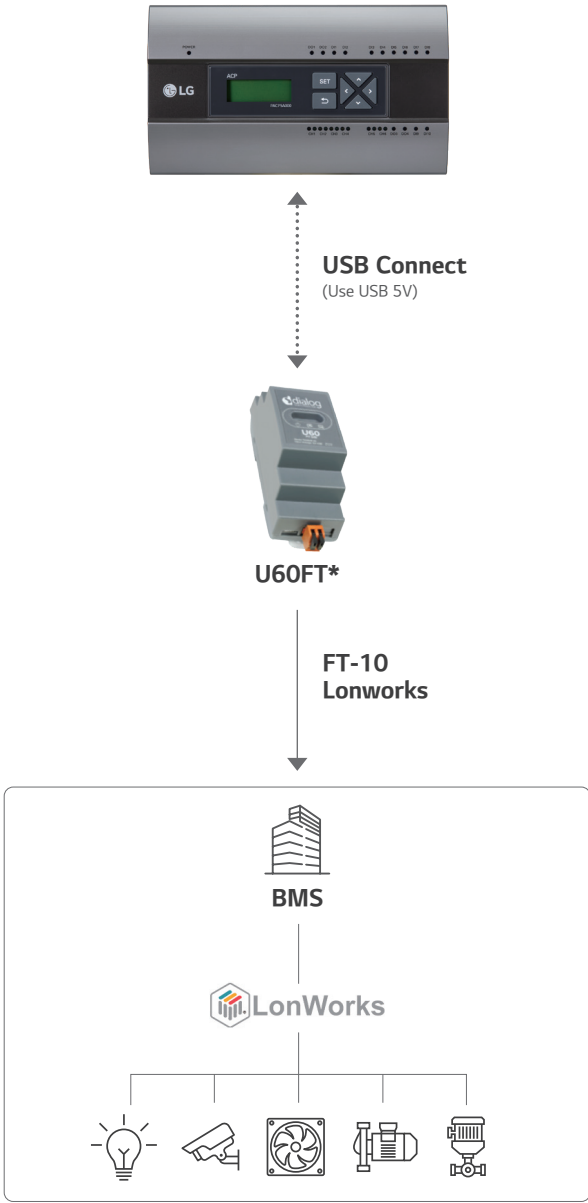


For Lonworks

For using Lonworks Protocol, Only ACP 5 provides interface for BMS integration, And, need to U60FT Module between ACP 5 and BMS System Interface between Lonworks FT-10 BMS and LG HVAC unit

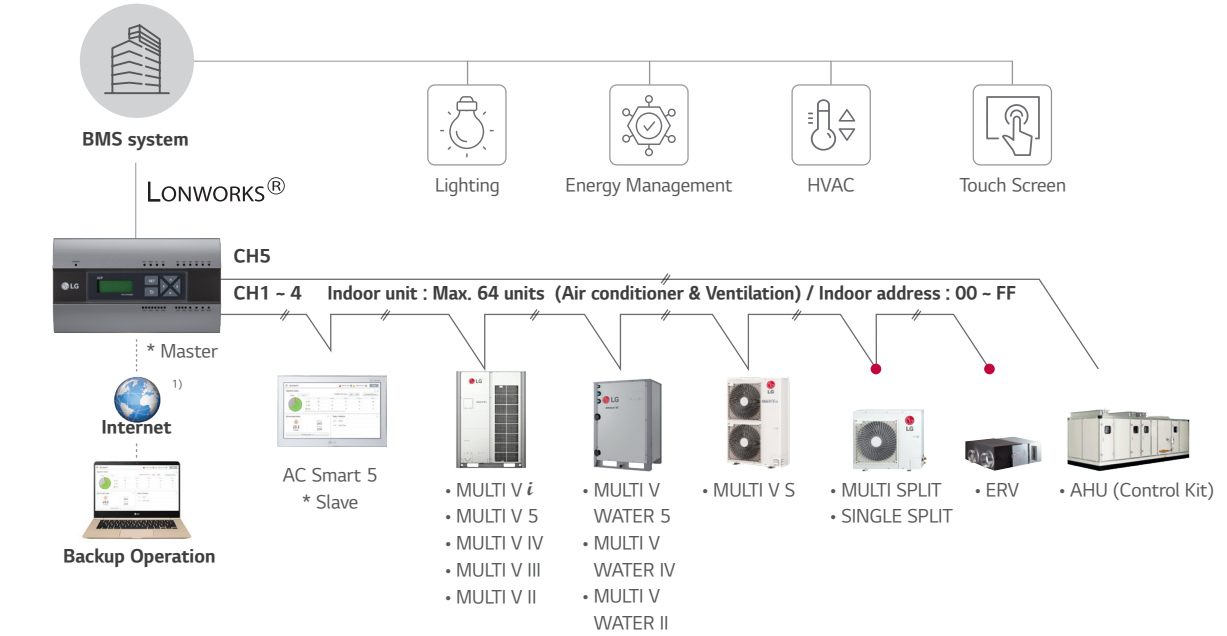


UNIT TYPE	BACNET IP	MODBUS TCP	LONWORKS
IDU	○	○	○
ERV, DX ERV	○	○	○
ODU	Monitoring Only	-	-
Heating	○	○	○
AHU	○	○	-
Scroll Air Inv Gen2	○	-	-
EXP I/O	○	-	-
Air Purifier	○	-	-

※ ○: Applied, -: Not applied
*U60FT: This device should be purchased separately from 3rd party supplier Please contact regional LG office for more detailed information.

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

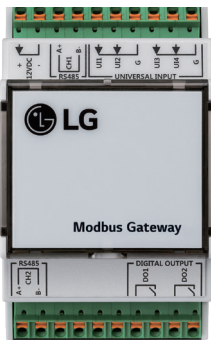


1) Assignment of public IP address is required to access central controller through internet. ● Appropriate PI485 should be used according to PDB (Product Data Book).

MODBUS RTU Gateway

PMBUSB00A

Providing Modbus RTU connection between LG Air conditioners and BMS.



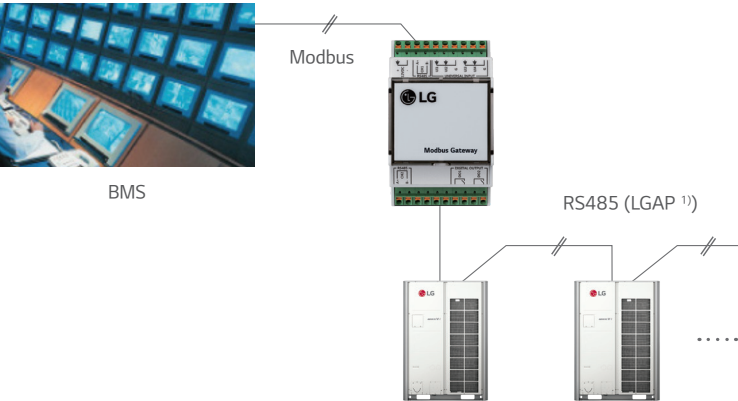
Features & Benefits

- Function
 - Modbus RTU communication with Modbus master controller
 - Modbus RTU slave (RS485) / 9,600 bps
 - Applicable for MULTI V i, 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

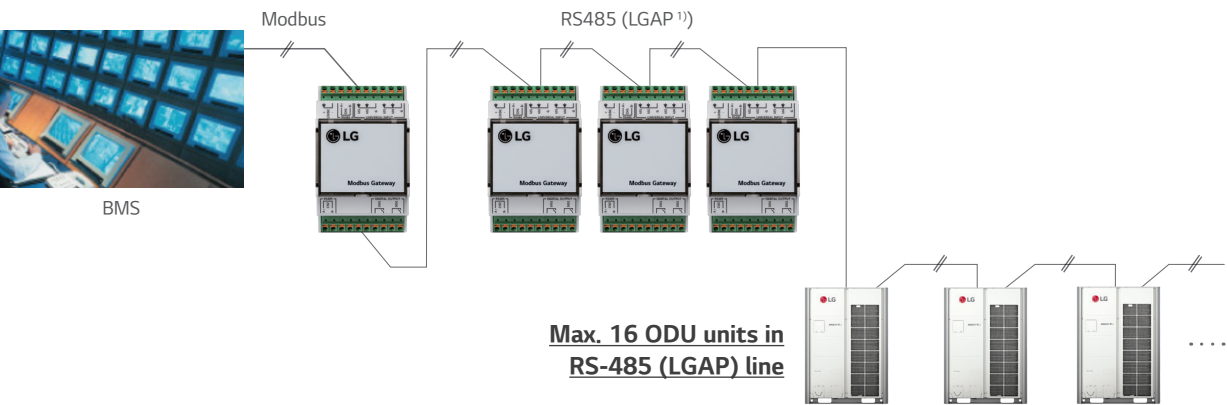
Single Module

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.

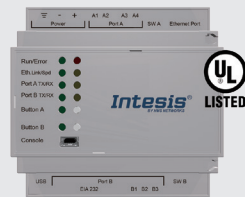
2) : This register value is applied AWHP' ONLY.

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 (Indoor Unit ~16) / INKNXLGE0640036 (Indoor Unit ~64)

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

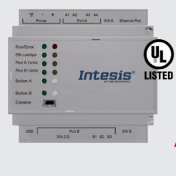
Key messages

- 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

Intesis MAPS is Configuration Software for Intesis KNX Gateway Series

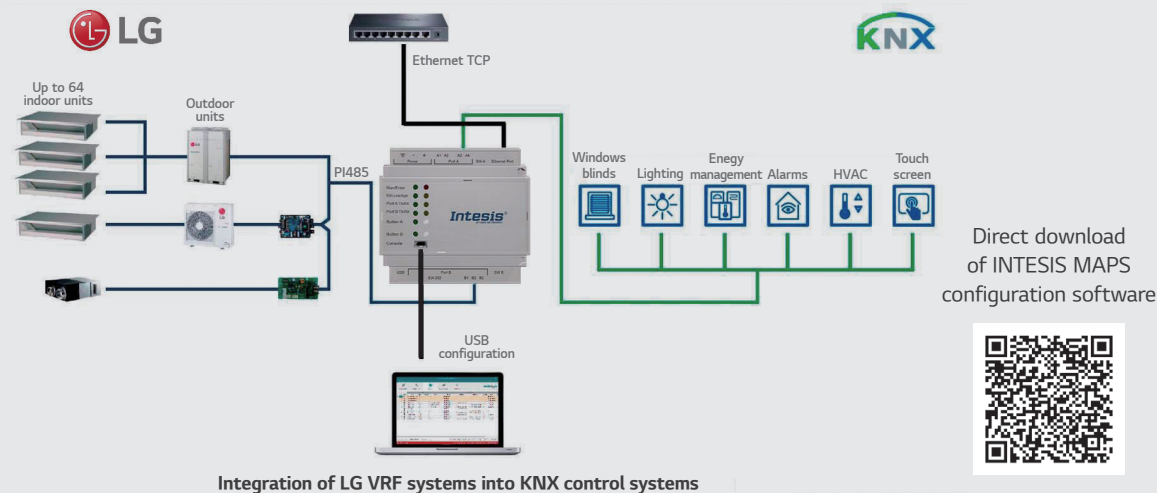
Easy to use tool for the configuration of Intesis gateway, in a fast and effective way.
It offers the maximum integration possibilities with a minimal knowledge required on the system to be integrated.



Intesis MAPS
Configuration software

- Only needed during configuration.
- One single tool for the configuration of the whole range of Intesis KNX gateway series.
- Supplied with Intesis gateway 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 Intesis gateway's datapoints.
- Includes powerful and useful features for configuration, setup and troubleshooting.

Installation Scene



Integration of LG VRF systems into KNX control systems

INKNXLGE001R000 (For Indoor Unit)

LG-KNX gateway allows fully bi-directional communication between LG VRF systems and KNX installations.

One gateway, one AC unit : This is the solution of **ONE-TO-ONE** integration. All required KNX DPT objects are full compatible with all KNX thermostats in the market. The gateway is wired directly to an indoor unit. This allows not only the control of the main AC functions such as operating mode, fan speed, temperature setpoint, also monitoring errors and alarms.



Key features

- KNX certified.
- Configured by ETS standard configuration tool.
- KNX database available on ETS5 / 6
- Reduced dimensions allowing a quick installation inside the Air Conditioner unit.
- Offered all the required DPT objects 100% be compatible with all KNX thermostats in the market.
- Energy efficiency functions, such as "timeout", "open window" or "Occupancy".
- Smooth integration of KNX thermostats allowing the control of the AC unit by the own temperature sensor of the thermostat (Virtual Temperature)
- Simultaneous control of the AC unit by LG remote controller and KNX.

Key benefits

- Optimization cost for small or medium installations.
- Decentralized device control : one gateway connected to each indoor unit.
- Easy integration on KNX installations
- Intuitive configuration

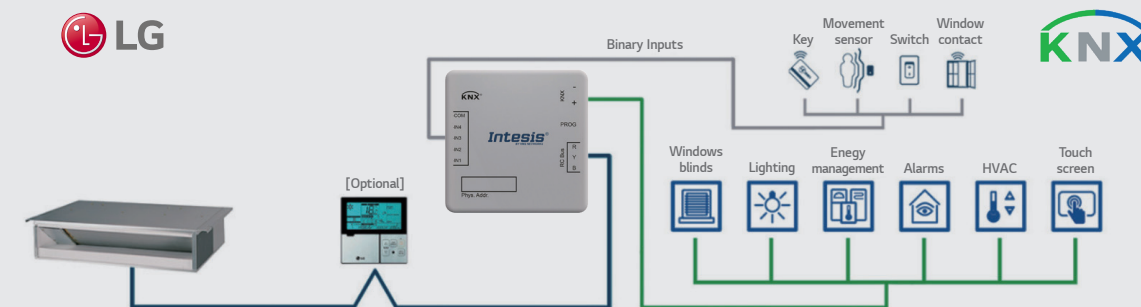
Key messages

- Total control and monitoring of the AC unit from KNX, including AC unit's internal variables, running hours counter (for filter maintenance control) and error indication (CH Error Codes).
- Fully integrated solution on Engineering Tool Software ETS5 / 6 by database product

KNX LG solution concept

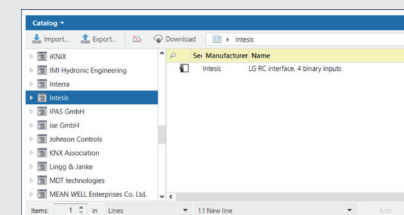


Installation Scene & LG Topology

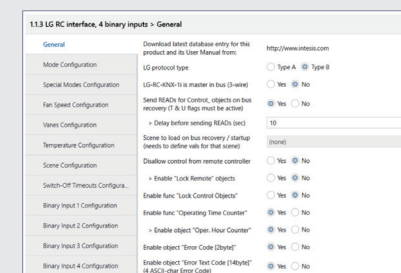


KNX Product

Database available directly on ETS5/6
under INTESIS manufacturer



Configuration by ETS Data Base



Web landing page
of the product

