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Simple Central Controller

INSTALLATION MANUAL

PQCSB101S0

IMPORTANT

- Please read this manual completely before installing the product.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Please retain this 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.

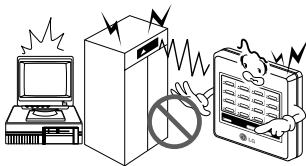
	Be sure not to do.
	Be sure to follow the instruction.

⚠ WARNING

■ Installation

Don't install the controller in the nearby computer, automatic door, elevator.

- Otherwise, it will cause the abnormal operation.



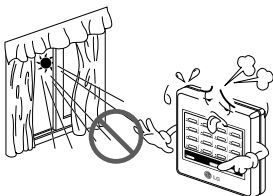
Don't install the controller in the nearby extremely humid or trembling area.

- There is risk of product damage.



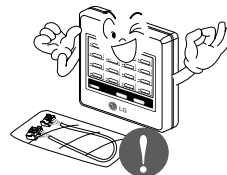
Avoid direct sun-rays and heat source.

- There is risk of product damage.



Use standard parts(connector).

- Do not disassemble or repair the product. There is risk of fire or electric shock.



For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.

- Do not disassemble or repair the product. There is risk of fire or electric shock.



Do not install, remove, or re-install the unit by yourself (customer).

- There is risk of fire, electric shock, explosion, or injury.



■ Operation

For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



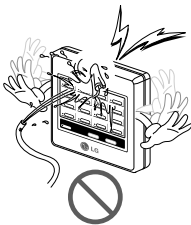
When the product is soaked (flooded or submerged), contact an Authorized Service Center.

- There is risk of fire or electric shock.



Be cautious that water could not enter the product.

- There is risk of fire, electric shock, or product damage.



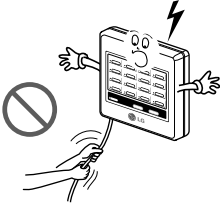
Don't handle the controller with wet hand.

- There is risk of fire or electric shock.



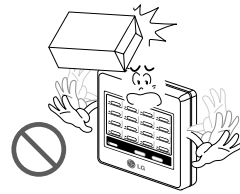
Don't pull the lead wire.

- There is risk of fire, electric shock, or product damage.



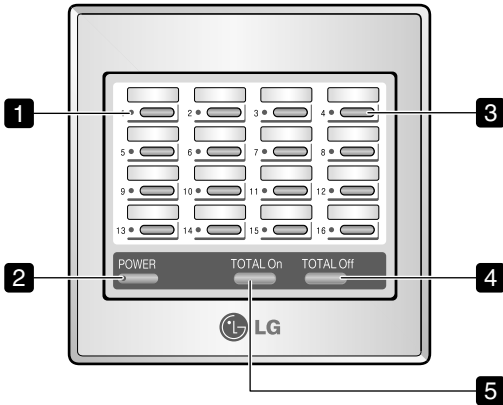
Do not lay on heavy things on power cords.

- It may cause fire or electric shock.



Name of Each Part

Simple Central controller



1. On/Off status display LED (total 16EA)

Displays the status of the indoor unit if individual On/Off button is pressed.

- Cooling/dehumidification/blowing operation: Green
- Heating operation: Orange
- Failure of product: Red
- Stop: Off

2. Power display LED

- Application of power: Green
- No power: Off
- During control: Flickering

3. Individual On/Off button (total 16EA)

On/Off control of the connected indoor units.

4. Total Off button

Sequentially turns off all indoor units connected to it.

5. Total On button

Sequentially starts all indoor units connected to it.

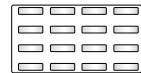
Annexed parts



Central controller anchoring screws (4EA)



Owner/Installation manual



Actual name description sheet



Addressing remote control

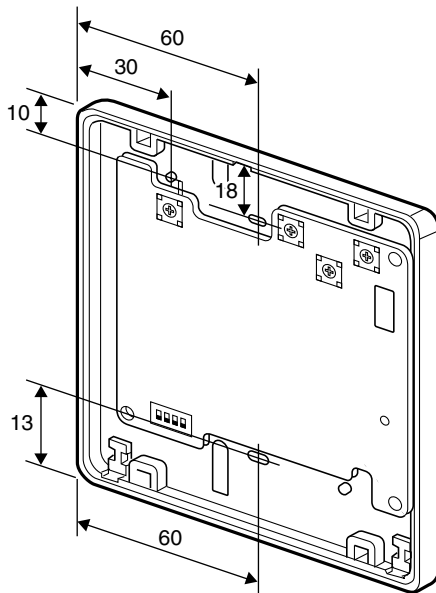
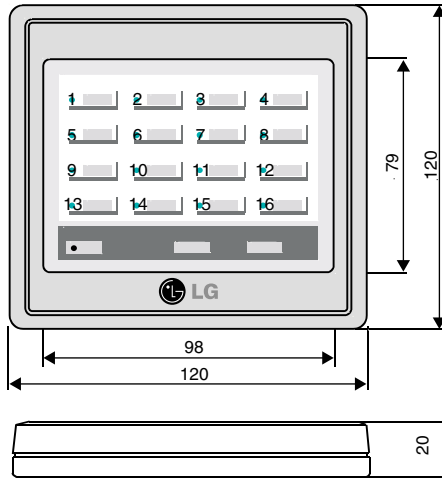


AAA cell (2EA)



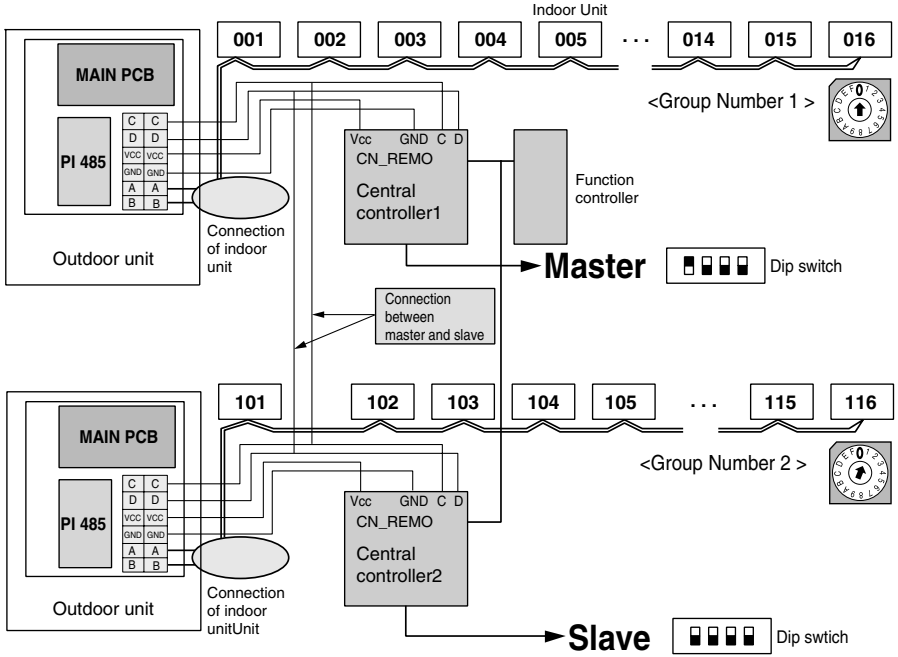
Guide sheet

Dimensional Drawing



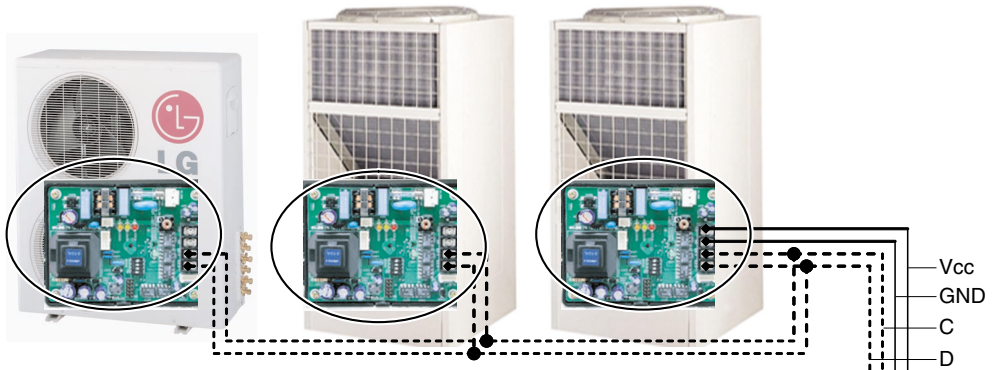
System Wiring Drawing

1. Simple central controller installation case 1.

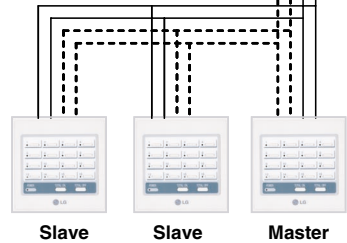


Function controller and PI 485 are sold separately.

2. Simple central controller installation case 2

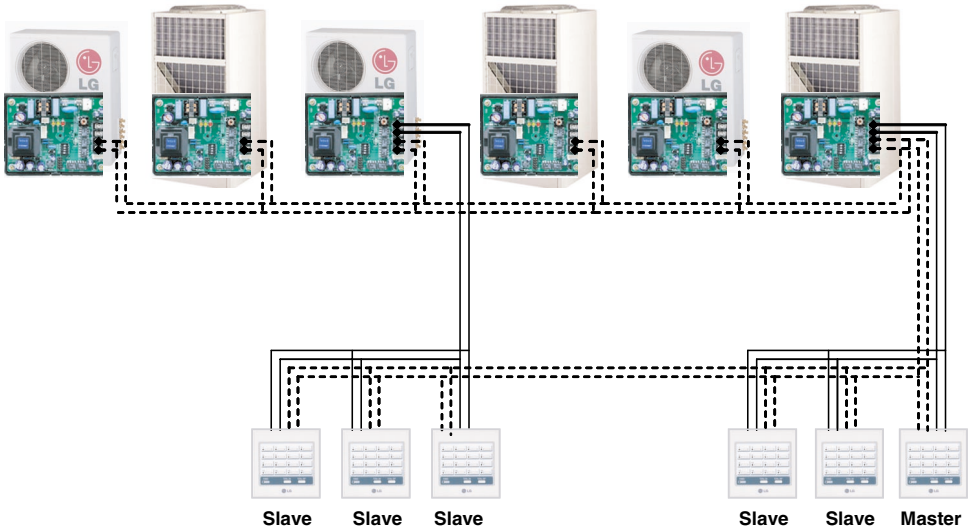


Communication line can be extended to up to 16 simple central controllers with one serving as master and others as slave.

**Installation method**

1. Connect 4 wires to only one remote control from any one outdoor unit. (black lines are Vcc & GND, dotted lines are communication line C & D)
2. Then individually connect line C & D to the each of PI 485 controller without connecting Vcc & GND line.
3. For controller jump all 4 wires for interconnecting the controllers.
4. This saves installation wiring, cost and time.
5. One PI 485 can supply power to maximum 3 controllers only.

3. Simple central controller installation case 3

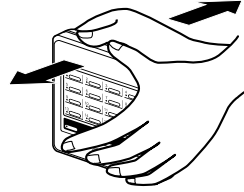


Installation method

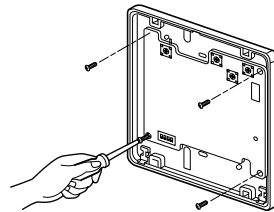
1. Set of three simple central controller are clubbed together in cascade for common power sharing line form the same outdoor.
2. Communication line can be commonly shared among all controllers (dotted lines).
3. Maximum of 16 controller can be clubbed in cascade system i.e. maximum 256 indoor units can be controlled.
4. One PI 485 can supply power to maximum 3 controllers only.

Method of Installation

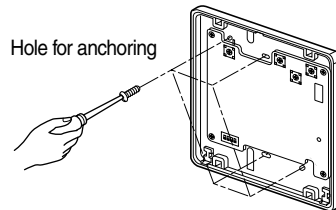
1. Hold the front/rear central part of the central controller with the both hands and then separate the case by pulling it ahead or behind while lightly pressing the front case.



2. Loose 4 screws anchoring PCB and then separate the rear case and PCB.



3. Anchor the rear case on the installation surface at holes using anchor screws and then join the rear case and PCBs.

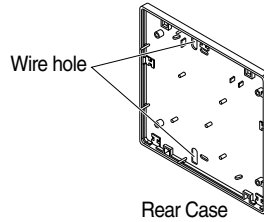


CAUTION:

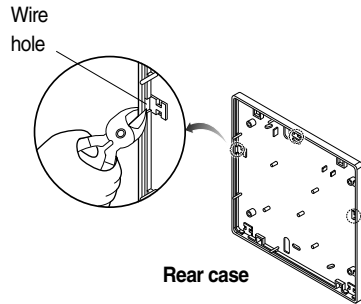
1. Install the product on flat surface and install anchoring screws at more than 2 places. Otherwise the central controller may not be anchored properly.
2. Do not tighten anchoring screws too tightly. It may cause deformation of the case.
3. Do not deform the case at random. It may cause malfunction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

4. Connect connection wires according to the instructions (See page 12)

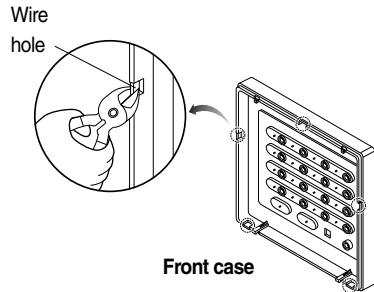
- To take out connecting wires from back side of case, use the wire hole on the rear case.



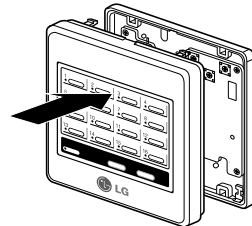
- To take out connecting wires from front sides of case, puncture the dotted spots as shown in the picture and take out the connecting wires out fo it.



5. Perform the switch setting according to switch setting method. (See page 11)



6. Properly push and insert the front case into the rear case.



7. Check operation after applying power.

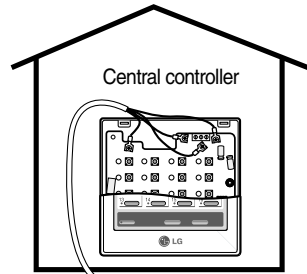


CAUTION:

Always check addressing setting status of the indoor unit before applying power. If setting is not done properly, it may cause malfunction.

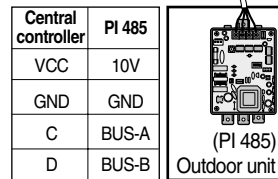
Method to Connect Wires

1. Make connection between PI 485 installed on the outdoor unit and central controller.



2. To supply power to the central controller, supply it from the terminal block Vcc and GND terminal of PI 485 or supply it through a separate DC 10V power supply unit.

- Where more than 2 central controllers are installed, refer to system wiring drawing. (See page 6)

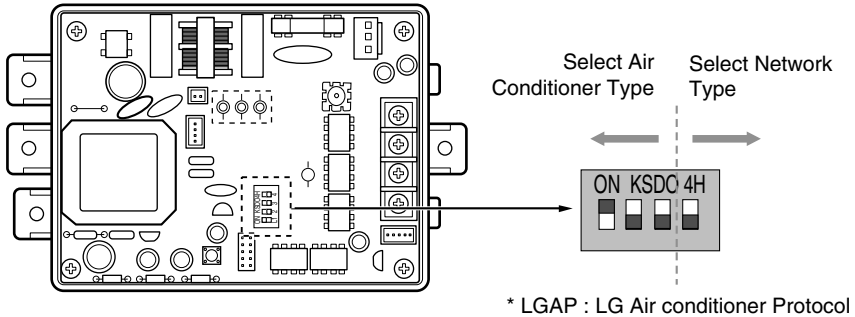


CAUTION:

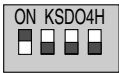



1. For supplying DC10V power from PI 485, power supply is permitted up to 3 central controllers per PI 485. When supplying power to more than 3 central controllers, failure may occur in operation of the central controller.
2. For expanding and connecting PI 485 communication lines C, D up to 16 central controllers can be connected. (In case if functional controller is also connected, then only 8 controllers can be connected.)
3. Use the 0.75 Square Shield wires for connection wires between PI485 and central controller wires.
4. For length of connection wires, observe the following regulations.
 - Length of connection wires between central controllers: Less than 1m
 - Length of connection wires between outdoor unit and central controller: Less than 200m
 - Length of whole connection wires: Less than 1Km.

Network Interface Connection

P1485(M) Dip Switch Configuration



MULTI_{...}PLUS & MPS MULTI Products Configuration Methods

-  → 1 ON, All others OFF: **MULTI_{...}PLUS & MPS**
Inverter Product + Central Controller (All types) - Without LGAP
-  → 1 and 4 ON, All others OFF: **MULTI_{...}PLUS & MPS**
Inverter Product + Central Controller (All types) - Using LGAP
-  → 2 ON, All others OFF: MPS Multi Standard Product + Central Controller (All types) - Without LGAP
-  → 2 and 4 ON, All others OFF: Multi Standard Product + Central Controller (All types) - Using LGAP

* Please refer the corresponding Central Controller installation manual if you want to know whether your Central Controller is compatible with LGAP or not.



CAUTION:

The wrong setting of air-conditioner switch could cause malfunctioning. Switch setting must be done carefully.

Method to Set Switch

Group Setting

Select the group using rotary switch in the front of controller PCB for the central controller.

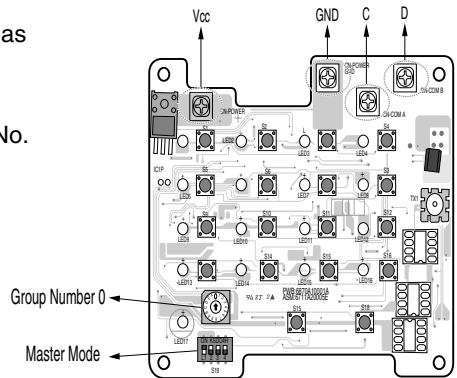
Group number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Setting of rotary switch	0 ↑	1 ↗	2 ↘	3 →	4 ↖	5 ↙	6 ↘	7 ↙	8 ↓	9 ↗	A ↖	B ↙	C ←	D ↖	E ↙	F ↖

Setting of Master/Slave

Using dip switch no.1 located in the front of controller PCB, set the relevant central controller as master/slave as per the requirement.

Installation of 1 central controller: Dip Switch No. 1 On/ No.2, 3, 4 Off (Master)

Installation of more than 2 central controllers:
 Dip Switch No. 1 On/ No.2, 3, 4 Off (Master)
 Dip Switch No. 1, 2, 3, 4 Off of remaining central controller (slave)



Master/Slave Class	Master controller	Slave controller
Setting of dip switch	<input type="checkbox"/> 4	<input type="checkbox"/> 4
	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input checked="" type="checkbox"/> 1 On	<input type="checkbox"/> 1

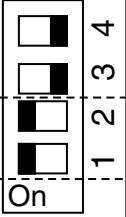
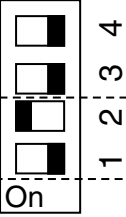


CAUTION:

1. For setting of Group/Master, use precise driver [(-) 20mm(W)] and set applied weight to 198N (2kg) or less. When applying unreasonable force, PCB and switch may be damaged due to shock.
2. Do not set more than 2 Masters. Where multiple of Master is set, communication with the outdoor unit is not done and thus it becomes impossible to control the indoor unit.
3. Always initialize power after setting the switches. If power is not initialized, it becomes impossible to recognize the settings of group and master/slave.

Master/slave setting when applying LGAP

Select the on/off of dip switch no. 2 located on the front side of the controller PCB to decide whether to apply LGAP or not.

Master Slave Classifi- cation	Master Controller for LGAP	Slave Controller for LGAP
Dip switch setting		

- When you turn on the dip switch no. 2, the LGAP protocol will be applied.
- When communicating with the product using LGAP, turn on the dip switch no. 2.
- The master/slave setting is applied by turn on/off the dip switch no.1.
- When installing in connection to the PC/advanced central controller with LGAP applied, simple central controller must be set with the dip switch as slave control with LGAP application.

* When installing a simple central controller with LGAP, the dip switch **No. 4** of PI-485 must be turn on for normal operation(refer to 14 page).

* When using only the simple central controller, it is possible to either apply the LGAP or not apply the LGAP.

But the LGAP setting of PI-485 and that of the simple central controller must be the same.

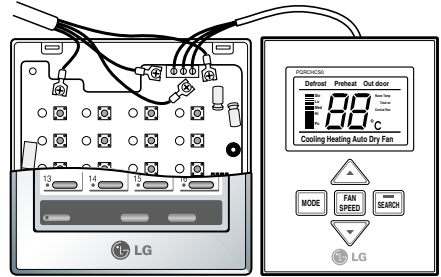
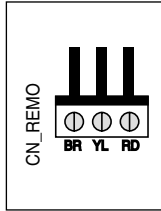
* Refer to the PC/advanced central controller manual on how to apply the LGAP for PC/advanced central controller.

Connection Method of Function Controller

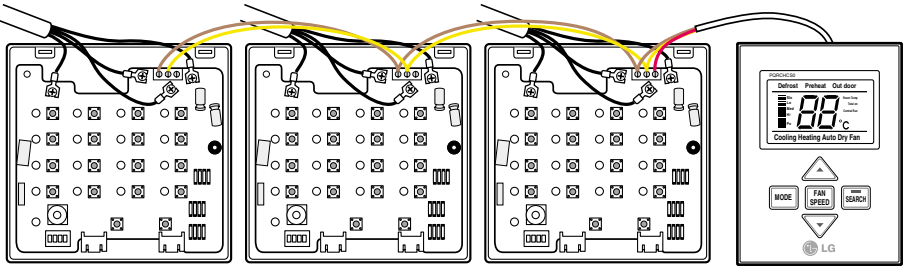
Power should always be off while connecting function controller to the central controller.

- 1 Connect the function controller as shown below. Symbols shown as CN_REMO at the terminal block of the central controller and color of cable connecting the function controller must correspond.

Central controller CN_REMO	Function controller cable
RD terminal (12V)	Red
YL terminal (signal)	Yellow
BR terminal (GND)	Brown



- 2 Connect red wires and brown wires to the relevant terminals of the central controller at CN_REMO respectively a where a function controller is also installed as shown below.



- 3 Close the central controller case and check the operation after application of power.

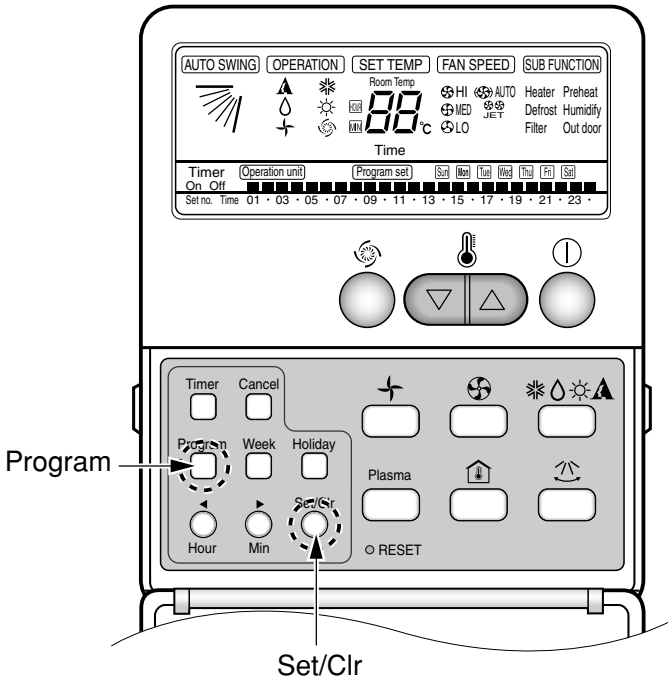
Caution

1. Adhere the communication cable between function controller and central controller.
2. Use 3P-0.75 square wires where cable extension is required.
3. Installed cable length should be within 1m.
4. If wiring is not proper, the product may be damaged or not operate when the power is applied.

Addressing of Indoor Unit

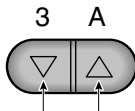
Multi V PLUS & MPS Product

■ Using Wired Remote Controller



1. Press the Program & Set/Clr keys at the same time to activate the settings.
2. Set the indoor unit address using the temperature controller buttons.
Allowed Range : 00 - FF

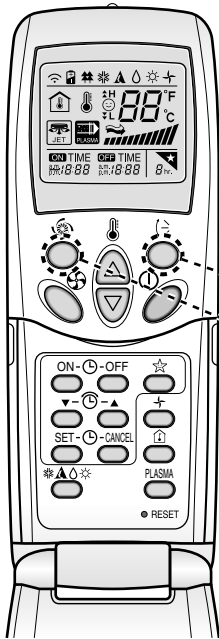
ex)



Group No. Indoor unit No.

3. To complete the address setting, press the Program & Set/Clr keys again at the same time for 3 seconds.

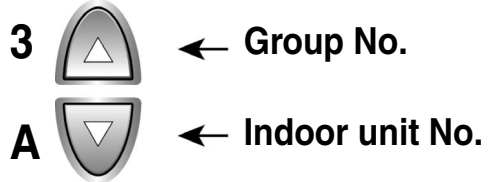
■ Using Wireless Remote Controller



1. Address setting mode

- 1) Keep pressing upper left side key continuously and press RESET button once. Now the system is ready for address setting.
- 2) Set the Indoor unit address using the temperature controller buttons. Allowed Range : 00-FF

ex)



- 3) After setting address, press ON/OFF key once towards Indoor unit.
- 4) The Indoor unit shows the set address and it means completion of address setting process. (The address displaying time and its way can depend upon the type of Indoor unit)

2. Address check mode

- 1) Keep pressing upper right side key continuously and press RESET button once. Now the system is ready for address checking.
- 2) Press ON/OFF key once toward the Indoor unit which shows set address on the display.(The address displaying time and its way can depend upon the type of Indoor unit)
- 3) Reset the remote controller to use it for normal operation mode.

* Some remote controllers may not support above functions according to the production date of wired/wireless remote controllers. As it has no concern with customer's use, use the remote controller available for the address setting during installation.

* The remote controller having this function will be given with the purchase of central controller.

Troubleshooting

1. Cross check again, if all connection are made as per instructions given in the installation manual.
2. In case, if multi products (Multi-V, MPS, Multi etc.) are connected to the controller (to one network), first finish the settings for all products & only then start the system.
3. Dip switch setting of PI 485 pcb as per the product type & the group no. mismatch between controller & its respective indoor units are the most common mistake usually happen.
4. Group no. set at rotary switch of SCC connected to outdoor unit must exactly match with all indoor units connected. In case any indoor units have same address settings, the system will not take them into its network.
5. Turn on the system & give sufficient time to the system to check the whole network connectivity. In some cases, it takes time to show all indoor units connected on the controller. Also the display can be random.
6. Using PI 485 pcb also, we can check if no. of indoor units connected matches exactly with no. of indoor units installed. Press the refresh button on PI 485. A little later, its red LED (LED01G) would blink no. of times equal to no. of indoor units installed. If the numbers doesn't match, check again the address settings of all indoor units.
7. Never ever change the settings while the system is running. Stop the system & then make the required settings.
8. For new settings to take place, sometimes, it is advisable to turn off indoor units and then the main power. After a short while, restart the system. (This is not a fixed guideline but be considered case by case)