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LG

# LG BNU-LW(Lonworks Gateway) *Installation Manual*

ENGLISH

ITALIANO

ESPAÑOL

FRANÇAIS

DEUTSCH

CHINESE

## IMPORTANT

- Please read this Installation Manual carefully and thoroughly before installing and operating your room air conditioner.
- Please retain this Installation Manual for future reference after reading it thoroughly.

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## Safety Precautions



To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

**! WARNING** This symbol indicates the possibility of death or serious injury.

**! CAUTION** This symbol indicates the possibility of injury or damage.

- Meanings of symbols used in this manual are as shown below.

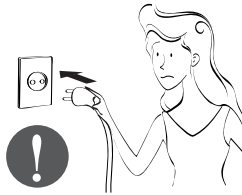
	<b>Be sure not to do.</b>
	<b>Be sure to follow the instruction.</b>

### **! WARNING**

#### ■ Operation

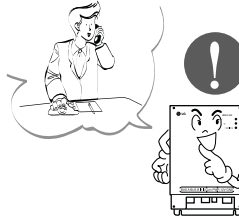
**Do not operate or stop the unit by inserting or pulling out the power plug.**

- It will cause electric shock or fire due to heat generation.



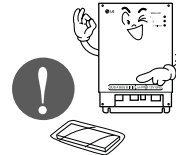
**Ask for Product equipment at the service center or establishment certainly at the specialty store.**

- It can cause an accident, electric shock, explosion or injury.



**Use standard parts.**

- Use of non standard parts can cause electric shock, explosion, injury, breakdown.



**Standard Parts**

## Safety Precautions

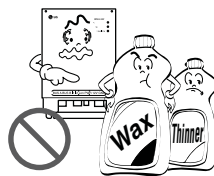
**While re-installing the established product, notify the service center or establishment specialty store.**

- It can cause an accident, electric shock, explosion, injury.shock.



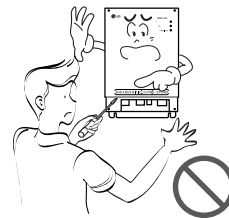
**Do not use the power cord near Flammable gas or combustibles, such as gasoline, benzene, thinner, etc.**

- It may cause an explosion or fire



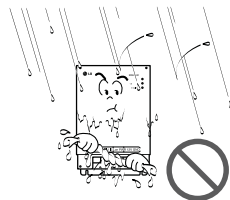
**Do not disjoint randomly or repair and remodel the product.**

- It may cause fire and electric shock



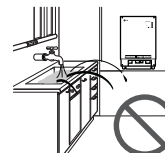
**If water enters the product, turn the power switch of the main body of appliance off.**

- After taking the power-plug out from the socket, contact the service center.



**Keep the product away from the places which can have moisture.**

- Water may enter the unit and degrade the insulation. It may cause an electric shock.



## ■ During usage

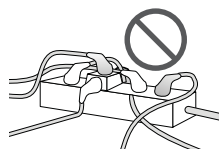
**Do not change or extend the conductor at random.**

- It can cause fire and electric shock.



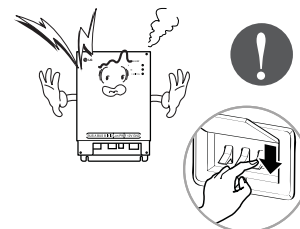
**Do not use concert with in the octopus-like legs way.**

- It can cause fire and electric shock



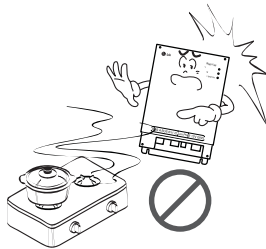
**Unplug the unit if strange sounds, smell, or smoke comes from it.**

- It may cause fire and electric shock accident.



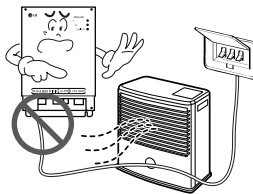
**Do not put firearms near product.**

- It can cause fire.



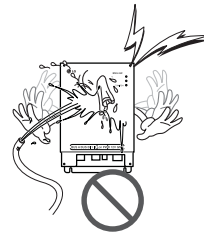
**Do not put an electric heater or conductor near to the product.**

- It can cause fire and electric shock.



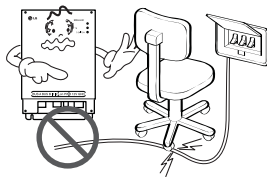
**Do not spill water inside product.**

- It can cause electric shock and breakdown.



**Do not place heavy goods on wire.**

- It can cause fire and electric shock.



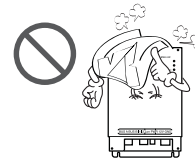
**Hold the plug by the head of the power plug when taking it out.**

- It may cause electric shock and damage.



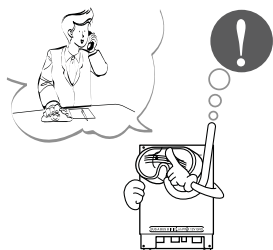
**Do not place heavy goods on product.**

- It can cause product breakdown.



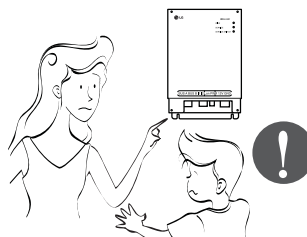
**That increase in case of product was been flood certainly in the service center or establishment specialty store commit .**

- I am responsible for fire and electric shock.



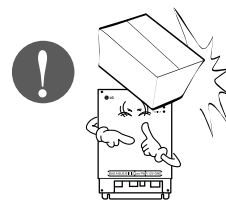
**Protect the product from handling by a children.**

- It can cause accident and product breakdown.



**Do not apply shock to product.**

- I am responsible for breakdown in case of shock to product.



## ! CAUTION

### ■ During usage

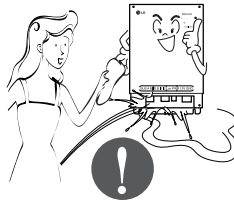
**Clean by soft hands using a cleaning material like a soft cloth.**

- It can result in fire and product transformation.



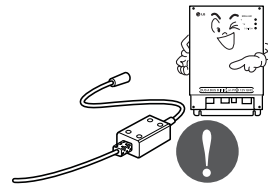
**Do not place any live part on the surface having water.**

- It can cause product breakdown.



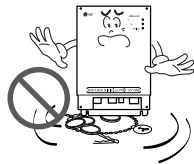
**Use recommended Adapter.**

- Otherwise it can result in product breakdown



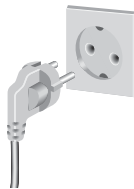
**Avoid contact to the metallic goods such as necklace, coin, key, a watch which may touch the battery even for a short-time.**

- It may cause product breakdown and injury.



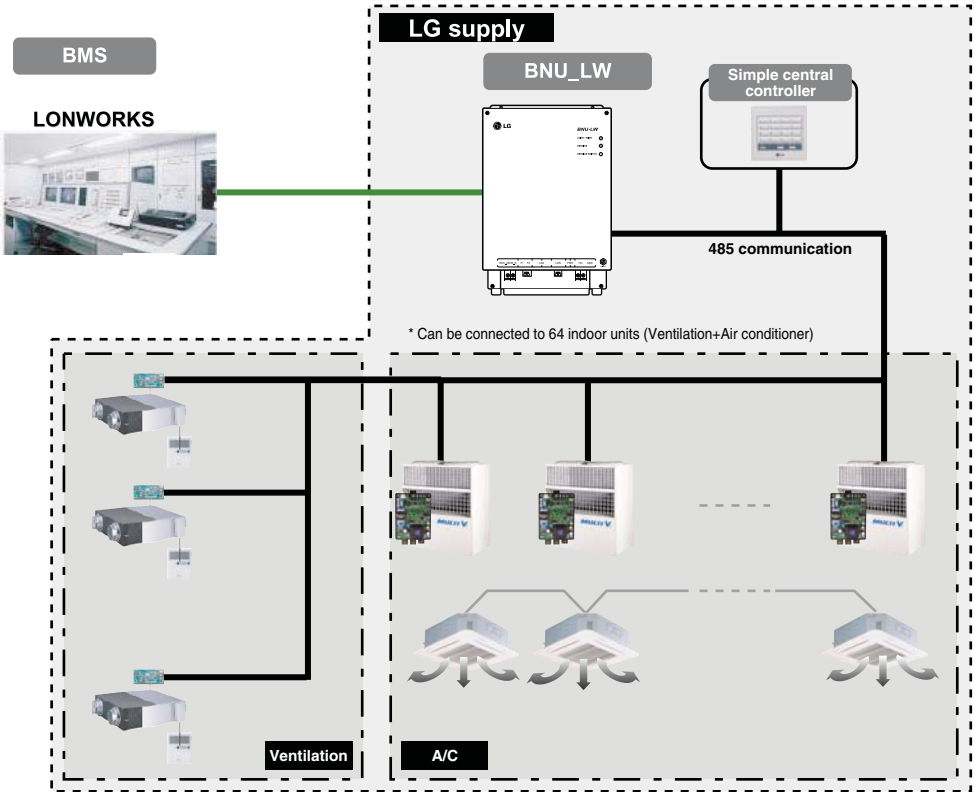
**Hold the plug by the head of the power plug when taking it out.**

- It may cause electric shock and damage.



# Overall system diagram

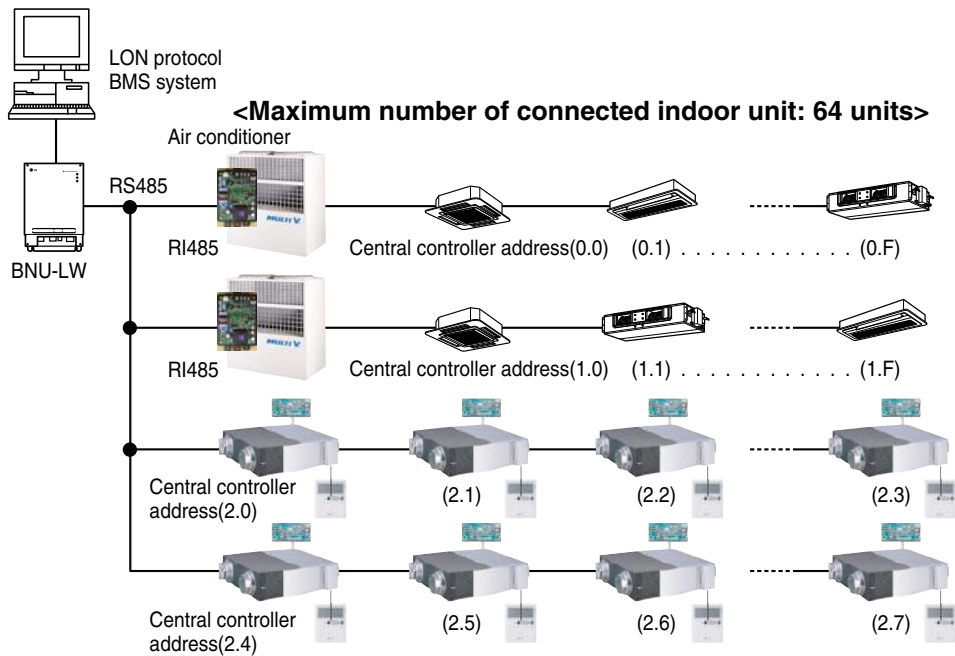
ENGLISH



\* PNF-B16A1 (Lon Gateway) can be used in connection with the simple central controller.

## External wiring diagram

*How to set the address for the central controller of the indoor unit connected to BNU-LW (Lonworks Gateway)*



- When the address of the indoor unit of the air conditioner is duplicated with that of the ventilation unit, it will not operate normally.
- Maximum of 64 units of the indoor unit (Air conditioner+Ventilation) can be connected to the BNU-LW.
- It is recommended to connect 16 units of PI485 and maximum of d32 PI485 units to the BNU-LW.
- Ventilation products cannot be interfaced with the simple central controller.



**Communication line specification**

1. RS-485 communication line specification: 0.75mm<sup>2</sup> or above 2C shield, product to product: 200M, total length: 1km
2. FT-10 communication line: Refer to the following table.

Cable Type	Line thickness (AWG)	Diameter
TIA 568A Category 5 cable	24	0.5mm
Belden 88471 (PVC jacket) or equivalent cable	16	1.3mm
Belden 85102(Tefzel jacket) or equal cable	16	1.3mm
Level IV cable	22	0.65mm
JY(st)Y 2x2x0.8	20.4	0.8mm

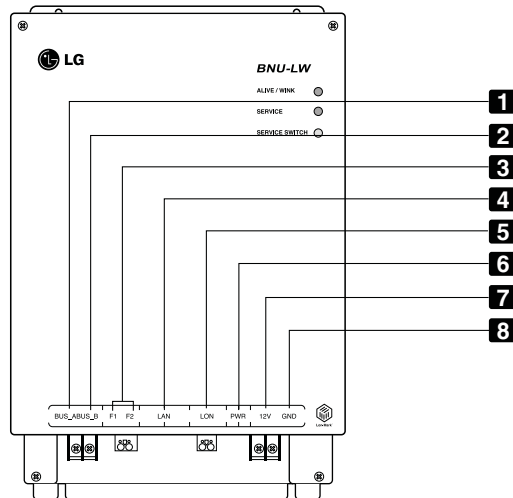
\* Nod to node distance (max): 250m, maximum distance: 450m

\* AWG: American Wire Gauge

Name of each part

## Name of each part

### LONWORKS GATEWAY



- 1** BUS\_A: 485 communication line A (+)
- 2** BUS\_B: 485 communication line B (-)
- 3** F1, F2: Fire detection function (external device) contact point connection
- 4** LAN: LAN port necessary for web function
- 5** LON: TP/FT-10 communication line (Lonworks system communication line) non-polarity
- 6** PWR: Connection to DC 12V power adapter
- 7** 12V: Connection when not using DC 12V power adapter
- 8** GND: Connection when not using GNS adapter

ALIVE/WINK: It flashes every 1 second when it is normal  
It flashes 5 times when receiving WINK command from Lonworks system (Green)

SERVICE: It is turned off when it is normal and flashes when it is not connected to the Lonworks system. It is turned on when the service switch is pressed.

SERVICE SWITCH: When you press the switch the Neuron ID is transmitted to the Lonworks system, and the service LED is turned on.



BNU-LW (PNF-B16A1) product is a product certified of LON-MARK, an international standard. (Lon Mark Version 3.3)

## **⚠ WARNING**

No. 6 and No. 7,8 are all for power supply. Therefore, only one of two combinations should be used.  
When DC 12V is used for the power, Connect No. 6 to the power (not necessary to use No. 7,8.)  
When DC 12V is NOT used for the power, Connect No. 7, 8 to the power (not necessary to use No. 6.)

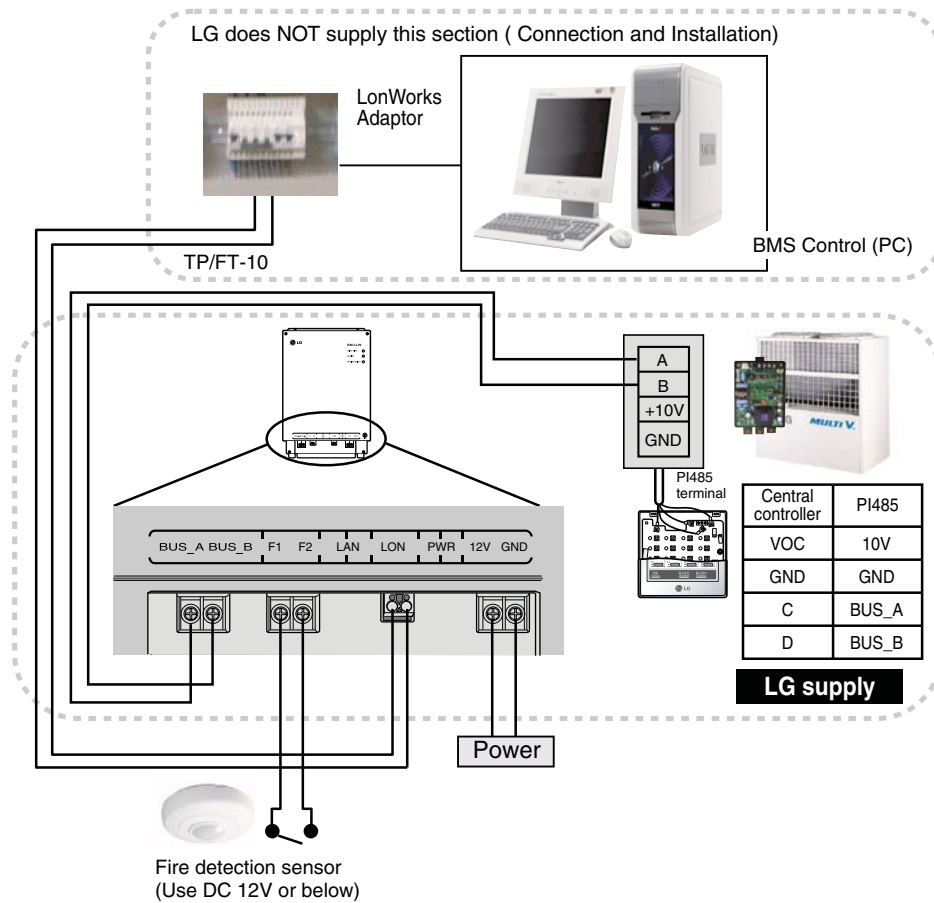
## Installation order

1. Install the product according to the setting of the central controller address of the indoor unit and the DIP S/W of PI485. (Set the DIP switch No. 4 to ON.)  
(Refer to the PI485 installation manual for details.)
2. Connect BUS\_A and BUS\_B (485 communication line) while paying attention to the connecting polarity. (Refer to the next page.)
3. LON (TP/FT-10 line Lonworks Gateway communication line connection) TP/FT-10 communication line does not have polarity. Connect the 2 communication lines to BMS.
4. PWR (Power supply)  
You can select either one of the two for the power supply.
  - ① Use DC 12V power adapter  
Connect to No. 6 in name of each part.
  - ② When separate DC12 can be supplied  
Connect 12V and GND to No. 7 and 8 terminals.
5. When you press the service switch after connecting to the Lonworks system, the service LED is turned on and the neuron ID is automatically transmitted to the Lonworks system.
6. Check whether the service LED is in normal condition (OFF condition) within 10 minutes. If the service LED is in normal condition, the installation has been done normally.
7. When using the fire detection port, connect the two terminals of the fire diction sensor to F1 and F2.  
(Fire detection sensor must be used for DC output of 12V or below.)
8. After the installation, connect the LAN cable between the PCs to use the web server so that you can check whether the LG product has been installed normally. – Refer to the remote diagnosis function part (page 16) for details.

### **⚠ CAUTION**

When connecting the signal line to the terminal of Lonworks Gateway, always use a manual driver.  
(Careful attention is required not to damage the terminal block and PCB.)

## BNU-LW wiring order



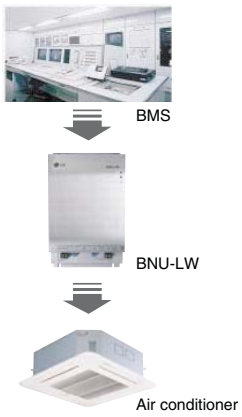
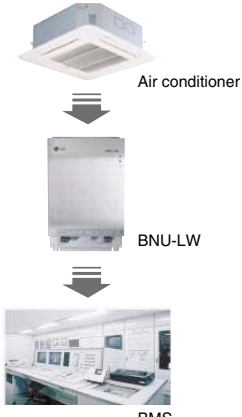
### [Wiring sequence]

1. Connect 485 communication line
  - Pay attention to BUS A and BUS B polarity (Refer to the G/W manual for DIP S/W information for 485 G/W.)
2. Connect the Lonworks communication line (TP/FT-10)
  - No polarity.
3. Power supply (Select one from No. 1 or 2)
  - ① Use DC 12V adapter
    - Connect to No. 6 jack from name of each part.
  - ② Supply DC 12V to installation site
    - Connect 12V and GND to No. 7 and 8 terminals.
4. Interface with simple central controller
  - Set the DIP S/W No. 2 of the simple central controller to ON and configure the setting according to the rotary S/W address. (Refer to setting part when connection to simple central controller (page 20) for details.)
5. Connect fire detection sensor
  - When the signal of DC 12 or below is transmitted in case of a fire, the indoor unit and ventilation product that is connected to BNU-LW will all be turned off.

# Air conditioner/ventilation function table

## Air conditioner indoor unit function


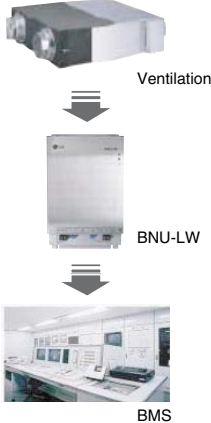
ENGLISH

Classification	Control	Monitoring
Function		
Indoor unit individual control	O	O
Operating mode change	O	O
Fan level change	O	O
Temperature adjustment function	O	O
Lock function	O	O
Automatic fan direction	O	O
Indoor unit temperature check	X	O
Error check	X	O
Simultaneous operation/stop	O	X

Binding (connection) function: Binding function refers to the case when the output of a unit has been bound to the input of another unit and the process of input change from the output change. The binding function is possible with Lon unit of other manufacturer.

**Ex)** When the ON/OFF output of the indoor unit No. 1 is bound to ON/OFF input of indoor unit of No. 2 and when the indoor unit No. 1 is turned on, the indoor unit No. 2 also gets turned on from receiving the signal.

### Ventilation indoor unit function

Classification	Control	Monitoring
Function		
Indoor unit individual control	O	O
Operating mode change	O	O
Fan level change	O	O
User operation mode (Quick ventilation, power save, heating)	O	O
Lock function	O	O
Error check	X	O
Simultaneous operation/stop	O	X

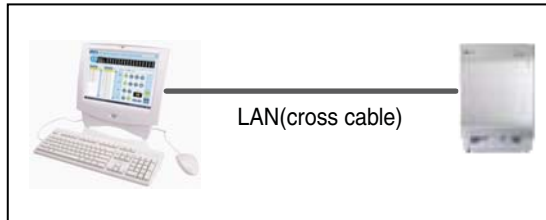
Binding (connection) function: Binding function refers to the case when the output of a unit has been bound to the input of another unit and the process of input change from the output change. The binding function is possible with Lon unit of other manufacturer.

**Ex)** When the ON/OFF output of the indoor unit No. 1 is bound to ON/OFF input of indoor unit of No. 2 and when the indoor unit No. 1 is turned on, the indoor unit No. 2 also gets turned on from receiving the signal.

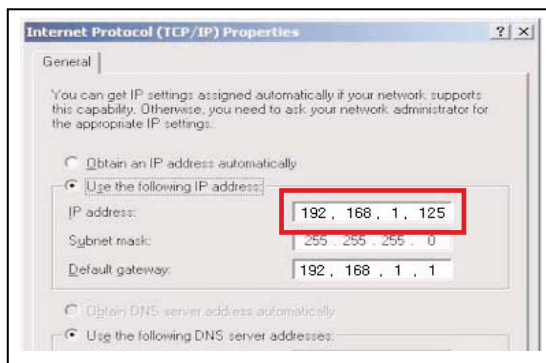
# BNU-LW remote diagnosis function

## Setting method

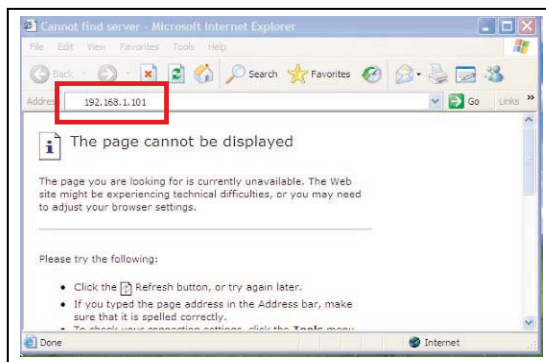
ENGLISH



1. Connect the LAN line between the PC and the LAN port of the BNU-LW.



2. Set the network IP of the used PC to 192.168.1.xxx (except 101).



3. Enter 192.168.1.101 in the Internet Explorer.



4. The above picture is shown when connected normally.

- Initial ID: lonwork
- Initial password: lonwork
- Enter the total number of connected indoor units in the Total Unit block.

## Configuration

**"A"**

LG Electronics  
Self-Installation Diagnosis

**The Status of Connection** [Set up Network place]

Total : 22/22 (connected/total) EA  
Connected : indoor 16 EA - vent 06 EA  
under constructing 00 EA

① INDOOR ② Addr. : ③ ON ④ COOL ⑤ Check ⑥ Reload

**"B"**

Indoor Address [Running Status : err]			Vent Address [Running Status : err]		
No.01 @-00	[ OFF - COOL : 000 ]		No.01 @-00	[ OFF - AUTO : 000 ]	
No.02 @-01	[ OFF - COOL : 000 ]		No.02 @-01	[ OFF - AUTO : 000 ]	
No.03 @-02	[ OFF - COOL : 000 ]		No.03 @-02	[ OFF - AUTO : 000 ]	
No.04 @-03	[ OFF - COOL : 000 ]		No.04 @-03	[ OFF - AUTO : 000 ]	
No.05 @-04	[ OFF - COOL : 000 ]		No.05 @-04	[ OFF - AUTO : 000 ]	
No.06 @-05	[ OFF - COOL : 000 ]		No.06 @-05	[ OFF - AUTO : 000 ]	
No.07 @-06	[ OFF - COOL : 000 ]				
No.08 @-07	[ OFF - COOL : 000 ]				
No.09 @-08	[ OFF - COOL : 000 ]				
No.10 @-09	[ OFF - COOL : 000 ]				
No.11 @-10	[ OFF - COOL : 000 ]				
No.12 @-11	[ OFF - COOL : 000 ]				
No.13 @-12	[ OFF - COOL : 000 ]				
No.14 @-13	[ OFF - COOL : 000 ]				
No.15 @-14	[ OFF - COOL : 000 ]				
No.16 @-15	[ OFF - COOL : 000 ]				

- After entering the ID and password, the air condition and ventilation products currently connected are displays as shown in the picture.

- "A" part displays the number of air condition and ventilation products are currently connected.

- When you would like to control a product ① Select the product – ② Set the address – ③ Command ON/OFF – ④ Select the mode – ⑤ Click on check to control the product.

- When you would like to check the current status ⑥ Click on Reload and you will be able to check the current indoor unit status in the "B" part.

- When you would like to change the IP, click on [Set up Network place] to change the IP.



**A** Information of the setting up

① Network place IP address : 192.168.1.100  
Gateway : 192.168.1.1  
Subnet mask : 255.255.255.0

② SVCnet Server IP address : 192.168.2.100 (port 80)  
Time between transfers [sec] : 3600  
Site code : M00000S0A0  
Site name : test\_site

③ MAC address 0,8,DC,C,0,1 [BNU-LW No. 0]

④ Version hardware : 1.0 // firmware : 1.1

---

**B** Network place

IP address  .  .  .

Gateway  .  .  .

Subnet mask  .  .  .

---

**C** Connection of SVCnet

IP address //port  .  .  .  //

Time between transfers  :  :  (HH:MM:SS)

Site code

Site name

BNU-LW No.

---

**D** Password

- A:** ① It displays the current IP, Gateway, Subnet mask information.  
② When you would like to use the SVCnet Server, it displays the SVCnet Server information.  
③ It displays the MAC address information.  
④ It displays the current version information of the BNU-LW.

**B:** When you would like to change the IP and Gateway, Subnet mask information, press the Edit button next to the information you would like to change.

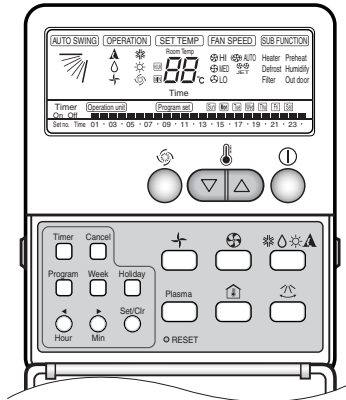
**C:** This is the space to enter the SVCnet Server information to connect. SVCnet Server is the service that monitors the air conditioner status connected to BNU-LW through the LAN in the future by the LG Electronics Service Center to provide early notification in case of a problem.

**D:** In order to prevent the network or arbitrary change, a security function has been applied for you to enter the initial login password to change the network setting.

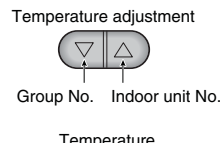
## Setting the indoor unit address

### Setting the indoor unit address

#### When using the wired remote controller



1. Press the week day and reservation set/cancel buttons simultaneously for 3 seconds.
2. By using the temperature adjustment button, set the indoor unit address.  
Setting range: 00~FF
3. When you press the week day and reservation set/cancel buttons simultaneously for 3 seconds, the address setting is completed.



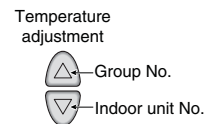
#### When using the wireless remote controller

##### Address setting mode

1. ① Press the top left button for more than 3 seconds. ② While the top left button pressed, press the Reset button.  
※ The wireless remote controllers have different shapes according to the model.
2. By using the temperature adjustment button, set the indoor unit address.  
Setting range: 00~FF
3. After setting the address, press the ON/OFF button toward the indoor unit 1 time.
4. The indoor unit will display the set address to complete the address setting. (The address display time and method can differ by the indoor unit type.)
5. Reset the remote controller to use the general operation mode.

##### Address check mode

1. With the top right button pressed, press the Reset button. (Press the left button for more than 3 seconds.)
2. Press the ON/OFF button toward the indoor unit 1 time, and the indoor unit will display the set address in the display window. (The address display time and method can differ by the indoor unit type.)
3. Reset the remote controller to use the general operation mode.

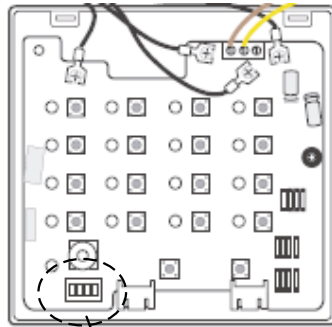


※ The above function might not work for some remote controllers depending on the manufactured date of the wired/wireless remote controller.

It is not relevant for the consumer use and you can set the address with a remote controller that has the address setting functionality during the installation.

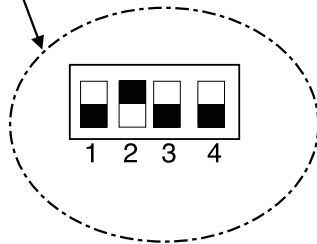
## Interfacing with simple central controller

ENGLISH



### How to interface with simple central controller

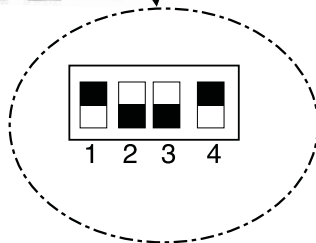
- When interfacing with simple central controller, turn the DIP S/W No. 2 of the simple central controller ON.
- Set the rotary S/W to the group address of the indoor unit you would like to control.



### How to set PI-485

#### How to set PI-485

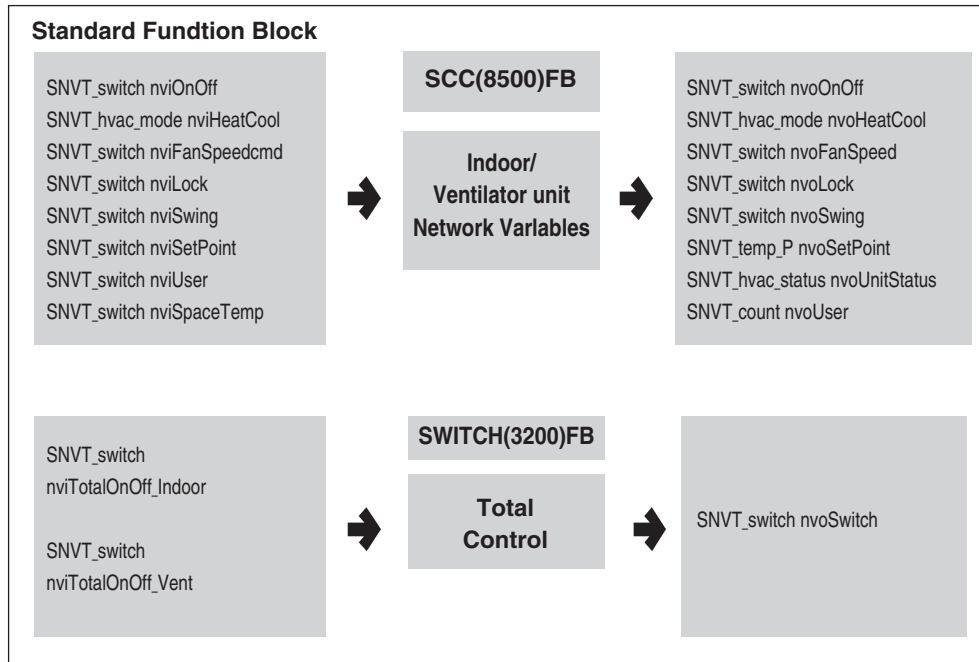
- BNU-LW uses LGAP communication protocol.  
You can set the DIP S/W No. 1 and No. 4 of PI-485 ON.



## Appendix

- The appendix carries information necessary for interfacing with BMS and not necessary for actual installation.

### A/C Objects



Control	Monitoring
On/Off command	On/Off status monitoring
Mode selection command	Mode status monitoring
Fan level selection command	Fan level status monitoring
Indoor unit lock command	Lock status monitoring
Fan direction command	Fan direction status monitoring
Temperature setting command	Temperature setting status monitoring
Ventilation additional function command (Only applies for ventilation product)	Current temperature monitoring
Air conditioner total On/Off control	Error display
Ventilation total On/Off control	Ventilation additional function status monitoring (Only applies for ventilation product)

- You can enable control and monitoring as shown in the figure for one air conditioner/ventilation unit.
- The network variable can differ from the actual.  
(Refer to the XIF file for correct network variable.)

## Air conditioner control/monitoring point

Point No.	Name	Object Name (nn: Air conditioner and ventilation group/indoor unit address)	Object Type	Unit									
				code 0	code 1	code 2	code 3	code 4	code 5	code 9	code 14		
1	ON/OFF (setting)	SNVT_switch nviOnOff_nn	input	Stop	Operation								
2	ON/OFF (status)	SNVT_switch nvoOnOff_nn	output	Stop	Operation								
3	Lock (setting)	SNVT_switch nviLock_nn	input	Cancel	Setting								
4	Lock (status)	SNVT_switch nvoLock_nn	output	Cancel	Setting								
5	Operation Mode (setting)	SNVT_hvac_modenviHeatCool_nn	input	Auto	Heating			Cooling			Fan		Dry
6	Operation Mode (status)	SNVT_hvac_mode nviHeatCool_nn	output	Auto	Heating			Cooling			Fan		Dry
7	Swing(setting)	SNVT_switch nviSwing_nn	input	Cancel	Setting								
8	Swing(status)	SNVT_switch nvoSwing_nn	output	Cancel	Setting								
9	Fan speed(setting)	SNVT_switch nviFanSpeedCmd_nn	input		Low	Med	High	Auto	Super Low				
10	Fan speed(status)	SNVT_switch nvoFanSpeed_nn	output		Low	Med	High	Auto	Super Low				
11	Set Room Temperature	SNVT_temp_p nviSetPointCmd_nn	input	°C									
12	Set Room Temperature	SNVT_temp_p nvoSetPoint_nn	output	°C									
13	Room Temperature	SNVT_temp_p nvoSpaceTemp_nn	output	°C									
14	Error Code	SNVT_hvac_status nvoUnitStatus_nn	output	no errorRefer to the LG Air Conditioner Error Code.									

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## Ventilation control/monitoring point

Point No.	Name	Object Name (nn: Air conditioner and ventilation group/indoor unit address)	Object Type	Unit					
				code 0	code 1	code 2	code 3	code 5	code 9
1	ON/OFF (setting)	SNVT_switch nviOnOff_nn	input	Stop	Operation				
2	ON/OFF (status)	SNVT_switch nvoOnOff_nn	output	Stop	Operation				
3	Lock (setting)	SNVT_switch nviLock_nn	input	Cancel	Setting				
4	Lock (status)	SNVT_switch nvoLock_nn	output	Cancel	Setting				
5	Operation Mode (setting)	SNVT_hvac_modenviHeatCool_nn	input	Auto	Heat exchange				Normal
6	Operation Mode (status)	SNVT_hvac_mode nviHeatCool_nn	output	Auto	Heat exchange				Normal
7	Fan speed(setting)	SNVT_switch nviFanSpeedCmd_nn	input		Low	High	Very high		
8	Fan speed(status)	SNVT_switch nvoFanSpeed_nn	output		Low	High	Very high		
9	Error Code	SNVT_hvac_status nvoUnitStatus_nn	output	Refer to the LG Air Conditioner Error Code.					
10	User Mode(setting)	SNVT_count nviUser_nn	output		Quick	Power save	heat		
11	User Mode(status)	SNVT_count nvoUser_nn	output		Quick	Power save	heat		

## Network variables

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### 1) Individual operation/stop input/output (Air conditioner/ventilation)

Input	Function	Operation/stop input
	Using NV	Network input variable : SNVT_switch nviOnOff_n
	Operation	It controls the operation/stop of each product (air conditioner/ventilation)
Output	Function	Operation/stop status display
	Using NV	Network output variable : SNVT_switch nvoOnOff_n
	Operation	It monitors the operating status of each product (air conditioner/ventilation)

#### Valid Range

NV	Filed	Operation
SNVT_switch ( Index : 95 )	value	not used (set in 0% usually)
	state	0 = Air conditioner/ventilation product OFF
		1 = Air conditioner/ventilation product ON
	Default Value	

### 2) Operating mode input/output (Air conditioner/ventilation)

Input	Function	Operating mode command input
	Using NV	Network input variable : SNVT_hvac_mode nviHeatCool_n
	Operation	It controls the operating mode of each air conditioner/ventilation product.
Output	Function	Operating mode status display
	Using NV	Network output variable : SNVT_hvac_mode nvoHeatCool_n
	Operation	It monitors the operating status of each air conditioner/ventilation product.

#### Valid Range

NV	Operation
SNVT_hvac_mode ( Index : 108 )	HVAC_AUTO : 0 = AUTO mode(air conditional), Auto (ventilation)
	HVAC_HEAT : 1 = Heat mode(air conditional), heat exchange(ventilation)
	HVAC_COOL: 3 = Cool mode (cool)
	HVAC_FAN_ONLY: 9 = Fan mode (fan) normal ventilation
	HVAC_DEHUMID:14=Dry Mode (dehumidication)
	Default Value

**3) Fan level command input/output (Air conditioner/ventilation)**

Input	Function	Fan level command input
	Using NV	Network input variable : SNVT_switch nviFanSpeedCmd_n
	Operation	It controls the fan level of each indoor unit.
Output	Function	Fan level status display
	Using NV	Network output variable : SNVT_switch nvoFanSpeed_n
	Operation	It monitors the fan level of each product (air conditioner/ventilation)

**Valid Range**

NV	Filed	Operation
SNVT_switch ( Index : 95 )	value	1: Air conditioner, ventilation low fan
		2: Air condition med fan, ventilation high fan
		3: Air condition high fan, ventilation very high fan
		4: Air condition, ventilation auto fan
		5. Air conditioner super low fan
	state	0: Product not applied, 1: Product applied
	Default Value	

**4) Lock input/output (Air conditioner/ventilation)**

Input	Function	Lock setting command input
	Using NV	Network input variable : SNVT_switch nviLock_n
	Operation	It controls the lock status of each product (air conditioner/ventilation)
Output	Function	Lock status display
	Using NV	Network output variable : SNVT_switch nvoLock_n
	Operation	It monitors the lock status of each product (air conditioner/ventilation)

**Valid Range**

NV	Filed	Operation
SNVT_switch ( Index : 95 )	value	not used (set in 0% usually)
	state	0 = Air conditioner/ventilation product lock OFF
		1 = Air conditioner/ventilation product lock ON
	Default Value	



**5) Fan direction auto input/output (Only applies to air conditioner)**

Input	Function	Fan direction auto command input
	Using NV	Network input variable : SNVT_switch nviSwing_n
	Operation	It controls the fan direction of each product (air conditioner/ventilation)
Output	Function	Fan direction auto status display
	Using NV	Network output variable : SNVT_switch nvoSwing_n
	Operation	It monitors the fan direction of each product (air conditioner/ventilation)

**Valid Range**

NV	Filed	Operation
SNVT_switch ( Index : 95 )	value	not used (set in 0% usually)
	state	0 = Fan direction fixed for air conditioner product
		1 = Fan direction auto for air conditioner product
	Default Value	

**6) Temperature setting input/output (Only applies to air conditioner)**

Input	Function	Set temperature range input
	Using NV	Network input variable : SNVT_switch nviSetPoint_n
	Operation	It controls the temperature setting of each product (air conditioner/ventilation)
Output	Function	Set temperature range status display
	Using NV	Network output variable : SNVT_switch nvoSetPoint_n
	Operation	It monitors the set temperature of each product (air conditioner/ventilation)

**Valid Range**

NV	Operation
SNVT_switch ( Index : 95 )	At Cool mode : 18 ~ 30°C
	At Heat mode : 18 ~ 30°C
	At Dry mode and Fan mode : Not available
	Default Value

## 7) Indoor temperature status display (Only applies to air conditioner)

Output	Function	Indoor temperature status display
	Using NV	Network output variable : SNVT_switch nvoSpaceTemp_n
	Operation	It monitors the indoor temperature.

### Valid Range

NV	Operation	
SNVT_switch ( Index : 95 )	At Cool mode : 10 ~ 40°C	
	At Heat mode : 10 ~ 40°C	
	At Dry, Fan mode : Not available	
	Default Value	

## 8) Error output (Air conditioner/ventilation)

Output	Function	Error status display
	Using NV	Network input variable : SNVT_hvac_Status nvoUnitStatus_n
	Operation	It monitors the error status of each product (air conditioner/ventilation)

### Valid Range

NV	Filed	Operation
SNVT_switch ( Index : 112 )	Mode	Currently operating mode display
	Heat_output_primary	Not used
	Heat_output_Secondary	Not used
	Cool_output	Not used
	Cool_output	Not used
	Econ_output	Not used
	fan_output	Not used
	In_alarm	Error code display

\* Refer to the Error Code table of the product manual for the error code.

**9) Ventilation function command (Only applies to ventilation product)**

Input	Function	Ventilation user operating mode input
	Using NV	Network input variable : SNVT_count nviUser_n
	Operation	It controls the product function of each ventilation product.
Output	Function	Ventilation user operating mode status
	Using NV	Network output variable : SNVT_count nvoUser_n
	Operation	It monitors the function status of each ventilation product.

**Valid Range**

NV	Filed	Operation
SNVT_count ( Index : 8 )	value	0 = Not used
		1 = Quick mode
		2 = Power save mode
		3 = Heat

**10) Total operation/stop air conditioner indoor unit**

Input	Function	Total stop command input
	Using NV	Network input variable : SNVT_switch nviTotalONOFF_indoor
	Operation	It turns ON or OFF all the indoor units.

**11) Total operation/stop ventilation indoor unit**

Input	Function	Total stop command input
	Using NV	Network input variable : SNVT_switch nviTotalONOFF_indoor
	Operation	It turns ON or OFF all the ventilation units.

**Valid Range**

NV	Filed	Operation
SNVT_switch ( Index : 95 )	value	not used
	state	1 = All ON indoor/Vent unit
		0 = All OFF indoor/Vent unit
	Default Value	