

ACP LonWorks Gateway

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.

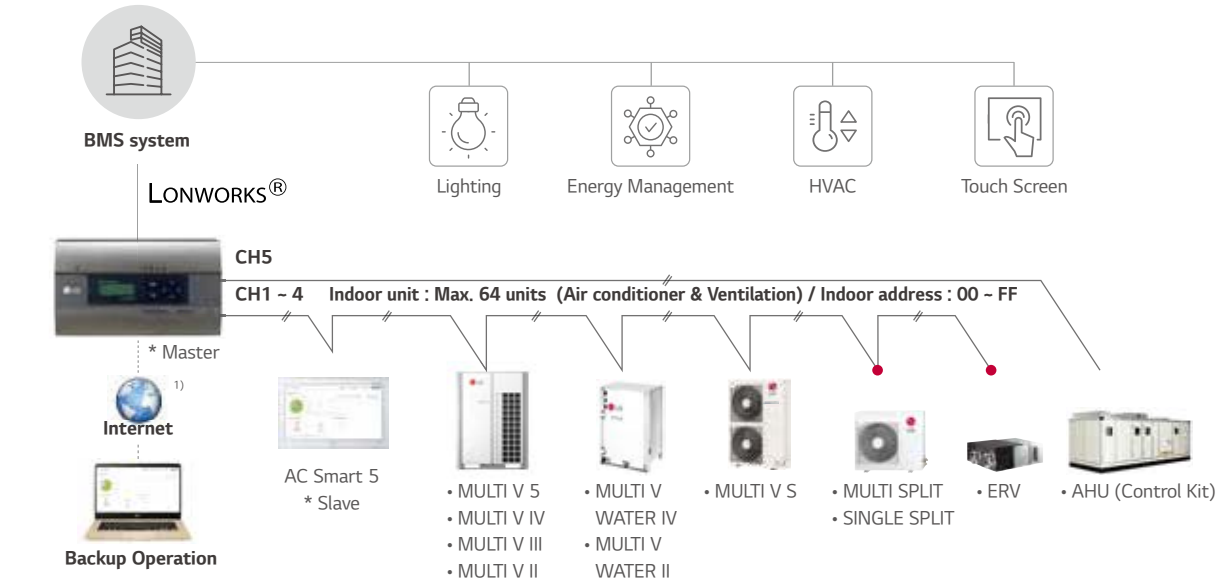


Features & Benefits

- 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, including ERV with simple interface.



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



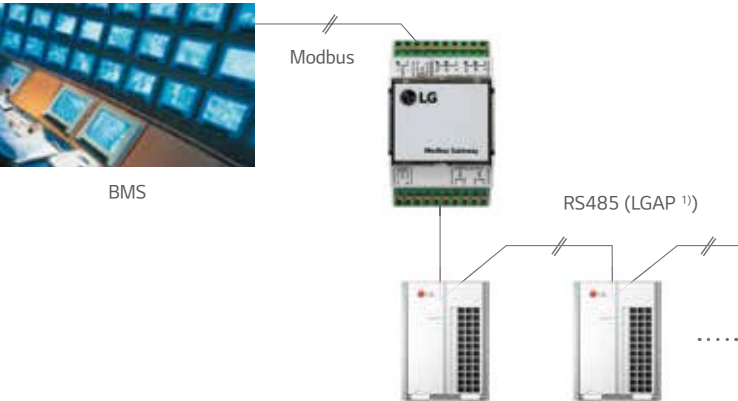
Features & Benefits

- 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
 - No slave allowed in LGAP

Installation Scene

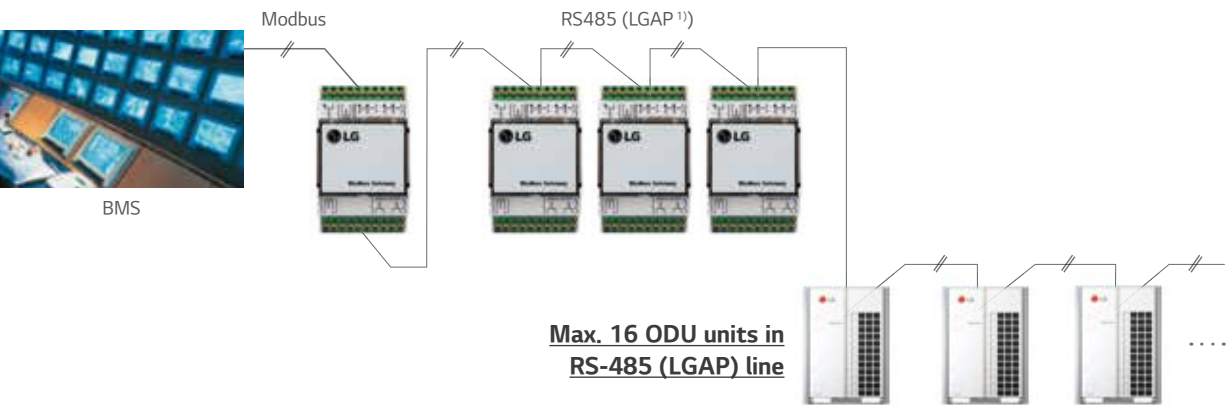
Single Module

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.