

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation manual completely before installing the product.
The appliance shall be installed in accordance with national wiring regulations.
Please retain this installation manual for future reference after reading it thoroughly.

Modbus Gateway For Indoor Unit
Original instruction

LG Electronics Inc.
EU Representative : LG Electronics European Shared Service Center B.V.
Krijgsman 1, 1186 DM Amstelveen, The Netherlands
Manufacturer: LG Electronics Inc. Changwon 2nd factory, 84, Wanam-ro,
Seongsan-gu, Changwon-si, Gyeongsangnam-do, KOREA



MFL70585304
Rev.01_022119

ENGLISH	ITALIANO	ESPAÑOL	FRANÇAIS	DEUTSCH	ΕΛΛΗΝΙΚΑ	ČEŠTINA	NEDERLANDS	POLSKI	LIETAUVIŠKŲ
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Important Safety Instructions

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product.

⚠ WARNING

It can result in serious injury or death when the directions are ignored.

⚠ CAUTION

It can result in minor injury or product damage when the directions are ignored.

⚠ WARNING

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.

- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

Installation

- Be sure to request to the service center or installation specialty store when installing products. It will cause fire or electric shock or explosion or injury.
- Request to the service center or installation specialty store when reinstalling the installed product. It will cause fire or electric shock or explosion or injury.
- Do not disassemble, fix, and modify products randomly. It will cause fire or electric shock.
- Be sure to turn off power before installation. It will cause electric shock.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Always perform grounding. Otherwise, it may cause electrical shock.
- You need to use a safely insulated power supply which follows IEC61558-2-6 and NEC Class2. If you do not follow, It may cause

fire, electric shock, explosion or injury.

- Securely attach the electrical part cover to Module. If the electric part cover of Module is not attached securely, it could result in a fire or electric shock due to dust, water, etc.
- Make the connections securely so that the outside force of the cable may not be applied to the terminals. Inadequate connection and fastening may generate heat and cause a fire.

In-use

- Do not place flammable stuffs close to the product. It will cause fire.
- Do not allow water to run into the product. It will cause electric shock or breakdown.
- Do not give the shock to the product. It will cause breakdown when giving the shock to the product.
- Request to the service center or installation specialty store when the product becomes wet. It will cause fire or electric shock.
- Do not give the shock using sharp and pointed objects. It will cause breakdown by damaging parts.
- Do not touch the board when the power is connected. It can cause a fire, electric

shock, explosion, injury and problem to the product.

- Unplug the unit if strange sounds, smell, or smoke comes from it. Otherwise, it may cause electrical shock or a fire.
- The appliance must only be supplied at safety extra low voltage corresponding to the marking on the appliance.
- This appliance is not intended to be accessible to the general public.

⚠ CAUTION

In-use

- Do not clean using the powerful detergent like solvent but use soft cloths. It will cause fire or product deformation.
- Do not press the screen using powerful pressure or select two buttons. It will cause product breakdown or malfunction.
- Do not touch or pull the lead wire with wet hands. It will cause product breakdown or electric shock.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless

- they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Specification

1) Modbus configuration

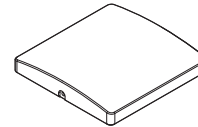
- Network : 2 wire RS485
- Mode : Modbus RTU slave
- Baud : 9600
- Parity : None
- Stop bits : 1
- Register Base : 0

2) Data registers

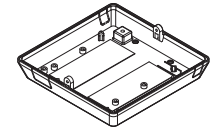
Function code	Register	Address	Name	Range	Notes
01(read)/05(write)	00001	0x0000	Operation	0~1	0: Stop 1: Run
04(read)	30001	0x0000	Pipe in temprature	-300~1120	Degrees (°C) x 10
04(read)	30002	0x0001	Pipe out temperature	-300~1120	Degrees (°C) x 10
04(read)	30003	0x0002	Indoor temperature	100~400	Degrees (°C) x 10
04(read)	30100	0x0063	Error code	0~999	0: No error 1~999: Error code
03(read)/06(write)	40001	0x0000	Set run mode (aircon)	0~4	0: Cool 2: Fan 3: Auto 4: Heat
03(read)/06(write)	40002	0x0001	Set temperature	180~300	Degrees (°C) x 10
03(read)/06(write)	40003	0x0002	Set run mode (ventilation)	0~2	0: Heat exchange 1: Auto 2: Bypass
03(read)/06(write)	40004	0x0003	Set sub operation (ventilation)	0~2	0: Off 1: Fast 2: Energy saving
03(read)/06(write)	40015	0x000E	Set fan speed	1~3	1: Low 2: Middle 3: High 4: Auto 7: Super High

※ Above function may not work in some products.

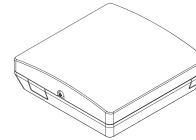
Name of each part



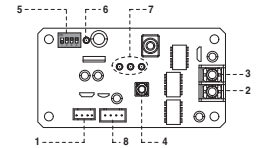
Front Case



Rear Case



ISO View



PCB



Side



Side



Cable(1 EA)

(For Connecting with indoor unit)



Installation Manual



Connector (1 EA)

(For expanding address range)

* Others :
Screw 4 EA(For installation)

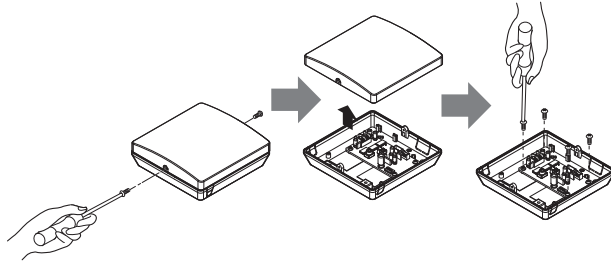
Modbus Gateway For Indoor Unit

1. **CN-OUT** : Indoor Unit Connector
2. **BUS-A** : RS-485(+) Terminal
3. **BUS-B** : RS-485(-) Terminal
4. **SW1** : Reset Switch
5. **SWDIP** : Setting Address Switch(Refer Page 11)
6. **LED1** : RS-485 Status LED
7. **LED(01~03)G** : Communication Status LED
8. **CN-JIG** : Connector for expanding the address range

Installation Method

Installation inside of the indoor unit

- 1) Loosen and remove two screws that secure the product.
- 2) Loosen two screws that secure the PCB to separate rear of the case from the PCB.



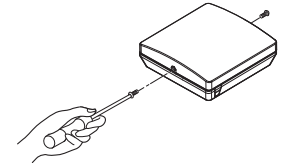
- 3) Connect the connection wires properly according to the connection method. (Refer to the instruction and set-up description)
- 4) Set the switch according to the setting method. (Refer to the instruction and set-up description)
- 5) Secure PCB on adequate space inside of the indoor unit.

*Note

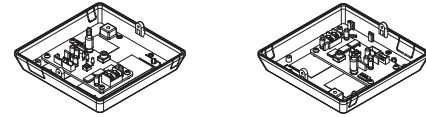
1. Install the product on flat surface and install anchoring screws at more than 2 places. Otherwise the central controller may not be anchored properly.
2. Do not tighten anchoring screws too tightly. It may cause deformation of the case.
3. Do not deform the case at random. It may cause malfunction of the central controller.

Installation

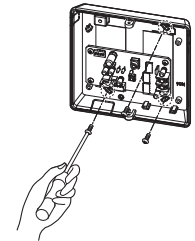
- 1) Loosen and remove two screws that secure the product.



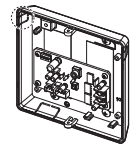
- 2) Position the rear case to the direction towards to the connector for convenient cable arrangement.



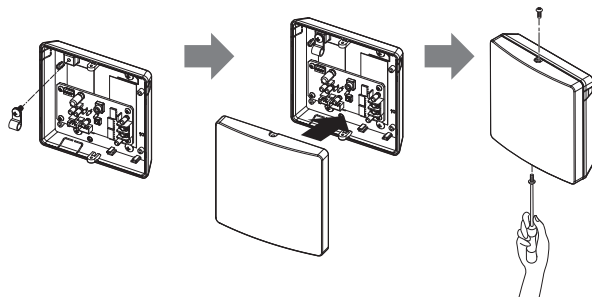
- 3) Secure the rear case on the installation place using the supplied fixing screws.



- 4) Remove knock out shapes on the rear case according to the connector's size and direction.



- 5) Connect the connection wires properly according to the connection method. (Refer to the instruction and set-up description)
- 6) Set the switch according to the setting method. (Refer to the instruction and set-up description)
- 7) Tighten the fixing screws on the top and bottom of the case.



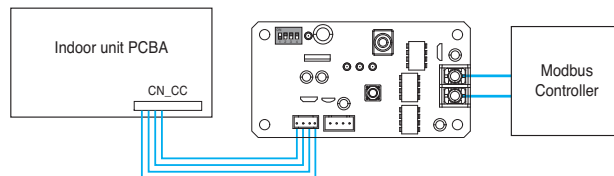
***Note**

1. Install the product on flat surface and install anchoring screws at more than 2 places. Otherwise the central controller may not be anchored properly.
2. Do not tighten anchoring screws too tightly. It may cause deformation of the case.
3. Do not deform the case at random. It may cause malfunction of the central controller.

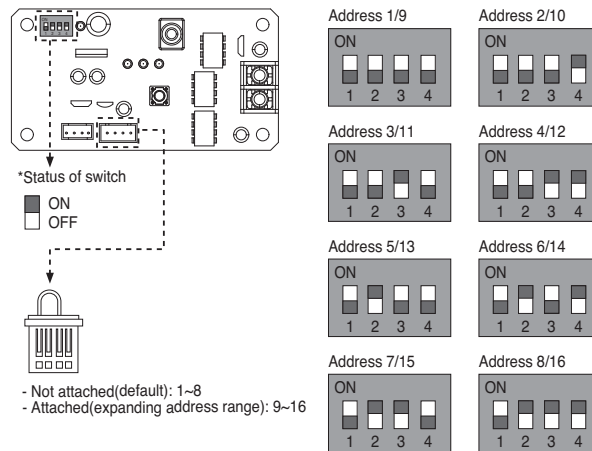
Setting method

After change any Dry contact setting, then you must press RESET switch to reflect the setting.

1. Connecting Drycontact with Indoor unit PCBA and Modbus Controller



2. Setting Address



* /Number: Address when connector is attached

* In case, connect a Modbus controller with several product, Address have to be set different from others.

* If the connector is attached to 'CN-JIG', the address range is expanded. (Please attach the connector before turning on the product.)

After change any Dry contact setting, then you must press RESET switch to reflect the setting.

Setting method

- ※ If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- ※ Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- ※ Qualified service technician is only possible to access to product.

Minimum cross-sectional area of conductors

Rated current of appliance A		Nominal cross-sectional area mm ²
	≤0.2	Tinsel cord ^a
>0.2	and ≤3	0.5 ^a
>3	and ≤6	0.75
>6	and ≤10	1.0 (0.75) ^b
>10	and ≤16	1.5 (1.0) ^b
>16	and ≤25	2.5
>25	and ≤32	4
>32	and ≤40	6
>40	and ≤63	10

Disposal of your old appliance(as per e-waste Rules)



1. When this crossed out wheeled bin symbol is depicted on the product and its operator's manual, it means the product is covered by the e-waste Management and Handling Rules , 2011 and are meant to be recycled, dismantled, refurbished or disposed off.

2. Dos

- a. The product is required to be handed over **only** to the authorized recycle for disposal.
- b. Keep the product in isolated area, after it becomes non-functional/un-repairable so as to prevent its accidental breakage.

Don't

- a. The product should not be opened by the user himself/herself, but only by authorized service personnel.
- b. The product is not meant for re-sale to any unauthorized agencies/scrap dealer/kabariwalah.
- c. The product is not meant for mixing into household waste stream.
- d. Do not keep any replaced spare part(s) from the product in exposed area.

3. Any disposal through unauthorized agencies/person will attract action under Environment (Protection) Act 1986 .

4. This product is complied with the requirement of Hazardous Substances as specified under Rule 13 (1) & (2) of the E-Waste (Management & Handling) Rules, 2011.

5. To locate a nearest collection centre or call for pick-up (limited area only) for disposal of this appliance, please contact Toll Free No. **1800-180-9999** for details. All collection centre and pick up facilities are done by third parties with **LG Electronics India Pvt. Ltd.** Merely as a facilitator. For more detailed information , please visit : <http://www.lge.com/in>.

- ※ The above information applies only to India.

अपने पुराने नपिटान के उपकरण (ई-अपशष्टि नयिम के अनुसार)



1. जब इस काटे गए पहिये वाले बनि का चनिह कसिी उपकरण और इसके ओपेटर की पुस्तिका के साथ संलग्न होता है तो इसका मतलब है कि इसे "ई-अपशष्टि" (प्रबंधन और हथालन) नयिम २०११ के अंतर्गत सम्मलित किया गया है , और इसे नवीनीकरणकरण ,वधिटन और नपिटान के लिए बनाया गया है ।
 2. करें
 - क . उपकरण को सर्रिफ अधकृत पुनः नवीनीकरणकरता को ही नपितारण करने हेतु हस्तान्तरति करें ।
 - ख. जब उपकरण कार्ररत न हो इसे अलग क्षेत्र में रखें ताकि उपकरण से होने वाली दुरघटनाओं से बचा जा सके ।
न करें
 - क. इस उपकरण को स्वयं/खुद नहीं खोलना चाहिए ! उपकरण को केवल अधकृत अधिकारी के द्वारा ही खोला जाना चाहिए ।
 - ख. इस उपकरण को पुनः बक्री के लिए कसिी भी कबाड़ीवाला / भंगार-वाला / अनाधकृत संस्था को न दें ।
 - ग. इस उपकरण को कसिी घरेलू अपशष्टि सामान के साथ मलिकर न रखें ।
 - घ. उपकरण के बदले हुए या आंतरंकि पुरजो को खुले क्षेत्र में न रखें ।
 3. यदि कसिी अनाधकृत वभिग या व्यक्त के द्वारा नपिटारन किया जाता है तो यह पर्यावरण (सुरक्षा) धारा १९८६ के अंतर्गत आता है ।
 4. यह उत्पाद खतरनाक पदार्थों के लिए बनाये गए नयिमांक १३ (१) और (२), ई -वेस्ट (प्रबन्द्धन और रखरखाव) नयिम २०११ के कानून का पालन करता है.
 5. उपरोक्त पदार्थो के नपिटारन के लिए नजदीकी नपिटारन संसथान (संकीरण क्षेत्र)में कॉल करें। अधिक जानकारी के लिए हमारे टोल फ्री नंबर **1800-180-9999** पर कॉल करें. सभी संग्रहण केंद्र व पकि-अप की सुवधिएं कसिी थर्ड-पार्टी जो "LG Electronics India Pvt. Ltd." को अपनी सेवाएं प्रदान कर रही हों, से करवाएं ।
ज्यादा जानकारी के लिए देखें वेब:साईट - <http://www.lge.com/in>
- ※ ऊपर दी गई जानकारी केवल भारत पर लागू होती है।