CONTROL SOLUTIONS

INDIVIDUAL CONTROL

CENTRALIZED CONTROL

INTEGRATION DEVICE



LG CONTROL SOLUTIONS

MULTI V 5 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

		Wired Remote Controller				Wireless	Wi-Fi	
Controller	Name	Premium	Standard III	Standard II	Simple	Simple(Hotel)	Remote Controller	Controller
Model Na	Model Name							• LG
		PREMTA000 PREMTA000A PREMTA000B	PREMTB100 PREMTBB10	PREMTB001 PREMTBB01	PQRCVCL0Q PQRCVCL0QW	PQRCHCA0Q PQRCHCA0QW	NEW PWLSSB21H (H/P)	PWFMDD200
	On / Off	0	0	0	0	0	0	0
	Fan Speed Control	0	0	0	0	0	0	0
	Temperature Setting	0	0	0	0	0	0	0
	Mode Change	0	0	0	0	-	0	0
	Auto Swing	0	0	0	0	0	0	
Basic	Vane Control (Louver Angle)	0	0	0	0	0	0	0
	E.S.P (External Static Pressure)	0	0	0	0	0	-	-
	Electric Failure Compensation	0	0	0	0	0	-	0
	Indoor Temperature Display	0	0	0	0	0	0	
	ALL Button Lock (Child Lock)	0	0	0	0	0	-	-
	Schedule / Timer	Weekly - Yearly	Weekly - Yearly	Weekly	-	-	Sleep / On / Off	Weekly
	Additional Mode Setting 1)	0	0	0		-		-
	Time Display	0	0	0			0	-
	Humid. Display	0	0	-				-
	Advanced Lock (Mode, Set point, Set point range, On / Off Lock)	Advanced Lock	Advanced Lock	-	-	-	-	-
Advanced	Filter Sign	0	0	0	-	-	-	-
	Energy Management 2)	0	0	0	-	-	-	-
	Dual Set Point	0	0					-
	Human Detection		O			-		-
	Temp, Humidity Compensation	0	0			-	-	-
	Wi-Fi AP Mode Setting	0		0	0	0	0	-
	Air Purification Function	-	0	-	-	-		-
	Operation Status LED					0		-
	Wireless Remote Controller Receiver	O 3)	_	O 3)	O 3)	O 3)	-	-
ETC	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 120 x 16	64 x 120 x 15	64 x 120 x 15	51 x 153 x 26	-
	Black Light Control for Screen Saver	0	0	-	-	-	-	-

X ○ : 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)

STANDARD III WIRED REMOTE CONTROLLER

4.3 inch colored screen with modern design





PREMTB100 (White)

PREMTBB10 (Black)

Features & Benefits

- ullet The optimized controller for MULTI V 5
- Humidity sensor embedded
- Comfort cooling setting
- Smart Load Control setting
- Outdoor unit low noise setting
- Defrost mode setting
- New modern design & easy interface
- Seamless design / Touch button
- 4.3 inch color LCD / Intuitive GUI
- · Energy saving functions
- Instantaneous power monitor
- Energy consumption check (Power consumption, operation time)
- Temp. Setback timer, time limit control
- Target setting (ODU capacity, Instantaneous power)
- Group control
- Up to 16 Indoor units can be controlled with one remote control
- External device On / Off (1 point)
- Customized interlocking control with indoor unit is possible without dry contact
- 2 set points control
- Increase convenience and comfort
- Auto changeover, Setback (Home leave)
- Air Purification
- Air Quality Monitoring
- Air Purification function Control

Model Name	PREMTB100 / PREMTBB10
On / Off	0
Fan Speed Control	0
Temperature Setting	0
Mode Change	Cooling / Heating / Auto / Dehumidification / Fan
Additional Mode Setting 1)	Energy-Saving Cooling / Robot Cleaning / Heater / Humidification / Comfort Cooling
Auto Swing	0
Vane Control (Louver direction)	0
E.S.P (External Static Pressure) 2)	0
Reservation	Simple / Sleep / On & Off timer / Weekly / Yearly / Holiday
Time Display	0
Electric Failure Compensation	0
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	0
Indoor Temperature Display	0
Indoor Humidity Display	0
Human Detection	0
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	0
Home Leave	2 set points control

- O: Applied, -: Not Applied
 It might not be indicated or operated at the partial product.
- This function is available for duct type.
 This function requires PDI (PQNUD1S40 / PPWRDB000) to be installed.
- 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





Cool

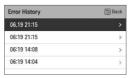












Comfort Level

Error History

Energy Savings

Energy Management

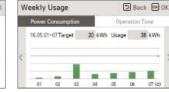
- Energy Monitoring & Alarm Real-time and day / week / month / year energy usage monitoring is possible. In addition, it can set target for energy usage and operation time, and alarm will be displayed when exceeded.

※ PDI (PQNUD1S40 / PPWRDB000) is required.

Time Limit Control

- The time-limit operation controls product by amount of time. By setting the device operation time in advance, users can control for how long a device works and have it stop automatically.





Instantaneous Power Check

Energy Usage Target Setting





2 Set Points Control

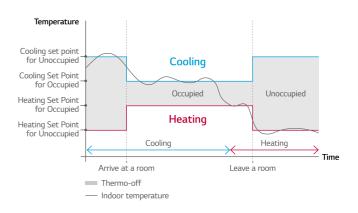
Auto Changeover for convenience

- With 2 set points control function, indoor unit manages room temperature automatically.

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.

 $\ensuremath{\ensuremath{\%}}$ This function is for Heat Recovery system or Single heat pump. Otherwise it is not guaranteed.



External Device On / Off



External Equipment Control User can turn the external equipment off or on through contact point output.

Back ∞ OK Curr. Temp. 10° Under Heater Or

Customized Interlocking Control User can create a control scenario where the external heater switches on when temperature drops below or rises above a certain temperature.

Schedule Function



Simple Schedule Status Standard III remote controller provides clock type daily schedule.



Exception Day settings Possible to set up exceptional date on regular schedule.

CONTROL

PREMIUM WIRED REMOTE CONTROLLER

On / Off Fan Speed Control Temperature Setting Mode Change

Auto Swing

Time Display

Child Lock Filter Sign

Receiver

Home Leave

Display

E.S.P

Additional Mode Setting 1)

Vane Control (Louver direction)

(External Static Pressure)²

Electric Failure Compensation

Energy Management

Operation Status LED

Size (W x H x D, mm)

Indoor Temperature Display Wireless Remote Controlle

Black Light for Screen Saver

※ ○ : Applied, - : Not Applied

4) For ceiling type ducted unit.

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.

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.

Note: 1. Indoor unit needs to have functions requested by the controller

5 inch full touch screen with a premium design



PREMTA000 1) / PREMTA000A 2) / PREMTA000B 3)

- 1) English / Portuguese / Spanish / French 2) English / Italian / Russian / Chinese 3) English / German / Polish / Czech

Features & Benefits

- Full Touch screen
- The optimized controller for MULTI V 5
- Comfort cooling setting
- Smart Load Control setting
- Outdoor unit low noise setting
- Defrost mode setting
- · Design with user's convenience
- Intuitive GUI
- Main display simple mode
- 5 inch color LCD
- · Energy saving functions
- Instantaneous power monitor
- Energy consumption check (Power consumption, operation time)
- Temp. Setback timer, Time limit control
- Target setting (ODU capacity, Instantaneous power--etc)
- · Group control
- Up to 16 Indoor units can be controlled with one remote control
- 2 set points control
- Increase convenience and comfort
- Auto changeover, Setback (Home leave)





Easy Energy Management

- Check the operation hour or electricity usage
- Comparison of usage compared to last year
- Set the target usage and time

Easy Scheduling

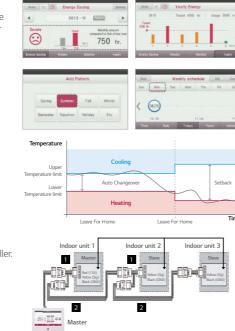
- Daily, Weekly, Yearly schedule function
- Schedule pattern setting
- Schedule copy

2 Set points Control

- Auto changeover switching the operation mode automatically
- Setback (Home Leave) 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.



PREMTA000 / PREMTA000A / PREMTA000B

Cooling / Heating / Auto / Dehumidification / Fan Energy-Saving Cooling / Robot Cleaning / Heater /

Humidification

Simple / Sleep / On / Off / Weekly / Yearly / Holiday

O (Remain time + Alarm)

Check Energy Usage ³⁾ / Check Operation Time / Target Setting (Energy, Operation Time) / Time Limit Opera-tion / Alarm Popup / Initialization Usage Data

O 4)

5 Inch TFT color LCD (480 x 272)

137 x 121 x 16.5

2 Set Points Control

STANDARD II WIRED REMOTE CONTROLLER

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





PREMTB001 (White) PREMTBB01 (Black)

Features & Benefits

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

Model Name	PREMTB001 / PREMTBB01
On / Off	0
Fan Speed Control	0
Temperature Setting	0
Mode Change	Cooling / Heating / Auto / Dehumidification / Fan
Additional Mode Setting	Energy-Saving Cooling / Robot Cleaning / Heater / Humidification
Auto Swing	0
Vane Control (Louver direction)	0
E.S.P (External Static Pressure)	0
Reservation	Simple / Sleep / On / Off / Weekly / Holiday
Time Display	0
Electric Failure Compensation	0
Child Lock	0
Filter Sign	○ (Remain time + Alarm)
Operation Status LED	0
Indoor Temperature Display	0
Wireless Remote Controller Receiver	O 1)
Size (W x H x D, mm)	120 x 120 x 16
Blacklight	0
Power Consumption Monitoring	O 2)
Check Model Information	0

- ※ : Applied, : Not Applied

 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

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







PQRCVCL0QW (White) / PQRCVCL0Q (Black)

PQRCHCA0QW (White) / PQRCHCA0Q (Black)

Features & Benefits

· Small remote control with minimal functionality

Model Name	PQRCVCLOQW / PQRCVCLOQ	PQRCHCA0QW / PQRCHCA0Q	
On / Off	0	0	
Fan Speed Control	0	0	
Temperature Setting	0	0	
Mode Change	Cooling / Heating / Auto / Dehumidification / Fan	-	
Auto Swing	0	0	
Vane Control (Louver direction)	0	0	
E.S.P (External Static Pressure)	O	0	
Electric Failure Compensation	0	0	
Child Lock	O	0	
Indoor Temperature Display	0	0	
Wireless Remote Controller Receiver	O 1)	O 1)	
Size (W x H x D, mm)	70 x 121 x 16	70 x 121 x 16	
Blacklight	0	0	

- ※ : Applied. : Not Applied
- Note: Indoor unit needs to have functions requested by the controller.

WIRELESS REMOTE CONTROLLER



PWLSSB21H (H/P)

Features & Benefits

• Easy to use while moving • Main functions are available

Model Name	PWLSSB21H (H/P)
On / Off	0
Fan Speed Control	O 1)
Temperature Setting	0
Mode Change	Cooling / Heating / Auto / Dehumidification / Fan
Additional Mode Setting	Plasma Purification / Energy-Saving Cooling / Robot Cleaning / Auto Dry
Auto Swing	0
Vane Control (Louver direction)	0
Reservation	Sleep / On / Off
Time Display	0
Indoor Temperature Display	0
Sleep Mode Auto	Max. 7 hours
Size (W x H x D, mm)	51.4 x 153 x 26

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

LG Wi-Fi MODEM

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



PWFMDD200

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 (LG 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

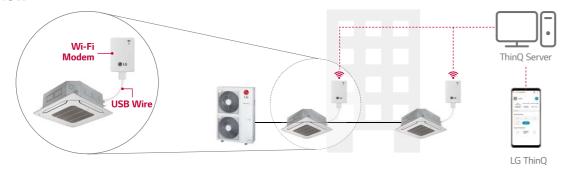
Model Name	PWFMDD200
Size (W x H x D, mm)	48 x 68 x 14
Interfaceable Products	MULTI V Indoor unit 3)
Connection Type	Indoor unit 1:1
Communication Frequency	2.4 GHz
Wireless Standards	IEEE 802.11b/g/n
Mobile Application	LG ThinQ (Android v4.1(Jellybean) or higher, iPhone iOS 9.0 or higher)
Optional Extension 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 improve a configuration of the properties of 3. Application is optimized for smartphone use, so it may not be well functioning

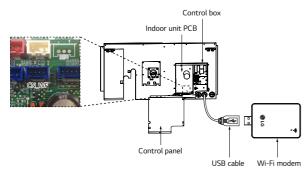


Overview



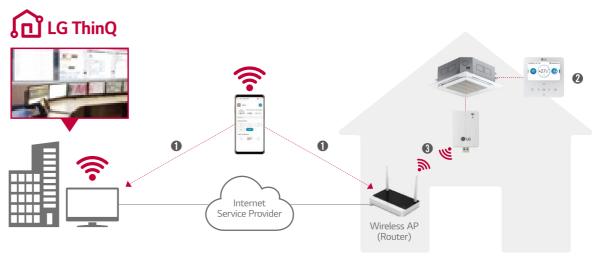
Search "LG ThinQ" on Google market or Appstore then download the app.
 Internet service with Wi-Fi connection has to be available.

Installation Scene



^{*} Each indoor unit has a Wi-Fi modem installation location inside the product, and it can be installed by exposure if necessary.

LG ThinQ Connectivity



Connection (Pairing) Order

- 1 Make LG account on LG ThinQ and select the Router that will be used
- 2 Insert passwords of selected router and set AP (Access Point) by LG remote controller
- 3 Confirm the pairing between Wi-Fi Modem and Router

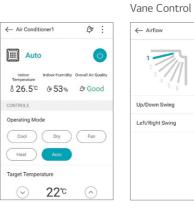
ThinQ Mobile App

Simple operation for various functions

On/Off, Current Temp, Mode, Set Temp



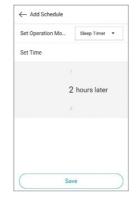






Easy Management

Reservation **Energy Monitoring**

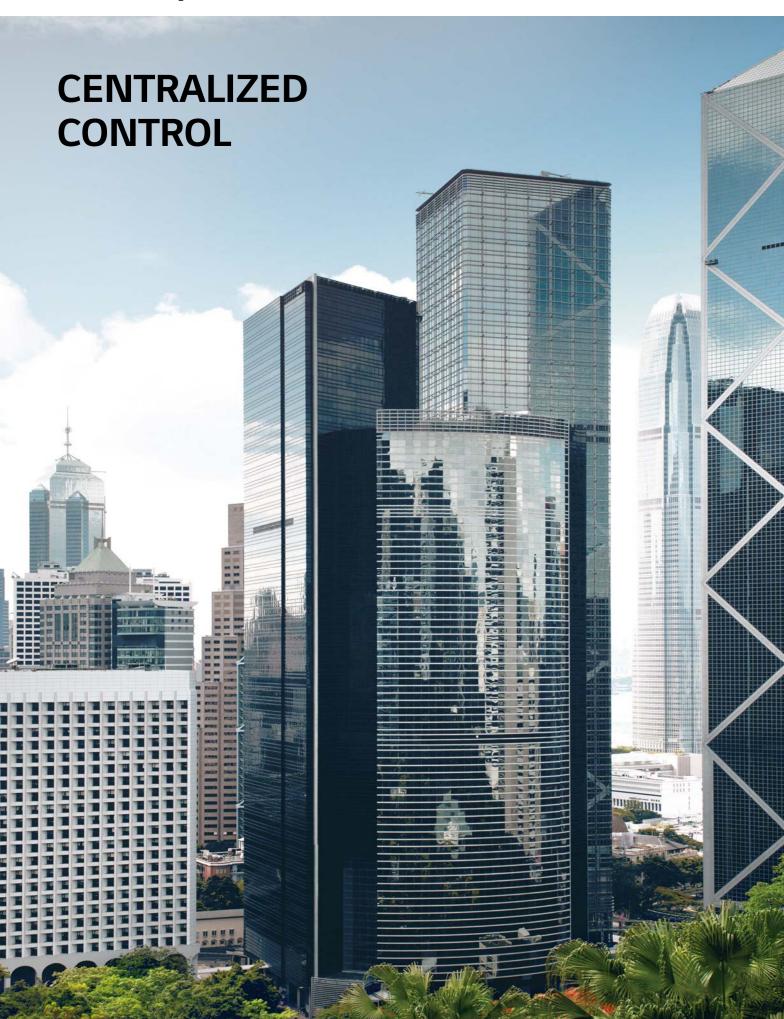




Smart Diagnosis

100%

Filter Management



CENTRALIZED CONTROLLER FEATURE LIST

Controller Na	me		AC Ez	AC Ez Touch	AC Smart 5 ⁵⁾	ACP 5 ⁵⁾	ACP Lonworks	AC Manager 5
Model Name			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Not have the second of the sec		◆13 1111 W	0.0	• u
			PQCSZ250S0	PACEZA000	PACS5A000	PACP5A000	PLNWKB000	PACM5A000
	DO		-	-	2	4	2	-
	DI			1	2	10	2	
	IDUs		32	64	128	256	64	8,192
roduct	Max.	ERV	32	64	128	256	64	8,192
	Connectable No.	A/C + ERV	32	64	128	256	64	8,192
	INO.	AHU			16	16	164)	16 x 32
		Chiller			5 Optional 2)	10 Optional 2)		10 x 32
	Air Condition	er	O 1)	0	0	0	0	0
	Ventilation (ERV / ERV DX)		O 2)	0	0	0	0	0
ompatibilite -	Heating		-	0	0	0	0	0
compatibility	AHU		-	-	0	0	0	0
	Chiller		-	-	O 4)	O 4)	-	0
	ACS IO		-	-	O 4)	O 4)	O 4)	0
	Add Drawing		-	-	O 4)	O 4)	O 4)	0
-	Group Management		-	-	O 4)	O 4)	O 4)	0
	Auto Changer Over		-	0	O 4)	O 4)	O 4)	0
	Set Back		-	0	O 4)	O 4)	O 4)	0
dditional unction	2 Set			0	0	0	O 4)	0
unction	Change Alarm		-	Filter	Filter	Filter	Filter	Filter
-	Indoor Unit Lock			0	0	0	O 4)	
	Cycle				0	0	O 4)	0
-	Air Purification Function				0	0		0
chedule			0	0	O 4)	O 4)	O 4)	0
	Priority Control			0	0	0	O 4)	0
	Peak Control	Outdoor Unit Capacity Control			O 4)	O 4)	O 4)	0
uto Control	Time limit cor				O 4)	O 4)	O 4)	0
	InterLocking					O 4)	O 4)	
nergy Naviga					O 4)	O 4)		
nergy reariga	Power			0			O 4)	
	Gas						O 4)	
nergy eport	Run time				O 4)	O 4)	O 4)	
eport	Email						O 4)	
-	PC / USB					PC	PC	PC
rend Reportin							- FC	
enu keportin		ml / Error)		Error				
lictory.	Report (Cont	ot/ Ellor)						
listory	Send Email	ICD 6)			O 4)	O 4)	O 4)	
	Save to PC /				-		O 4)	
-	Summer Time				O 4)	O 4)	O 4)	
etc		Oil-Return Operation			O 4)	O 4)	O 4)	-
	User Authority			Password	O 4)	O 4)	O 4)	
	PC Access		-	0	O 4)	O 4)	O 4)	0

^{※ ○:} Applied, -: Not Applied
1) Except for some feature (individual lock, limit, temp., etc.)
2) Except for some feature (user mode, additional function, etc.)
3) ACP 5 or AC Smart 5 is required.
4) This function is possible to use in Web Only. (BMS Point is not applied.)
5) Without additional device, ACP 5 and AC Smart 5 provide BACnet IP and Modbus TCP interface for BMS.
6) Save to PC / USB function will be available from 4Q 2020.

AC EZ TOUCH

Smart management with 5 inch touch screen for small site.



PACEZA000

Features & Benefits

- User-friendly control with iconographic interface
- Total 200 schedule events
- Energy saving mode
- Energy monitoring (with PDI)
- 2 set point function (Upper / Lower temperature setting)
- Temperature set points range limit
- Remote controller lock (All, Temp, Mode, Fan Speed)
- Operation history
- Clean or change filter alert
- Emergency stop

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	0
Slave Mode (Interlocking with higher level controller)	0
Schedule	Weekly / Monthly / Yearly / Exception day
Remote Access	By client S/W
Emergency Stop & Alarm Display	0
Power Consumption Monitoring (with PDI)	0
Auto Changeover / Setback	0
Temperature Limit	0
Operation History	Error record
ODU Low Noise 1)	0
Daylight Saving Time	0
External IO Port	DI 1
IPv6 Support	0

Overview



Feature

PC Access

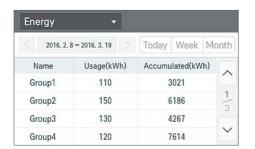
Users can control each space efficiently through PC access.



^{*} Fix Public IP is mandatory

Energy Statistics (with PDI)

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



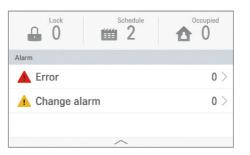
Energy Mode

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



Alarm Indicator

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



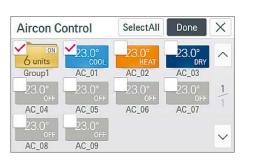
Schedule

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.

Sch	edule_l	Month	-			\oplus	Add
Sun	Mon	Tue	Wed	Thu	Fri	Sat	
28	29	1	2	3	4	5	^
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	2016
20	21	22	23	24	25	26	03
27	28	29	30	31	1	2	
3	4	5	6	7	8	9	~

Group / Individual Control

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



AC EZ

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



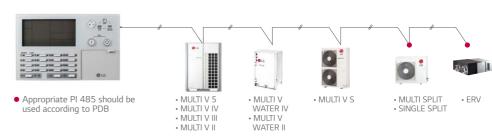
PQCSZ250S0

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	DC 12V
Maximum number of units	32
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	All
Error Check	0
Slave Mode (Interlocking with higher level controller)	0
Schedule	Weekly

 \times \bigcirc : Applied, - : Not Applied

Features & Benefits

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



^{※ ○ :} Applied, - : Not Applied1) It is only available in some products.

^{*} Router's Configuration of NAT is mandatory. Open port 80 & 9300.

AC SMART 5

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



PACS5A000

Features & Benefits

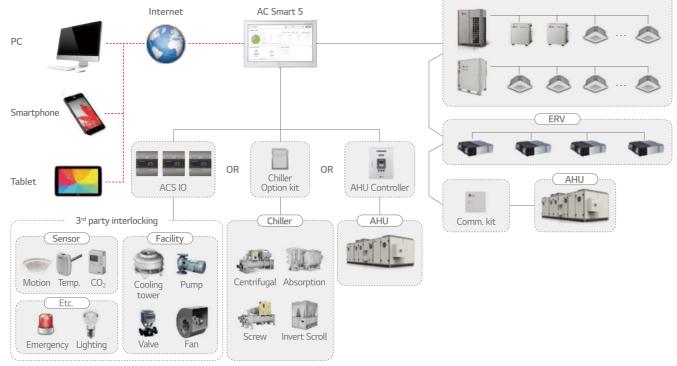
- The central controller allows control of the LG HVAC system to various platforms. (Touch screen, PC, Smartphone, Tablet)
- DI: 2 / DO: 2
- Max. 128 IDU control
- BACnet IP/Modbus TCP
- Schedule
- Map view (Visual navigation)
- Time limit control / Auto change over
- Energy monitoring
- History / Operation trend
- Interlock with 3rd party equipment (ACS IO, ACU IO Module is needed)
- Multi level grouping
- Emergency stop & alarm
- Error alarm by e-mail
- Air quality monitoring
- Air purification function control

Model Name	PACS5A000
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⁾
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 / CO ₂ Level display (for ERV / ERV DX) / Night Time Free Cooling (for ERV / ERV DX)
Error Check	O
Slave Mode (Interlocking with higher level controller)	0
Schedule	Weekly / Monthly / Yearly / Exception day
Web Access	0
Emergency Stop & Alarm Display	0
Power Consumption Monitoring (with PDI)	0
Auto Changeover / Setback	O
Temperature Limit	0
Operation Time Limit	0
Visual Navigation	O
Operation Trend	0
Interlock Control	
Virtual Group Control	
ODU Capacity Control	0
Energy Navigation (with PDI)	0
Daylight Saving Time	0
External IO Port	DI 2 / DO 2
BMS Integration 3)	BACnet IP / Modbus TCP
IPv6 Support	0

(IDU)

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

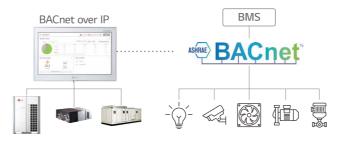
Overview



^{*} Fix Public IP is mandatory.

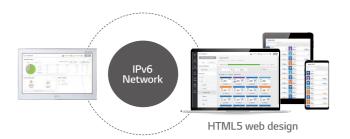
Building Management System (BMS) Integration

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



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.



Energy Management

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



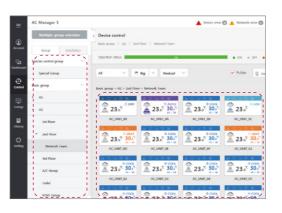
Visualized Control

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



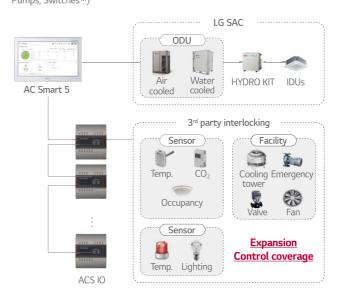
Multi Level Group Composition

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



Interlocking with 3rd party equipment

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



^{*} Router's Configuration of NAT is mandatory. Open port 80 & 9300.

ACP 5

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.



PACP5A000

Features & Benefits

- The central controller allows control of the LG HVAC system by various platforms. (PC, Smartphone, Tablet)
- DI:10 / DO:4
- Max. 256 IDU control
- BACnet IP/Modbus TCP
- Schedule
- Map view (Visual navigation)
- Time limit control / Auto change over
- Energy monitoring
- History / Operation trend
- Interlock with 3rd party equipment (ACS IO, ACU IO Module is needed)
- Multi level grouping
- Emergency stop & alarm
- Error alarm by e-mail
- Air quality monitoring
- Air purification function control

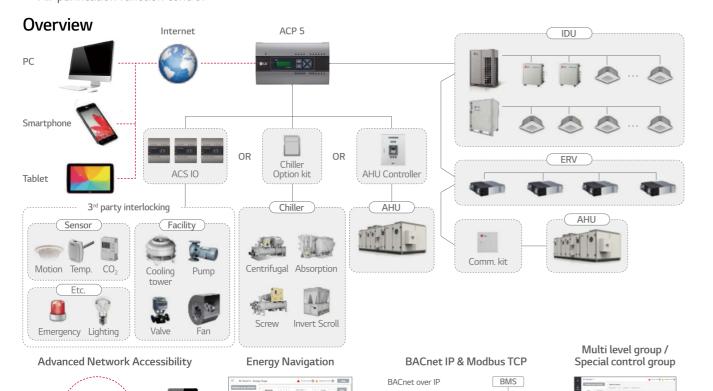
Model Name	PACP5A000
Size (W x H x D, mm)	270 x 155 x 65
Interfaceable Products	MULTI V / ERV / ERV DX / HYDRO KIT / THERMA V / AHU kit / LG Chiller ¹⁾
Maximum number of units	256
Individual / Group Control	On & Off / Mode / Temperature / Fan speed
Individual Controller Lock	Temperature / Mode / Fan 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	0
Schedule	Weekly / Monthly / Yearly / Exception day
Web Access	0
Emergency Stop & Alarm Display	0
Power Consumption Monitoring (with PDI)	0
Auto Changeover / Setback	
Temperature Limit	0
Operation Time Limit	0
Visual Navigation	0
Operation Trend	
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	0

- ※ : 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.

BACnet

4 8 to



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

HTML5 web design

ACP LONWORKS GATEWAY

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.



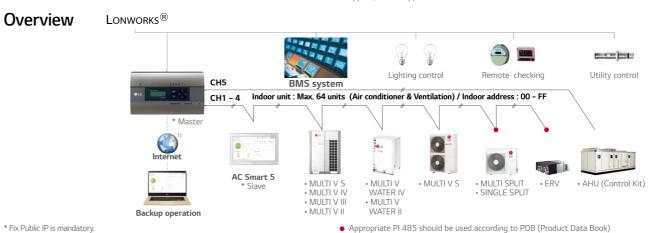
PLNWKB000

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	Ivionitoring	
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



- * Fix Public IP is mandatory.

 * Router's Configuration of NAT is mandatory. Open port 80 & 9300.
- 1) Assignment of public IP address is required to access central controller through internet.

PI 485

PI 485 converts LG air conditioner's protocol to the RS485 protocol for the central controller.



- Power: Connected with the
- Indoor Unit (ERV)

PHNFP14A0

Indoor Units 1 for Each Indoor Unit

AC MANAGER 5

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





PACM5A000

Features & Benefits

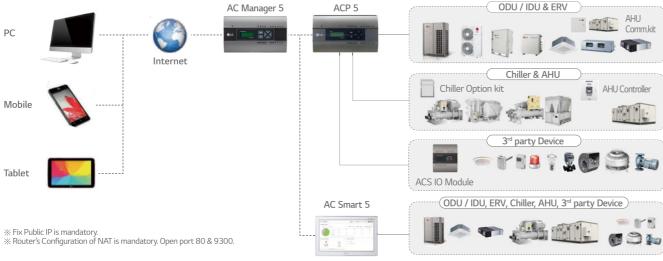
- Console Type: No needs software installation and lock-key
- Max. 8,192 IDU Control
- Schedule
- Map view (Visual Navigation)
- Time limit control / Auto change over
- Energy monitoring / Navigation
- History / Operation trend
- Emergency stop & alarm
- Error alarm by E-mail
- Multi language
- (Eng, Ita, Spa, Por, Rus, Fra, Ger, Tur, Pol, Chi, Kor)
- · Air quality monitoring
- Air purification function control

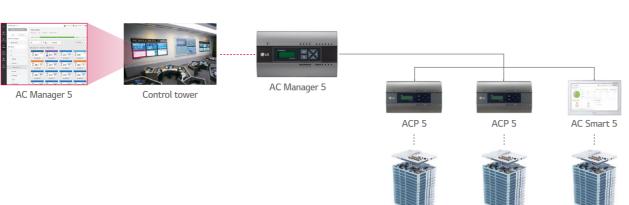
Model Name	PACM5A000	
Size (W x H x D, mm)	270 x 155 x 65	
Interfaceable Products	MULTI V / ERV / ERV DX / HYDRO KIT / THERMA V / AHU kit / LG Chiller 1)	
Maximum number of units	8,192 (Supports 32 ACP 5 or AC Smart 5)	
Individual / Group Control	On & Off / Mode / Temperature / Fan speed	
Individual Controller Lock	Temperature / Mode / Fan speed / All	
Error Check	0	
Schedule	Weekly / Monthly / Yearly / Exception day	
Web Access	0	
Emergency Alarm Display	0	
Power Consumption Monitoring (with PDI)	0	
Auto Changeover / Setback	0	
Temperature Limit	0	
Operation Time Limit	0	
Visual Navigation	0	
Operation Trend	0	
Interlock Control	0	
Virtual Group Control	0	
ODU Capacity Control	0	
Energy Navigation (with PDI)	0	

※ ○ : Applied, - : Not Applied

1) Chiller Option Kit (PCHLLN000) is required Note: AC Manager 5 requires ACP 5 or AC Smart 5.







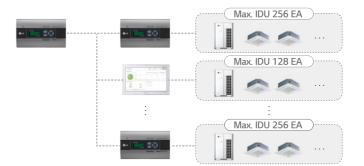
Stand-alone

Integrated with S/W program and Hardware platform, it is convenient to install since users no longer need to install program with lock-key on PC.



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.



Advanced Network Accessibility & User Friendly GUI (Reddot award)

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 Trend

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

This function can reduce electricity use. There are two kinds

User can make frequent and multi level group to control and

Multi Level Group Composition

of control logic. Energy saving effect by indoor unit operation rate control. Load management effect by outdoor unit capacity

Peak Control

monitor the device easily.

control.



Operation ratio (IDUs) Control







ODU Capacity Control



MODBUS RTU GATEWAY

Providing Modbus RTU connection between LG Air conditioners and BMS.



PMBUSB00A

Features & Benefits

- Function
- MODBUS RTU communication with MODBUS master controller
- MODBUS RTU slave (RS485) / 9,600 bps
- Applicable for MULTI V 5, MULTI V S, ERV, THERMA V
- Size (W x H x D) : 53.6 x 89.7 x 60.7
- Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules
- Power: DC 12V

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)

DI-	Data Bit		Formation	Decision	
INO.	No. Air Conditioner ERV / Di		HydroKit & THERMA V	Function	Register
1	Operate (On / Off)	Operate (On / Off)	Operate (On / Off)	0 : Stop / 1 : Run	
2	Auto Swing	Aircon Operate (On / Off)	Hot Water Mode (On / Off)	0 : Disable / 1 : Enable	-
3	Filter Alarm Release	Filter Alarm Release 1)	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	Register = N x 16 + ①
6	Lock Fan Speed	Lock Fan Speed 1)	Reserved	0 : UnLock / 1 : Lock	(N = Indoor Unit Central Address)
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	EnergySave	Reserved	0 : Disable / 1 : Enable	-

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

Discrete Register (0 x 02)

No.		Data Bit	Function	Dagistay	
INO.	Air Conditioner ERV / DX ERV HydroKit & THERMA V		Function	Register	
1	Connected IDU	Connected IDU	Connected IDU	0 : Disconnected / 1 : Connected	
2	Alarm	Alarm	Alarm	0 : Normal / 1 : Alarm	
3	Filter Alarm	Filter Alarm 1)	Hot Water Only 2)	0 : Normal / 1 : Alarm Hydrokit – 0 : Normal / 1 : Hot Water Only	Register = N x 16 + ① (N = Indoor Unit Central Address)
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 'Hydrokit' ONLY.

MODBUS RTU GATEWAY

Holding Register (0 x 03)

No.	Data Bit		Function	Dogistor	
INO.	Air Conditioner	ERV / DX ERV	HYDROKIT & THERMA V	Function	Register
1	Operate Mode	Operate Mode	Connected IDU	0 : Cooling, 1 : Dehumidifying, 2 : Fan, 3 : Auto, 4 : Heating Hydrokit (Middle Temp. DHW) / AWHP - 0 : Cooling, 3 : Auto, 4 : Heating Hydrokit (High Temp. DHW)	
2	Fan Speed	Fan Speed	Target Temp. DHW 2)	1 : Low, 2 : Mid, 3 : High, 4 : Auto	Register = N x 20 + ①
3	Target Temp.	Target Temp. 1)	Target Temp. 2)	16.0 ~ 30.0 [°C] x 10	(N = Indoor Unit Central Address)
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	

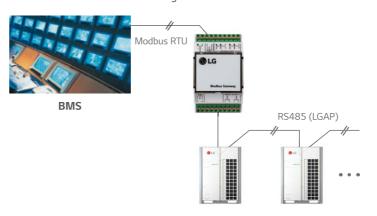
Input Register (0 x 04)

	Data Bit				
No.	Air Conditioner	ERV / DX ERV	HYDROKIT & THERMA V	Function	Register
1	Error Code	Error Code	Error Code	0 ~ 255 % Please refer to the product error table.	
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	Register = N x 20 + ①
4	Pipe Out Temp.	SA Temp. 1)	Water Outlet Temp.	-99.0 ~ 99.0 [°C] x 10	(N = Indoor Unit Central Address)
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.

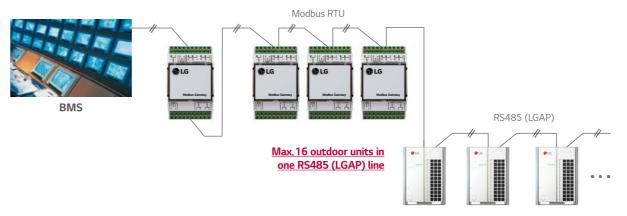
Installation Scene

• 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⁾ 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.



PDI (POWER DISTRIBUTION INDICATOR)

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



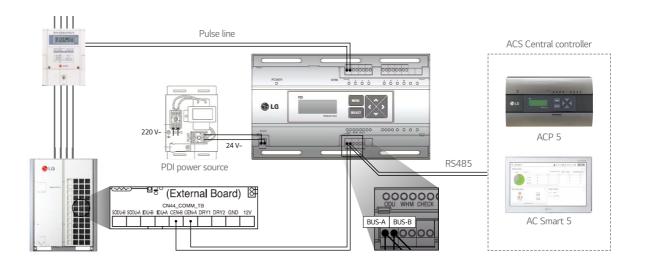
PQNUD1S40 (Premium, 8 port) PPWRDB000 (Standard, 2 port)

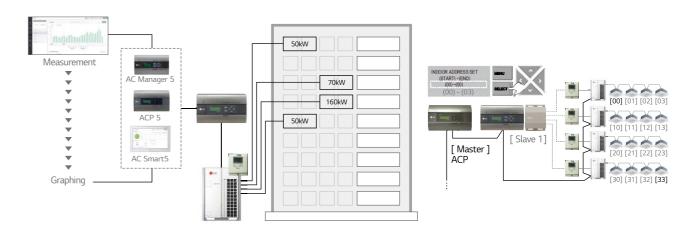
Model Name	PQNUD1S40	PPWRDB000
Size (W x H x D, mm)	270 x 1	55 x 65
Interfaceable Products	Air conditio	ner, ERV DX
Maximum Number of Power Meters	EHP : 8 Watt meter GHP : 4 Watt meter / 4 Gas meter	EHP: 2 Watt meter GHP: 1 Watt meter / 1 Gas meter
Maximum Number of Indoor Units	MULTI V : 128	
Data Backup when Power Outage	0	
Power Input	PDI : AC 24V, Transformer : AC 220V	

※ ○ : Applied, - : Not Applied

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





- Note: 1. Power cable and type could be different from this scene depending on the Outdoor unit's specification.

 2. Measured power consumption could be different between PDI and Watt meter.

 3. Applicable Central Controller: ACP 5, ACP Lonworks, AC Smart 5, AC Ez Touch

 (Combination: we recommend to connect separated watt meter for Outdoor units to have correct power distribution value.)

ACS IO MODULE

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.



PEXPMB000

Model Name		PEXPMB000
Linkable Products		PACS4B000 PACP4B000 PACS5A000 PACP5A000
Communication	RS-485	1 ch.
	Digital Input	3 port
I/O	Digital Output	3 port
1/0	Universal Input 1)	4 port
	Analog Output	4 port

Va	lue Spec	Min.	Max.
	NTC 10k	0.68kΩ	177kΩ
	PT 1000	803kΩ	1,573kΩ
Analog Input	Ni 1000	871.7kΩ	1,675.2kΩ
	DC (Voltage)	OV	10V
	DC (Current)	0mA	20mA
Analog Output	-	OV	10V
Digital Input	Binary Input (Non Voltage)	-	-
Digital Output	Normal open	-	30VAC / 30VDC, 2A

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...)

Key Application



^{*} DI: Digital Input, DO: Digital Output, UI: Universal Input, AO: Analog Output / Please contact our regional office to have connectable relay specification for analog output.

ACU IO MODULE

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.

ACU.UIO







PEXPMB300 PEXPMB200

PEXPMB100

Module Name	PEXPMB300	PEXPMB200	PEXPMB100
Linkable Products	PACS5A000, PACP5A000		
Communication RS-485	2 ch. 1)	1 ch.	1 ch.
Digital Input	-	-	3 port
Digital Output	2 port	6 port	-
Universal Input 2)	4 port	-	6 port
Analog Output	2 port	4 port	

Val	ue Spec	Min.	Max.
Analog Input	DC (Voltage)	OV	10V
Analog Output	DC (Voltage)	OV	10V
Digital Input	Binary Input (Non Voltage)	-	-
Digital Output	Normal Open	-	30VDC, 1A

- : O : Applied, : Not Applied
 1) 1ch is reserved for internal communication
 2) The type of UI (Universal Input) is selectable among Digital Input and Analog Input

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…)

CHILLER OPTION KIT

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



PCHLLN000

Cycle Display Example



Model Name	PCHLLN000	
Monitoring Points	Evaporator status / Compressor status (Scroll, Screw, Centrifugal chiller only) / Condenser status / Generator status (Abs. chiller only)	
On / Off	0	
Target Temp. setting	0	
Mode Change	Scroll chiller only	
Schedule	0	
Interfaceable Products	Scroll, Screw, Centrifugal, Absorption (LG Only)	

※ ○ : Applied, - : Not Applied

Installation Scene

- Chiller Option Kit installation of LG HVAC Solution product should be conducted by a specialized installation service
- Chiller Option Kit installation can be achieved with a SD Card.
- The SD Card can install Chiller Option Kit in one LG HVAC Solution product.

Insert the SD Card in the LG HVAC Solution product. If a backup SD Card is inserted, replace it with a Chiller Option Kit SD Card.



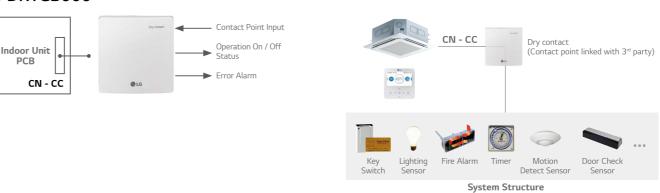
[%] O : Applied, - : Not Applied 1) The type of UI (Universal Input) is selectable among Digital Input and Analog Input

DRY CONTACT

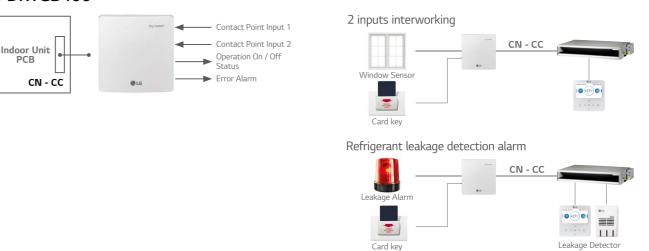
Connection between an indoor unit and external devices to control various functions.

	Mode	el Name	PDRYCB000	PDRYCB400	PDRYCB300	PDRYCB320	PDRYCB500
						NEW)	00
Case			0	0	0	0	0
Input Por	t		1	2	8	8	-
Universal	Input port		-	-	-	1	-
Comm. Pı	rotocol		-	-	-	-	Modbus RTU
Power			AC 220V		Connect to Indoor	unit PCB (CN_CC)	
		On / Off	0	0	0	0	0
		Oper Mode	-	0	0	0	0
		Set Temp.	-	(Select & Fix)	(Select & Fix)	(Select & Fix)	0
	Aircon	Fan Speed	-	-	0	0	0
		Thermo-Off	-	(Select & Fix)	0	0	-
		Energy Saving	-	(Select & Fix)	-	-	-
		Lock/Unlock	-	(Select & Fix)	-	-	-
		On / Off	0	-	0	0	-
		DHW On / Off	-	-	0	0	-
Control		Thermo-Off	-	-	0	0	-
	AWHP	Oper Mode	-	-	0	0	-
		Silent Mode	-	-	0	0	-
		Emergency Mode	-	-	0	0	-
		On / Off	0	-	-	-	0
		Oper Mode	-	-	-	-	0
	Vent	Aircon Mode	-	-	-	-	0
		Additional Mode	-	-	-	-	0
		Fan Speed	-	-	-	-	0
		Operation Status	0	0	0	0	0
Output		Error	0	0	0	0	0
		Room Temp.	-	-	-	-	0

PDRYCB000



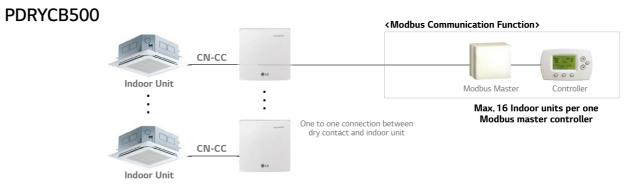
PDRYCB400



PDRYCB300 / PDRYCB320



 $\ensuremath{\ensuremath{\,\raisebox{.4ex}{\tiny|}}}$ Please contact our regional office to have full compatible room controller list



^{*} Please contact our regional office to check the compatibility with 3rd party room controller.

O: Applied, -: Not Applied
 Note: 1. Compatibility of PDRYCB300 / PDRYCB320
 - Can use with all types of aircon indoor units after 2010. (Cassette, Ducted, Convertible, Applied PAC, Wall mounted, Console)
 - Can not use with Single package models.
 - AWHP: 3 series split and monobloc models.
 2. Compatibility of PDRYCB400

^{2.} Compatibility of PDRTCB400

- Can use with all types of aircon indoor units after 2010. (Cassette, Ducted, Convertible, Applied PAC, Wall mounted, Console)

- Can not use with single package models.

- Can not use with AWHP, Hydrokit models.

3. (Select & Fix): This function is preset by rotary switch.

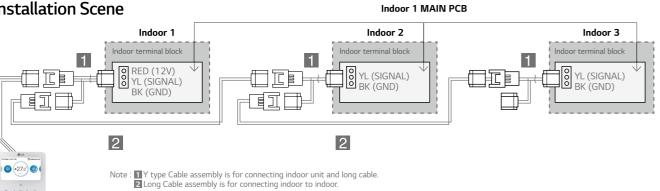
GROUP CONTROL WIRE

Cables used to connect a wired remote controller up to 16 indoor units.



Model Name	PZCWRCG3
Y-type Cable	0.25m Length
Long Cable	9.6m Length

Installation Scene



REMOTE TEMPERATURE SENSOR

Sensor for detecting the room temperature.



PQRSTA0

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.



LOW PROFILE REMOTE TEMPERATURE BUTTON SENSOR

Allows for easy and discreet installation as well as connection to an indoor unit.



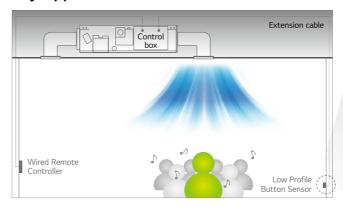
Mode	l Name	ZRTBS01		
Operation Ra	ange	-40 °C to 85 °C (0 to 100%RH, Non-condensing)		
Sensing Element		Thermistor		
Sensing Elen	nent Accuracy	0.2 °C (0 to 70 °C)		
	Material	Etched Teflon		
Wire Leads	Length	15m		
	Thickness	0.33mm ²		
Mounting		10mm hole, push in plastic sheath with peel off tape stri		
Enclosure Ma	aterial Ratings	Plastic, NEMA 1, UL94		

Features & Benefits

ZRTBS01

- Ideal for locations where aesthetics are as important as the temperature measurement.
- Inconspicuous wall sensor that mounts easily by pushing through a 10mm hole and secured with a peel off tape strip.
- · Small flush sensor mounting.
- · Accurate direct air measurement.
- · Paintable with latex or oil base.

Key Application

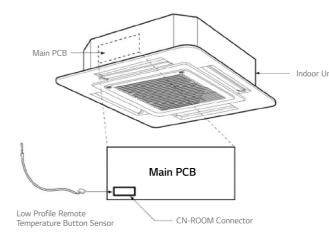


Models Applied

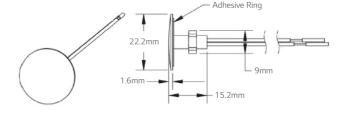
• LG indoor units excluding Wall-Mounted Type



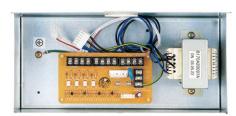
Installation Scene



Drawing



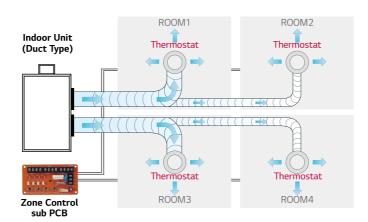
Controls air conditioning in up to 4 zones by external thermostat.



ABZCA

Features & Benefits

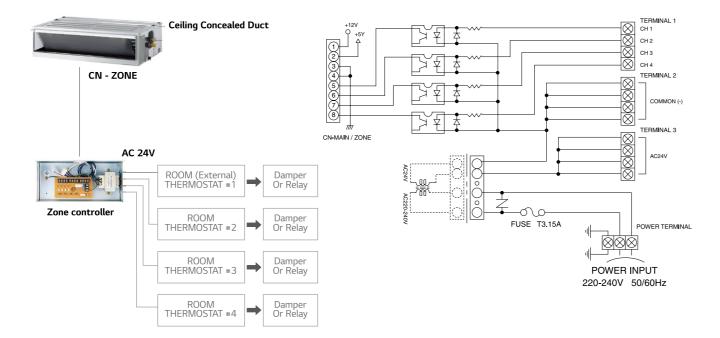
- Controls different zones (up to 4 zones) by external thermostat (AC 24V)
- Maintain proper air volume of each zone
- Auto variation of dampers
- Auto control of fan speed and On / Off operation



Models Applied

• Ceiling Concealed Duct (Refer to Product Data Book for applicable models)

Wiring Diagram



IO MODULE

Interface module between system air conditioner's outdoor unit and external device.



PVDSMN000

Features

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.

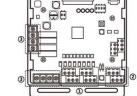
Note: IO Module is not compatible for MULTI V III

Models Applied

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

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

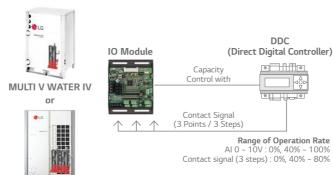


Key Application

Demand Control

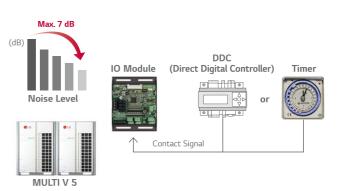
MULTI V 5

Provides variable setting for demand control according to input method to reduce power consumption. This function supports 2 types of input signal : Al $(0 \sim 10V, 10 \text{ Step})$ and contact signal (3 Step).



Low Noise Operation

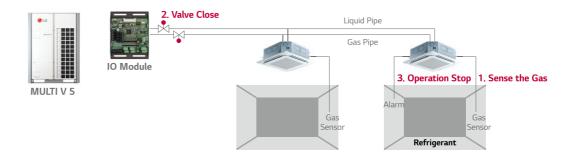
To reduce noise level, control outdoor unit's fan speed by dry contact input.



※ 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 close refrigerant valve when Pump-down operation.

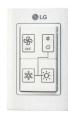


CONTROL

JTIONS INTEGRATION DEVICE

COOL / HEAT SELECTOR

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



PRDSBM

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



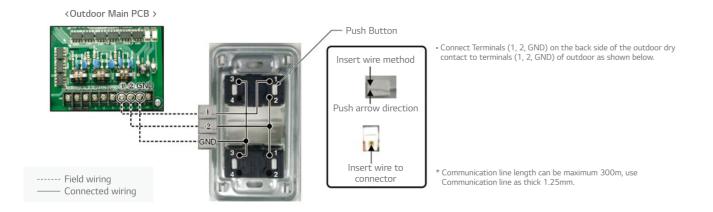
Models Applied

- 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

Wiring Diagram



AHU KITS

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

COMMUNICATION KIT





PAHCMS000







EEV KIT

CLG

PAHCNM000

NEW CONTROLLER MODULE









Specifications

Control Application Kit

Туре	Model	Dimensions (mm) W H D			Power Supply		Description	
Communication	PAHCMR000	300	300	155	1Ø, 220~240 V, 50/60 Hz	IP66	Return / Room air temperature control by DDC or LG individual / centralized controller.	
Kit	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

Time	Model	Dimensions (mm)			Pipe Diameter (mm)	Capacity Index Range		
Туре	Modet	W H		D	Liquid	Capacity fildex Rafige		
	PRLK048A0	217	404	83	12.7	3.6 ~ 28 kW		
EEV Kit	PRLK096A0	217	404	83	12.7	28.1 ~ 56 kW		
EEV KIT	PRLK396A0	349.5	345.5	180	19.05	56.1 ~ 112 kW		
	PRLK594A0	409.5	345.5	180	19.05	112.1 ~ 168 kW		

AHU KITS

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 IV, MULTI V S, SINGLE SPLIT

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

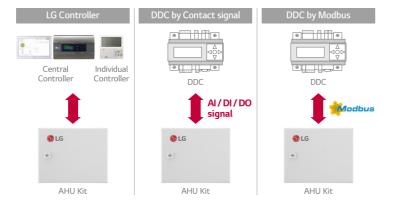


DIVERSE OPTIONS FOR CONTROL

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

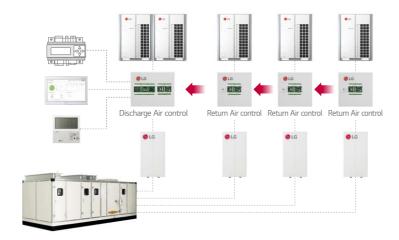
1) DDC : Direct Digital Controller



EXPANDABLE SYSTEM DESIGN

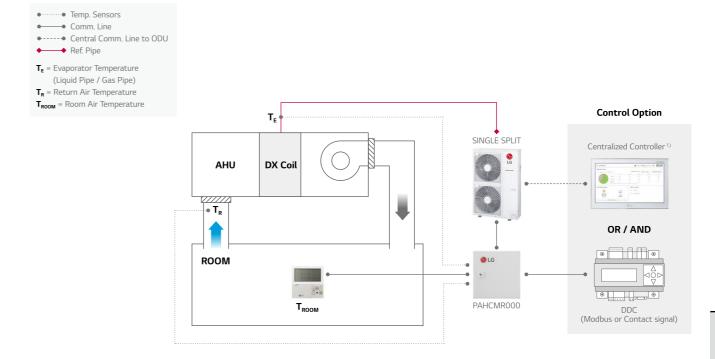
LG AHU system can be a suitable solution for various sites due to its application flexibility and wide range of line up with large capacity models. According to the required capacity, a single or multiple module combination is possible due to the AHU communication kit's modular design.

• Multiple module combination for large capacity AHU

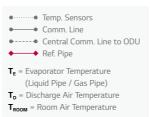


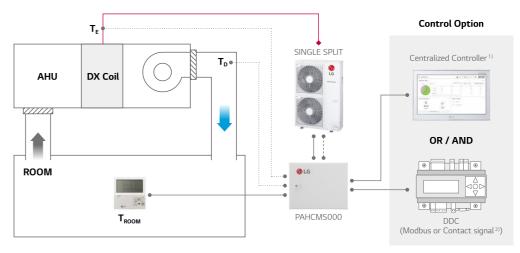
Single Split Application (Communication Kit & Controller Module)

Single Split + Return / Room Air Temperature Control



Single Split + Discharge Air Temperature Control





¹⁾ PI485 (PMNFP14A1) is required for centralized controller.

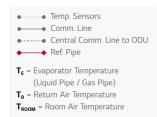
2) In case of applying DDC with contact signal, discharge air temperature should be measured and controlled by DDC.

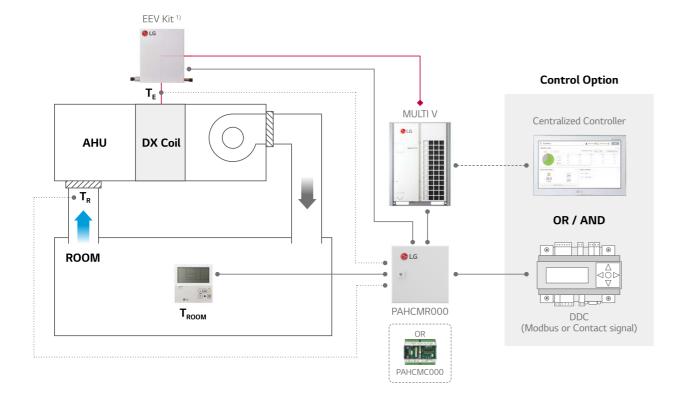
Note: For more detail, please refer to the PDB.

AHU KITS

MULTI V Application (Communication Kit & Controller Module)

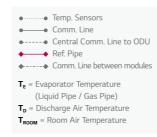
MULTI V + EEV Kit + IDU + Return / Room Air Temperature Control

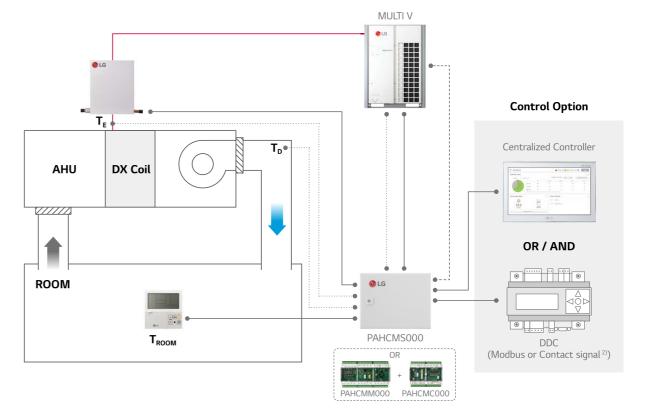




¹⁾ Multiple EEV kits can be applicable with multiple DX Coils and PAHCMR000s.

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.

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 KITS

Communication Kit Function

Communication with DDC via Contact Signal

	Function List	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 + PAHCMC000)	Туре	Note
	Operation On / Off	On / Off	On / Off	Digital Input (Non Voltage)	-
	Operation Mode	Cooling / Heating	Cooling / Heating	Digital Input (Non Voltage)	Available operation mode can vary depending on the settings of Communication Kit
	Return (Room) Air Temperature 2)	16 ~ 30 °C	-	Analog Input (DC 0 ~ 10 V / 20mA)	-
Control 1)	Discharge Air Temperature ²⁾	-	-	-	Discharge air temperature should be controller directly by DDC using 'ODU Capacity Control
	Fan Speed 3)	-	High / Middle / Low	Digital Input (Non Voltage)	-
	Forced Thermal	On / Off	-	Digital Input (Non Voltage)	=
	ODU Capacity	-	40 ~ 100%	Analog Input (DC 0 ~ 10 V / 20mA)	-
	Emergency Stop	-	Stop / Normal	Digital Input (Non Voltage)	-
	Operation	On / Off	On / Off	Digital Output (Max.: DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'Off' (Status), In this case, 'fan speed' cannot monitored by DO ports
Monitor	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 monitored by DO ports
	Defrost Operation	Defrost / Normal	Defrost / Normal	Digital Output (Max.: DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'Off' (Status), In this case, 'fan speed' cannot monitored by DO ports
	Error Alarm	Error / Normal	Error / Normal	Digital Output, Relay C contact (Max.: DC 30 V / 1 A, AC 250V / 1 A)	For PACHMR000, dip sw1-3 DO Type should be set 'Off' (Status), In this case, 'fan speed' cannot monitored by DO ports
	Compressor On / Off	-	On / Off	Digital Output, (Max : DC 30 V / 1 A, AC 250V / 1 A)	-

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

Communication with DDC via Modbus protocol

	Function List	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 +PAHCMC000)	Note
	Operation On/Off	On / Off	On / Off	
	Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	
	Return (Room) Air Temperature	16 ~ 30 °C	=	
Control 1)	Discharge Air Temperature 2)	=	12 ~ 50 °C	Dip SW1-2 Discharge Temp. Control Type should be set 'On'
Control "	Fan Speed 3)	High / Middle / Low	=	
	Forced Thermal On/Off	=	=	
	ODU Capacity Control ²⁾	=	40 ~ 100%	Dip SW1-2 Discharge Temp. Control Type should be set 'On'
	Emergency Stop	=	=	
	Operation	On / Off	On / Off	
	Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	
	Return (Room) Air Temperature	0	=	Corresponding air temperature sensor connected to AHU
Maniferen	Discharge Air Temperature	=	0	Comm. Kit is required
Monitor	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	

Communication Kit Function

With LG Control system (Individual & Centralized Controller)

	Function List	PAHCMR000 (PAHCMC000)	PAHCMS000 (PAHCMM000 +PAHCMC000)	Note
	Operation On/Off	On / Off	On / Off	-
	Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	Available operation mode can vary depending on the settings of Communication Kit
	Return (Room) Air Temperature 2)	16 ~ 30 °C	=	-
Control 1)	Discharge Air Temperature ²⁾	-	12 ~ 50 °C	Standard II : 16 ~ 30 °C Standard III : 12 ~ 50 °C Central Controllers : 12 ~ 50 °C
	Fan Speed ³⁾	High / Mid / Low	High / Mid / Low	To control the AHU fan, dip switch 1-3 'DO type' should be set 'On (Fan Speed)' (PAHCMR000)
	Operation	On / Off	On / Off	-
	Operation Mode	Cooling / Heating / Fan	Cooling / Heating / Fan	-
	Return (Room) Air Temperature	0	0	-
Maritan	Discharge Air Temperature		0	-
Monitor	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

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
	250} = 0 0 0	© (20) ⊕ (PAS PAS	0,5a	11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Toma Military	• EX		• = 3×
Model no.	PREMTA000 PREMTA000A PREMTA000B	PREMTB100 PREMTBB10	PREMTB001	PQCSZ250S0	PACEZA000	PACS5A000	PACP5A000	PACM5A000	PLNWKB000	PQNUD1S40 PPWRDB000
PAHCMR000	0	0	0	0	0	0	0	0	0	0
PAHCMS000	-	0	0	-	-	0	0	0	-	-

O: Applied, -: Not Applied
 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.

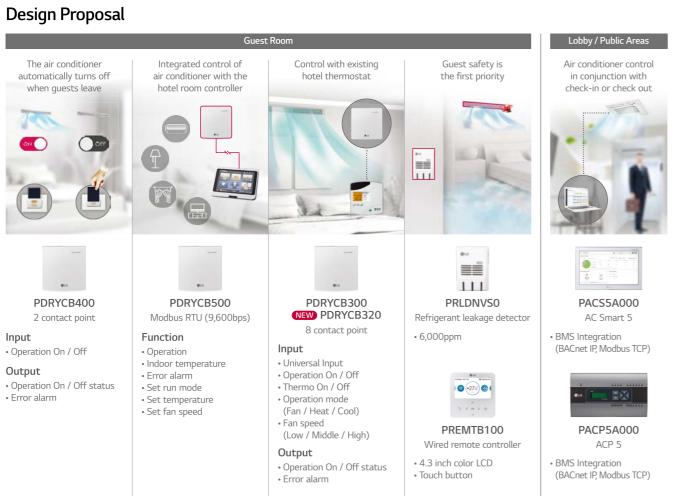
 ^{※ ○:} Applied, -: Not Applied
 1) Control functions for LG individual and central controller are not available in case of using together with DDC via contact signal.
 2) In case of PAHCMS000, control type between "Discharge Air Temperature" and "ODU Capacity Control" is selectable.
 3) To control fan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

 ^{※ ○:} 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.
 Note: For more detail information, please refer to the product data book.

HOTEL

Hotel Control Solution



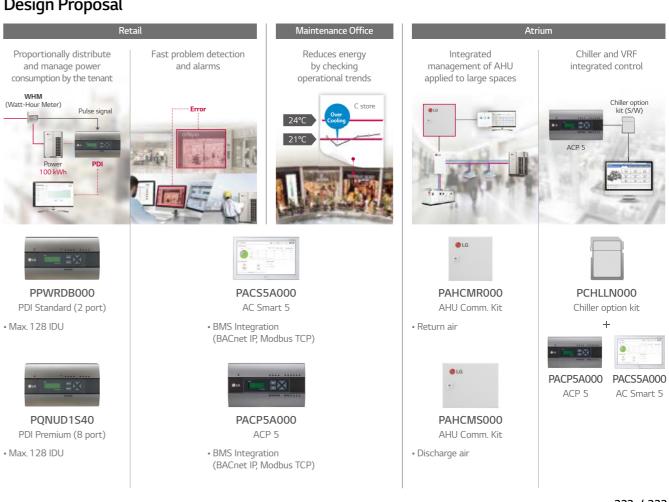


SHOPPING MALL

Shopping Mall Control Solution



Design Proposal



HOSPITAL

Hospital Control Solution



Design Proposal







PREMTB100 Wired remote controller

- 4.3 inch color LCD
- Touch button



• Operation On / Off

• Operation On / Off status

Output

• Error alarm

 BMS Integration (BACnet IP, Modbus TCP)

PACP5A000 ACP 5

 BMS Integration (BACnet IP, Modbus TCP)





Energy savings based on

flexible scheduling





 BMS Integration (BACnet IP, Modbus TCP)



PACP5A000 ACP 5

• BMS Integration (BACnet IP, Modbus TCP)



• Discharge air

ACADEMIC INSTITUTION

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









Human detection sensor



PREMTB100

- Wired remote controller • 4.3 inch color LCD
- Touch button





 BMS Integration (BACnet IP, Modbus TCP)



PACP5A000 ACP 5

 BMS Integration (BACnet IP, Modbus TCP)



PACM5A000 AC Manager 5

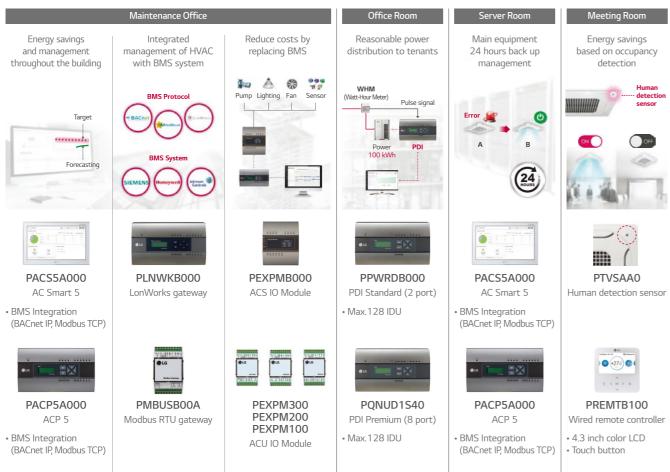


OFFICE

Office Control Solution



Design Proposal



RESIDENTIAL

Residential Control Solution



Design Proposal





Modbus RTU (9,600bps)

PWFMDD200

LG Wi-Fi modem

- Function · On / Off • Fan speed
- Operation mode
- Vane control
- Reservation
- (Sleep, Weekly On / Off) • Error check

PDRYCB500

Function

- Operation
- Indoor temperature • Error alarm
- · Set operation mode
- Set fan speed

• Set temperature

PDRYCB300 NEW PDRYCB320

8 contact point

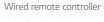
- Universal Input Operation On / Off
- Thermo On / Off
- Operation mode
- (Fan / Heat / Cool)
- Fan speed (Low / Middle / High)

Output

- Operation On / Off status
- · Error alarm



PREMTB100







PRIP0

Independent power module

Stable system

operation when indoor

unit power is lost

