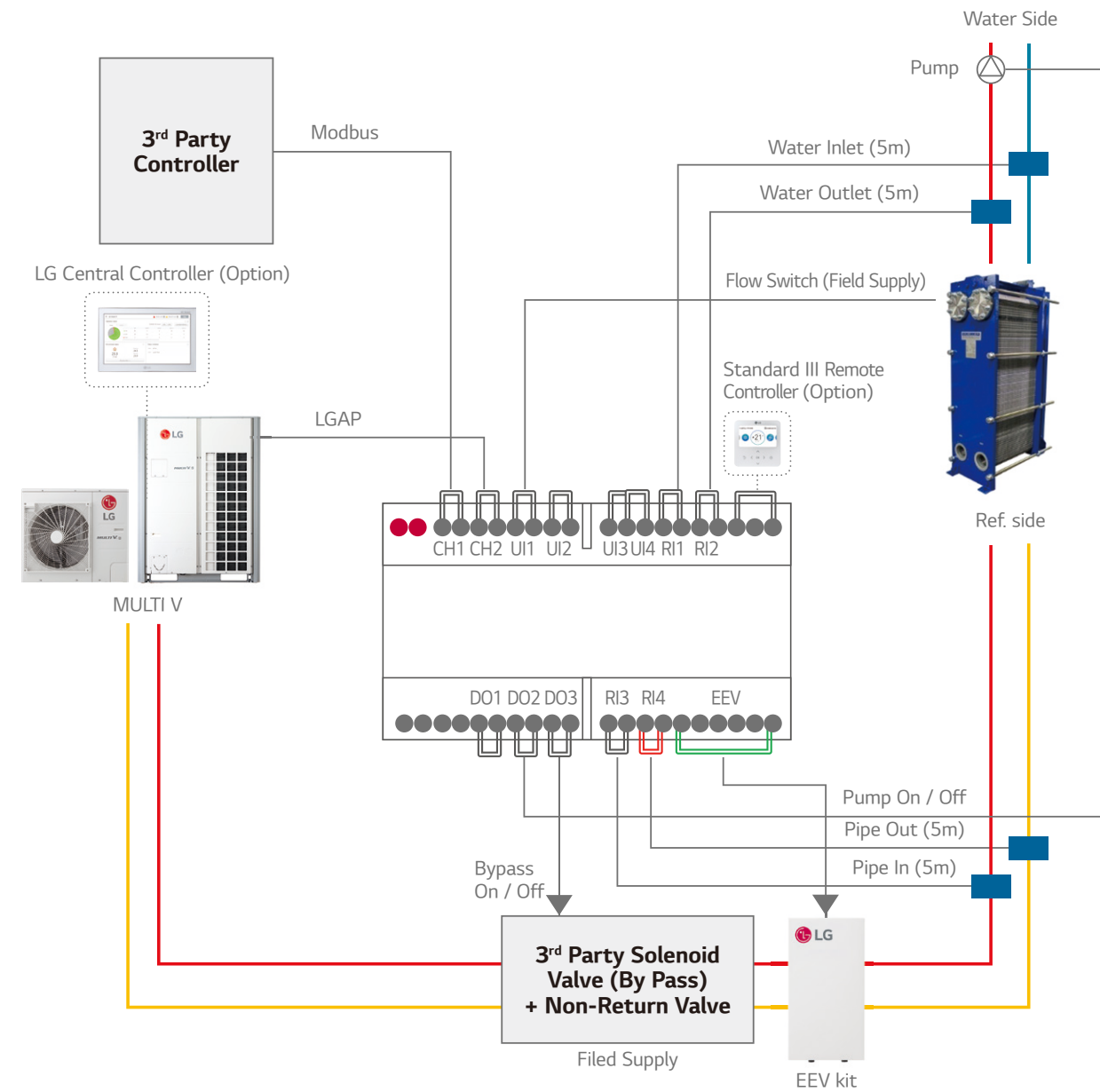


※ In case of Contact control, LG controllers can only support monitoring functions.

Water Communication Module

Installation Scene with Modbus / LG Control (Optional) Connection

Modbus + Heating / Cooling Setting



Hotel Control Solution



Guest Room

Air conditioner automatically switches off when guests depart

Integrated control of air conditioner with the hotel room controller

Air conditioner can be controlled with existing hotel thermostat

Prioritizes guest safety with refrigerant leak detection

Reception

Air conditioner control in conjunction with check-in or check out

Public Areas

Centralized management of the public areas

Design Proposal

GUEST ROOM				LOBBY
The air conditioner automatically turns off when guests leave	Integrated control of air conditioner with the hotel room controller	Control with existing hotel thermostat	Guest safety is the first priority	Air conditioner control in conjunction with check-in or check out
				
PDRYCB400 2 contact point	PDRYCB500 Modbus RTU (9,600bps)	PDRYCB320 8 contact point	PRLDNV50 Refrigerant leakage detector • 6,000ppm	PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)
Input • Operation On / Off	Function • Operation • Indoor temperature • Error alarm • Set run mode • Set temperature • Set fan speed	Input • Universal Input • Operation On / Off • Thermo On / Off • Operation mode (Fan / Heat / Cool) • Fan speed (Low / Middle / High)	PREMTB100 Wired remote controller • 4.3 inch color LCD • Touch button	PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)
Output • Operation On / Off status • Error alarm		Output • Operation On / Off status • Error alarm		

Shopping Mall Control Solution



Retail

Proportionally distribute and manage the power consumption by tenants

Real-time system issue detection and alarms

Maintenance Office

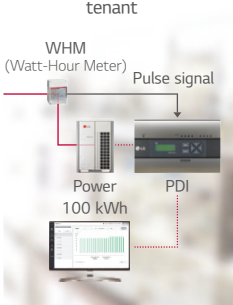
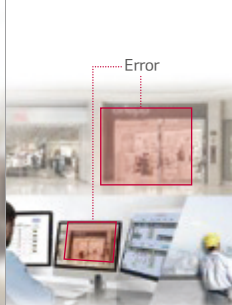
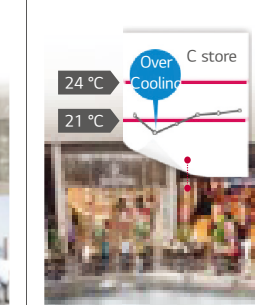
Reduces energy by checking operational trends

Atrium

Integrated management of AHU applied to large spaces

Chiller and VRF integrated control

Design Proposal

RETAIL	MAINTENANCE OFFICE	ATRIUM
Proportionally distribute and manage power consumption by the tenant	Fast problem detection and alarms	Reduces energy by checking operational trends
		
PPWRDB000 PDI Standard (2 ports) • Max. 128 IDU	PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)	PAHCMR000 AHU Comm.Kit • Return air
PQNUD1S40 PDI Premium (8 ports) • Max. 128 IDU	PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)	PAHCMS000 AHU Comm.Kit • Discharge air
		PCHLLN000 Chiller Option Kit + PACP5A000 ACP 5 PACS5A000 AC Smart 5

Hospital Control Solution



Hospital Ward
Proper airflow management for patients

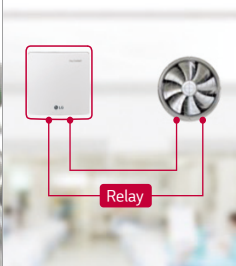
Monitor the comfort level for each hospital ward

Control fan speed and air volume

Service Zone
Energy savings based on flexible scheduling

Lobby
Centralized management of AHU for large spaces

Design Proposal

HOSPITAL WARD			SERVICE ZONE	LOBBY
Proper airflow management for patients	Monitor the comfort level for each hospital ward	External device interlock control	Energy savings based on flexible scheduling	Centralized management of AHU for large space
				
PTVSMa0 Human detection sensor	PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)	PDRYCB400 2 contact point Input • Operation On / Off Output • Operation On / Off status • Error alarm	PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)	PAHCMR000 AHU Comm.Kit • Return air
				
PREMTB100 Wired remote controller • 4.3 inch color LCD • Touch button	PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)		PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)	PAHCMS000 AHU Comm.Kit • Discharge air

Academic Institution Control Solution



Class Room
Automatically save energy in the absence of students

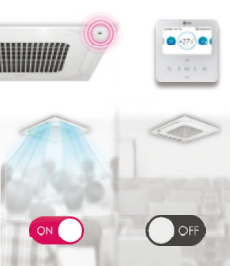
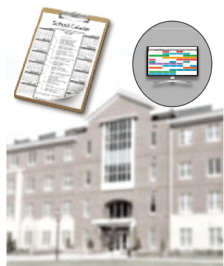
Central controls prevent students from arbitrary control

Lecture Hall
Schedule management according to academic plan

Maintenance Office
Integrated management of distributed buildings

Centralized management with multiple interfaces

Design Proposal

CLASS ROOM	LECTURE HALL	MAINTENANCE OFFICE		
Automatically save energy in the absence of students	Central controls prevent students from arbitrary control	Schedule management according to academic plan	Integrated management of distributed buildings	Centralized management with multiple interfaces
				
PTVSMa0 Human detection sensor	PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)	PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)	PACM5A000 AC Manager 5	
				
PREMTB100 Wired remote controller • 4.3 inch color LCD • Touch button				

Office Control Solution



Maintenance Office
Energy savings and management throughout the building

Integrated management of HVAC with BMS system

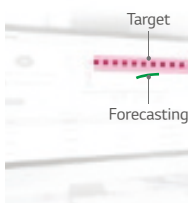
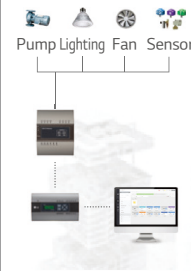
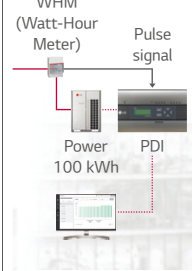
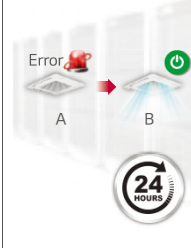
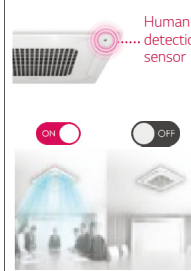
Reduce costs by replacing BMS

Office Room
Reasonable power distribution to tenants

Server Room
24-hour backup management

Meeting Room
Energy savings based on occupancy detection

Design Proposal

MAINTENANCE OFFICE	OFFICE ROOM	SERVER ROOM	MEETING ROOM	
Energy savings and management throughout the building  Target Forecasting  PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)  PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)	Integrated management of HVAC with BMS system BMS Protocol  BMS System  Pump Lighting Fan Sensor   PEXPMB000 ACS IO Module  PEXP300 PEXPM200 PEXPM100 ACU IO Module	Reasonable power distribution to tenants WHM (Watt-Hour Meter) Pulse signal  Power 100 kWh PDI  PPWRDB000 PDI Standard (2 ports) • Max. 128 IDU  PQNUD1S40 PDI Premium (8 ports) • Max. 128 IDU	Main equipment 24 hours back up management Error  24 HOURS  PACS5A000 AC Smart 5 • BMS Integration (BACnet IP, Modbus TCP)  PACP5A000 ACP 5 • BMS Integration (BACnet IP, Modbus TCP)	Energy savings based on occupancy detection Human detection sensor  ON OFF  PTV5MA0 Human detection sensor  PREMTB100 Wired remote controller • 4.3 inch color LCD • Touch button

Residential Control Solution



Home
Anytime, anywhere air conditioner control and access

Integrate systems for smart connectivity throughout

Bed Room
Use a familiar residential thermostat

Simple interlocking control by remote control

Apartment / Residence
Stable system operation

Design Proposal

HOME	BED ROOM	APARTMENT
Control your home air conditioner anytime, anywhere   PWFMD200 Wi-Fi modem Function • On / Off • Fan speed • Operation mode • Vane control • Reservation (Sleep, Weekly On / Off) • Error check	Build a Smart house   PDRYCB500 Modbus RTU (9,600bps) Function • Operation • Indoor temperature • Error alarm • Set operation mode • Set temperature • Set fan speed	Use a familiar residential thermostat   PDRYCB320 8 contact point Input • Universal Input • Operation On / Off • Thermo On / Off • Operation mode (Fan / Heat / Cool) • Fan speed (Low / Middle / High) Output • Operation On / Off status • Error alarm
	Simple interlocking control by remote control   PREMTB100 Wired remote controller • 4.3 inch color LCD • Touch button	Stable system operation when indoor unit power is lost   PINPMB001 Multi-tenant Power Module • EEV full close function