LG
Life's Good

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DEUTSCH
PORTUGUÊS
TÜRKÇE
РУССКИЙ ЯЗЫК

INSTALLATION/ OWNER'S MANUAL

AIR CONDITIONER

Please read this manual carefully before operating your set and retain it for future reference.

IO Module(Multi-V IV)

P/NO : MFL67888701

www.lg.com

TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
- Keep doors or windows closed tightly while you are operating the air conditioner.
- Adjust the direction of the air flow vertically or horizontally to circulate indoor air.
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air quality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here:

Model number :

Serial number :

You can find them on a label on the side of each unit.

Dealer's name :

Date of purchase :

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.

⚠ WARNING

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 outdoor unit power before installation. It will cause electric shock.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

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.

⚠ 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.

ENGLISH	Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilitiesappointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

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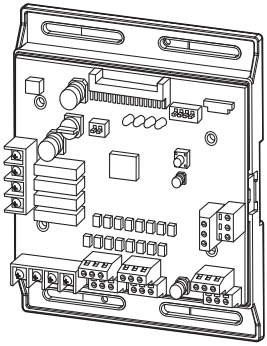
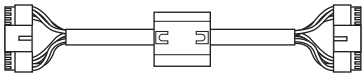
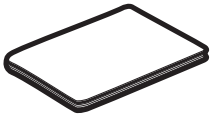
COMPONENTS



IO Module

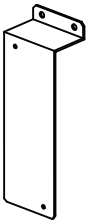


Cable

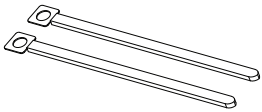


Manual

4 Screws (10mm*2ea, 12mm*2ea)

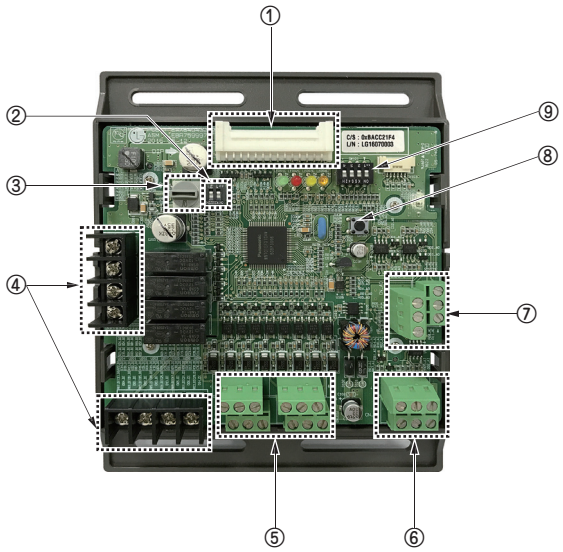


Bracket



Clamp,Cord
(105mm*2ea)

NAME OF EACH PART



① **Main connector :** Power input and communication connector with Outdoor unit

② **SW102 :** Switch for setting internal function

③ **SW104 :** Rotary Switch for setting Demand control step

④ **Digital Output :** Operating & Error status Relay output (250V, 1A)
Reserved Relay output (250V, 1A)

⑤ **Digital Input :** Dry contact input

⑥ **Analog Input :** DC 0 ~ 10 V Analog signal input

⑦ **Analog Output :** DC 0 ~ 10 V Analog signal output

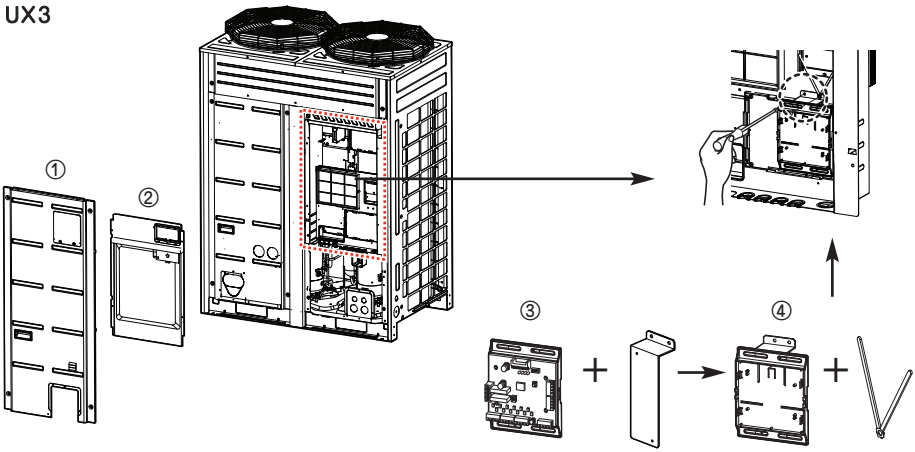
⑧ **SW103 :** Reset Switch

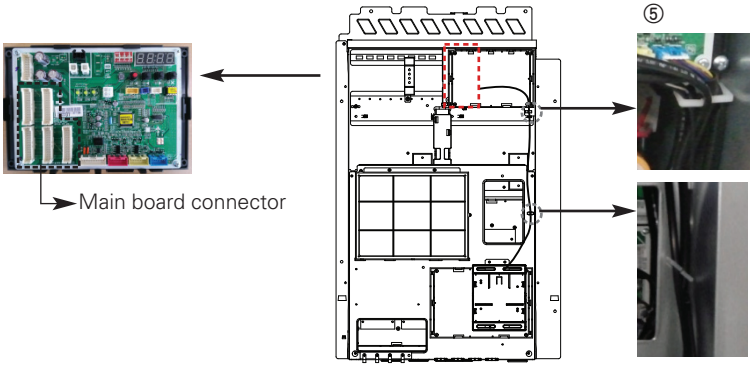
⑨ **SW101 :** Dip Switch for setting operating function

INSTALLATION METHOD

① Separate front panel from outdoor unit.
② Separate front cover of control box.
③ Assemble IO Module and bracket.
④ Fix the bracket on designated location with two clamp cords(105mm).
⑤ Connect the connection wires according to the instructions. (Please refer to Setting and Using Method)

UX3



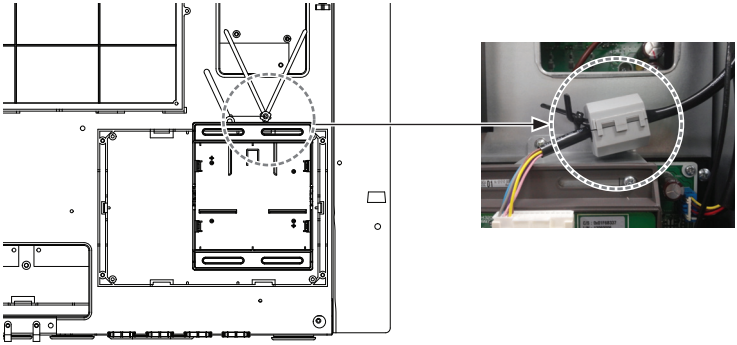


CAUTION

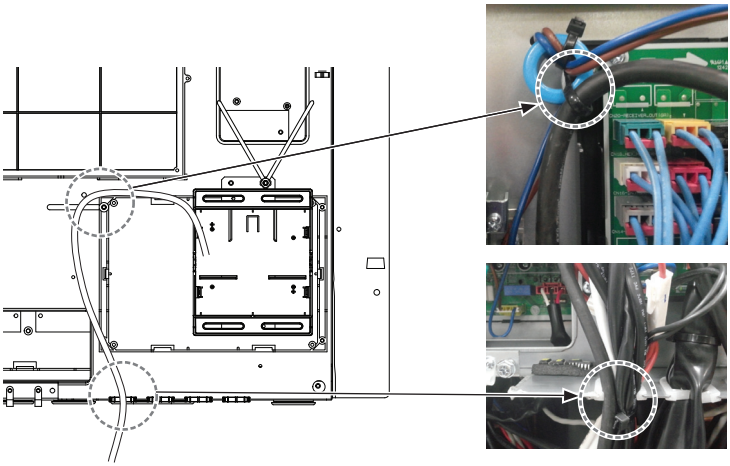
Be sure to turn off outdoor unit power before installation.

⑥ Fix and fasten components and cables.
⑦ Perform the switch setting according to the instructions.

Using 105mm clamp cords, fasten the core as below.



Using 65mm clamp cords, fasten the relay output cable as below.

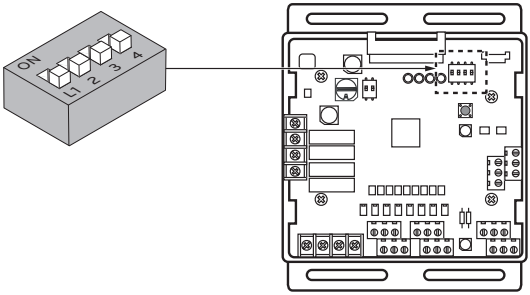


SETTING AND USING METHOD

Setting

Setting of Dip Switch

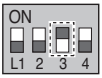
Using 'SW101', select the option of control function as described below.



NOTE

Default status is all off

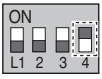
• L3 : Set Low Noise Operation
This is a function driving outdoor unit fan RPM to operate low speed for reducing fan noise according to the input signal. To use this function, you should set Outdoor unit mode, Please refer to PDB more detail.

Position	Function
	ON : Enable Low Noise Operation OFF : Disable Low Noise Operation

CAUTION

If the Dip SW is set , IO module System is operating preferentially than outdoor unit setting.

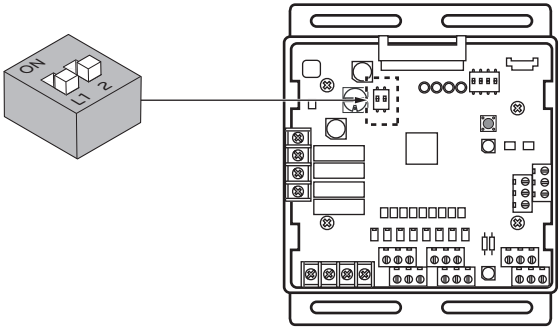
• L4 : Set Operating status output

Position	Function
	ON : Activate Digital Output according to Indoor Unit status OFF : Activate Digital Output according to Outdoor Unit status

CAUTION

After change Dip SW setting, press reset switch to reflect the setting.

Using 'SW102', set the internal function as described below.



NOTE

Default status is all off

• L1 : Set Analog output default value when Communication Error will be occur (Module – ODU)

Position	Function
	ON : Analog output 0V OFF : Analog output 10V

• L2 : Set Analog output Range
Basically this module keeps a minimum Analog output voltage refer to L1,L2 setting of SW101 to prevent unexpected accident. When you need to use 0~10V full range, L2 should be set as ON.

Position	Function
	ON : Ignore minimum Analog output value setting (L1,L2 setting value of 4pin Dip SW) OFF : Follow minimum Analog output value setting (L1,L2 setting value of 4pin Dip SW)

CAUTION

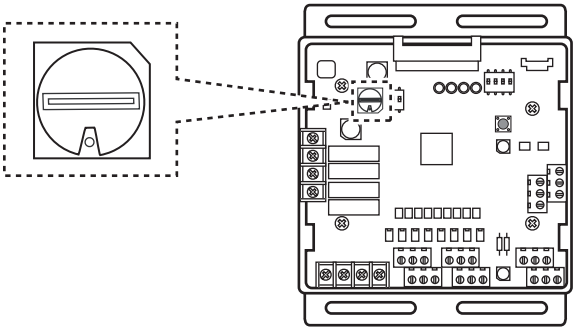
After change Dip SW setting, press reset switch to reflect the setting.

Setting of Rotary Switch

Use the Rotary Switch to set a control step for contact signal input : The type of input signal and control step can be set using 'SW104'

This function is for demand control to reduce power consumption.

Set the control mode what you want according to the table as below.



- Type of input signal

SW_STEP	Input signal
0, 1, 2, 3, 4, 5, 6, 7	Contact signal input
C, D, E	Analog input signal

⚠ CAUTION

Do not change a command too quickly.

Keep the command 30 seconds at least, otherwise it will cause a damage to outdoor unit.

- Operation rate condition :
  - Cooling : Outdoor 35 °C, Indoor 27 °C
  - Heating : Outdoor 7 °C, Indoor 20 °C
- The tolerance of the operation rate can be cause by combination of outdoor unit, operating condition, installation circumstance.
- When operation rate is 100%, Target Evaporating Temp. and Target Condensing Temp. can be changed by installation option. (Refer to product data book)
- Input_1 : 0 ← OFF, Input_1 : 1 ← ON

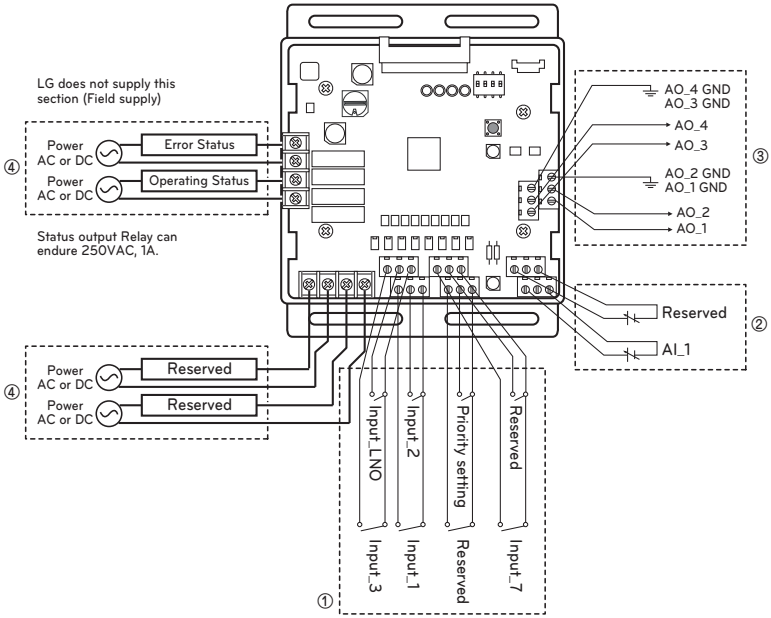
- Detail of the control step for digital input signal

SW_ STEP	Input_1	Input_2	Input_3	Cooling		Heating		Type of input
				Evaporating Temp. [°C]	Operation rate	Condensing Temp. [°C]	Operation rate	
0	0	0	0	No control	-	No control	-	Contact signal
	1	0	0	5.9	70%	40.4	70%	
	0	1	0	11.0	40%	31.3	40%	
	0	0	1	Comp off	0%	Comp off	0%	
1	0	0	0	No control	-	No control	-	
	1	0	0	5.9	70%	40.4	70%	
	0	1	0	9.0	50%	34.5	50%	
	0	0	1	Comp off	0%	Comp off	0%	
2	0	0	0	No control	-	No control	-	
	1	0	0	5.0	80%	43.1	80%	
	0	1	0	9.0	50%	34.5	50%	
	0	0	1	Comp off	0%	Comp off	0%	
3	0	0	0	No control	-	No control	-	Contact signal
	1	0	0	5.9	70%	40.4	70%	
	0	1	0	11.0	40%	31.3	40%	
	0	0	1	All off	0%	All off	0%	
4	0	0	0	No control	-	No control	-	
	1	0	0	5.9	70%	40.4	70%	
	0	1	0	9.0	50%	34.5	50%	
	0	0	1	All off	0%	All off	0%	
5	0	0	0	No control	-	No control	-	
	1	0	0	5.0	80%	43.1	80%	
	0	1	0	9.0	50%	34.5	50%	
	0	0	1	All off	0%	All off	0%	
6	0	0	0	No control	-	No control	-	
	1	0	0	9.0	50%	34.5	50%	
	0	1	0	Comp off	0%	Comp off	0%	
	0	0	1	All off	0%	All off	0%	
7	0	0	0	No control	-	No control	-	
	1	0	0	Comp off	0%	Comp off	0%	
	0	1	0	9.0	50%	34.5	50%	
	0	0	1	5.5	75%	41.8	75%	

- Detail of the control step for analog input signal

SW_ STEP	Input Voltage	Cooling		Heating		Type of input
		Evaporating Temp. [°C]	Operation rate	Condensing Temp. [°C]	Operation rate	
C	0	Comp off	0%	Comp off	0%	Analog input
	1	Comp off		Comp off		
	2	Comp off		Comp off		
	3	11.0	40%	31.3	40%	
	4	9.8	45%	33.3	45%	
	5	9.0	50%	34.5	50%	
	6	7.2	60%	37.5	60%	
	7	5.9	70%	40.4	70%	
	8	5.0	80%	43.1	80%	
	9	4.1	90%	45.6	90%	
	10	3.1	100%	48.1	100%	
D	0	No control	-	No control	-	Analog input
	1	3.1	100%	48.1	100%	
	2	4.1	90%	45.6	90%	
	3	5.0	80%	43.1	80%	
	4	5.9	70%	40.4	70%	
	5	7.2	60%	37.5	60%	
	6	9.0	50%	34.5	50%	
	7	9.8	45%	33.3	45%	
	8	11.0	40%	31.3	40%	
	9	Comp off	0%	Comp off	0%	
	10	All off	0%	All off	0%	
E	0	Comp off	0%	Comp off	0%	Analog input
	1	11.0	40%	31.3	40%	
	2	9.8	45%	33.3	45%	
	3	9.0	50%	34.5	50%	
	4	7.2	60%	37.5	60%	
	5	5.9	70%	40.4	70%	
	6	5.0	80%	43.1	80%	
	7	4.1	90%	45.6	90%	
	8	3.1	100%	48.1	100%	
	9	3.1		48.1		
	10	3.1		48.1		

Wiring



AI : Analog Input (DC 0 ~ 10 V)
AO : Analog Output (DC 0 ~ 10 V, Max 20 mA)
Input_LNO : Low Noise Operation

① **Dry contact input part**
Connect Non Voltage contact signal for demand control (3 step)
* Priority setting
Using 'Priority setting' contact signal, set the priority of command.
(External command from DDC Vs Command from LG central controller.)
- Close : Central controller has priority to external signal.
- Open : External signal has priority to central controller.

② **Analog input part**
Connect Analog input signal for demand control (10 step)

③ **Analog output part**
Connect Analog output signal for controlling third party devices.
Ex) Valve actuator for variable water flow. Damper actuator for Low Ambient Kit

④ **Digital output part**
Connect status display devices.

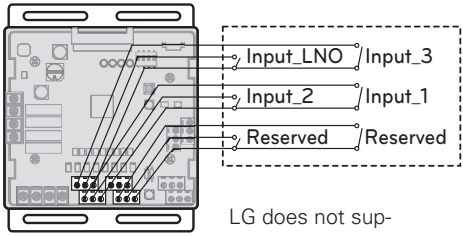
CAUTION

Power must be turned on after the product is wired completely.

Using

Demand control

Using Demand control function with 3-Non Voltage contact.



LG does not supply this section (Field supply)

With this function comp capacity of outdoor unit can be controlled.

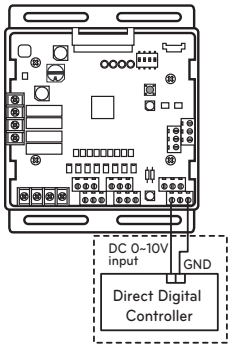
Ex) Demand control by 3-contact signal

SW_ STEP	Input_1	Input_2	Input_3	Comp capacity Of outdoor unit(%)	Type of input
0	0	0	0	No control	Contact signal
	1	0	0	70	
	0	1	0	40	
	0	0	1	Comp off	

⚠ CAUTION

- This input can accept only non voltage contact.
  Do not input external power source. Otherwise it will cause a serious damage.
- If the contact point is attached, capacity control is applied preferentially by TMS system.
- If the NLO contact point is attached, System is operated preferentially than outdoor unit setting.

Using Demand control function with 0~10V DC voltage signal



LG does not supply this section (Field supply)

With this function comp capacity of outdoor unit can be controlled by BMS.

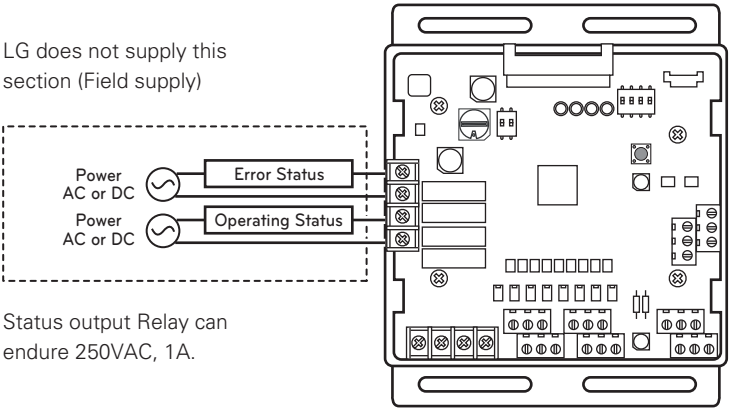
Ex) Demand control by Analog input signal
Refer to Detail of the control step for analog input signal.

⚠ CAUTION

- This function is very sensitive to voltage level.
  So when using analog input, make a signal cable as short as possible.
- Do not change a command too quickly.
  Keep the command 30 seconds at least, otherwise it will cause a damage to outdoor unit.

Operation Status

LG does not supply this section (Field supply)



Status output Relay can endure 250VAC, 1A.

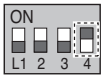
CAUTION

When using high voltage over than AC24V, make sure to use H07RNF wire.

① Error Display
: This Module display error signal as below
- Level 1,2 error of Outdoor Unit
- Indoor Unit error _ All IDU Error.

② Operating Display
: This function is depend on 4th Dip SW setting of 'SW101'.
- L4 is ON : Display Indoor Unit operating status (Include FAN mode only)
- L4 is OFF : Display Outdoor Unit operating status (Compressor operating condition)

• L4 : Set Operating status output

Position	Function
	ON : Activate Digital Output according to Indoor Unit status OFF : Activate Digital Output according to Outdoor Unit status

Representative : LG Electronics Inc. EU Representative, Krijgsman 1, 1186 DM Amstelveen, The Netherlands

Manufacturer : LG Electronics Inc. Changwon 2nd factory, 84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, KOREA