ENGLISH
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ITALIANO
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ČEŠTINA
NEDERLANDS
POLSKI
LIMBA ROMÂNĂ

INSTALLATION MANUAL

AIR CONDITIONER

Please read this installation 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 installation manual for future reference after reading it thoroughly.

MULTI-TENANT POWER MODULE
PINPMB001
Original instruction

MFL71859601
Rev.02_110524

www.lg.com

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IMPORTANT!

Please read this instruction sheet completely before installing the product.
This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

⚠ WARNING

- 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.

Caution: Improper installation, adjustment, alteration, service or maintenance can void the warranty. The weight of the condensing unit requires caution and proper handling procedures when lifting or moving to avoid personal injury. Use care to avoid contact with sharp or pointed edges.

Safety Precautions
- Always wear safety eye wear and work gloves when installing equipment.
- Never assume electrical power is disconnected. Check with meter and equipment.
- Keep hands out of fan areas when power is connected to equipment.
- R-32 / R-410A causes frostbite burns.
- R-32 / R-410A is toxic when burned.

Note to installing dealer: The Owners Instructions and Warranty are to be given to the owner or prominently displayed near the indoor Furnace/Air Handler Unit.

⚠ WARNING

When wiring:
Electrical shock can cause severe personal injury or death. Only a qualified, experienced electrician should attempt to wire this system.
- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause accidental injury or death.
- Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

When transporting:
Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your finger.

When installing...
... in a wall: Make sure the wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.
... in a room: Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to wall and floors.
... in moist or uneven locations: Use a raised concrete pad or concrete blocks provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.
... in an area with high winds: Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.
... in a snowy area(for Heat Pump Model): Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When connecting refrigerant tubing:
- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Check carefully for leaks before starting the test run.

When servicing:
- Turn the power OFF at the main power box(mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

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SAFETY INSTRUCTIONS

The following safety guidelines are intended to prevent unforeseen risks or damage from unsafe or incorrect operation of the appliance.
The guidelines are separated into 'WARNING' and 'CAUTION' as described below.

⚠ This symbol is displayed to indicate matters and operations that can cause risk.
Read the part with this symbol carefully and follow the instructions in order to avoid risk.

⚠ WARNING
This indicates that the failure to follow the instructions can cause serious injury or death.

⚠ CAUTION
This indicates that the failure to follow the instructions can cause the minor injury or damage to the product.

⚠ WARNING

- Electric works should be carried out according to 'The technology requirement on the electric installation', The wiring standard and this manual by a qualified personnel.
- If the installation is not complete or the capacity of the power circuit is insufficient, electric shock or fire may occur, or death or injury can be caused.
- If the installation was done by a user, there may be incompleteness, which may cause electric shock, fire, injury and death.
- When operating the machine (applying power to the machine), do not carry out any electric work and do not put hand or finger into it. This may cause electric shock, injury and death.

⚠ CAUTION

- Before installation, read this manual and carry out the works according to it.
- Before installation, be sure to check all the included items. (However, be sure to use all kinds of certified products when purchasing the items other than those provided by LG at your local store.)

* 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.
* Do not install the unit in potentially explosive atmospheres.

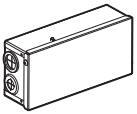
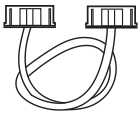
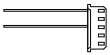
According to IEC 60335-1

- 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.

INCLUDED ITEMS

Components

Installation Parts

Name	Quantity	Appearance	Remark	
MULTI-TENANT POWER MODULE (MPM)	1			
DC power cable (3 m)	1		For connecting the MPM's CN_CC to Indoor unit's CN_CC	
Screw	2			
Installation manual	1			
Cable Tie	3			
DC signal cable	1		Cassette[UV], Hydro-kit	For connecting the MPM's CN_OUT(EXT) to Indoor unit's CN_EXT
	1		Wall-mounted type indoor unit	
	1		Cassette, DUCT and CVT	

Installation Equipment

Appearance	Name
	Driver

Field Purchase Parts

AC Adapter or Transformer

Name	Appearance
AC Adapter	
Transformer	

Specification

AC Adapter or Transformer	
Output	AC 24 V ± 10%, 1 A ↑

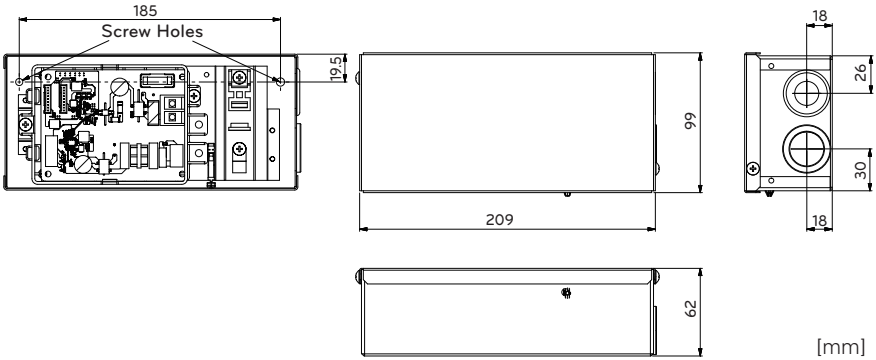
※ Adapter and transformer should have to be followed, IEC protection classes are defined in IEC 61140 Class II(Double insulated) or higher.

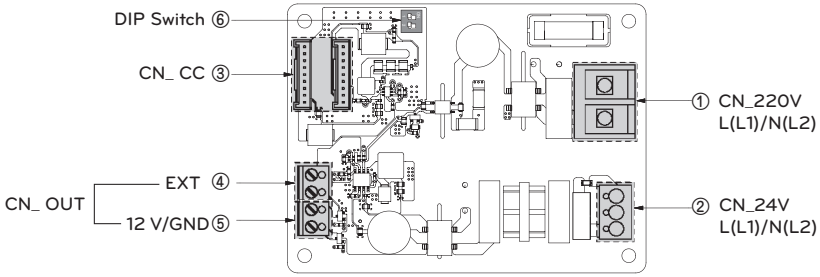
※ If the building power cannot supply 24 VAC(1 A) to the MULTI-TENANT POWER MODULE directly, Adaptor or Transformer should be used.

SPECIFICATION

MULTI-TENANT POWER MODULE is an auxiliary power supply device which Indoor unit's maintain communication and EEV control when main power supply is cut.

Part Description





No.	Description
①	Terminal for AC 220 V power input (Same node what is supplied to IDU)
②	Terminal for AC 24 V power input
③	Terminal for DC 12 V / DC 5 V power output supplying to indoor unit and dry contact
④	Terminal for signal to indoor unit
⑤	Reserved
⑥	Setting DIP switch according to indoor unit PCBA type. (Defaut : All OFF)

Specification

Power supply	AC 24 V, 50/60 Hz
Power consumption (Max.)	8.5 W
Operation temperature range	-10 °C ~ 50 °C
Operation humidity range	10% RH ~ 90% RH
Number of Control Devices	1 indoor unit
Fuse spec.	24 V : 3 A, L 32 V / 220 V : 3.15 A L 250 V
Current capacity	24 V : 1 A

Applied model

- All Multi V indoor units

Detail operation of the indoor unit when the main power is cut off and supplied by Multi-tenant Power Module.

Item	Operation	Detail information
Indoor unit operation	OFF	Not working
EEV control	-	Same as non-operating indoor unit to which power is supplied. - Standby for cooling operation : Close - Standby for heating operation : Close - Oil recovery operation : Open
The connected controllers' operation	OFF	All controllers are not available.
Panel display	OFF	All LED and beep remain off and no display status both outdoor unit and indoor units.
Being powered from MPM	ON	All LED and beep remain off. The status of error won't be displayed.

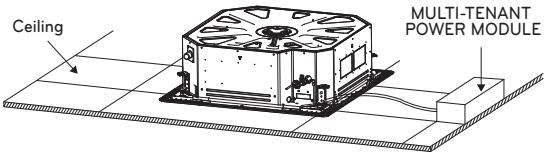
INSTALLATION

The installation of MULTI-TENANT POWER MODULE

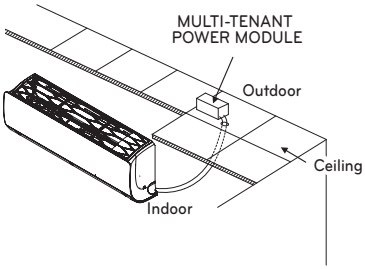
Installation location

When installing MPM, install it on the ceiling or out of sight, as shown in the example below.

Ex 1)



Ex 2)

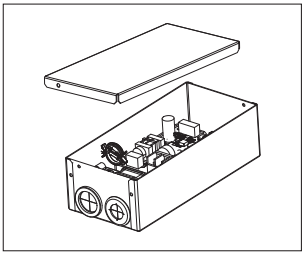


- The installation location of MPM should be decided considering the length of the harness (3 m) provided with this product.
- When fixing the MPM to the wall or ceiling, purchase anchors according to the material of the wall or ceiling.
- When MPM is installed as shown in the example above, it should be wired with avoiding the service opening.

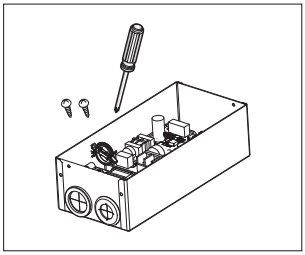
Installation procedure

Refer to the installation procedure below.

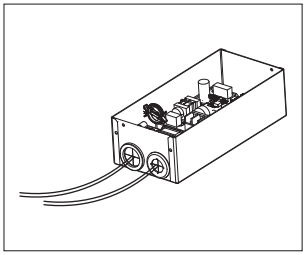
Step1.
Open the cover of MPM and determine the installation place.



Step2.
Fix it on the wall or ceiling. (Refer to "NOTE" for screw hole position)

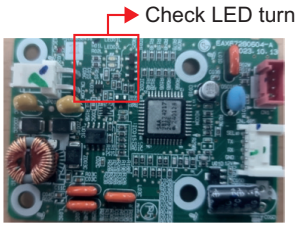


Step3.
Connect wires



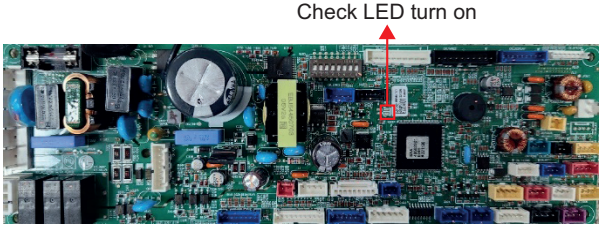
Step4.
- After wiring, be sure to turn off the main power of the IDU and check the power supply through MPM
- Be sure to check that the LED on the IDU PCBA or Communication module is turn on.
- If the LED does not turn on, turn on DIP switch 1 of the MPM.

1) Main PCB + Communication module



<Communication module>

2) Main PCB



<Main PCB>

Step5.
Check that the LED turns on after turning off the main power of the indoor unit.
Assemble MPM's cover

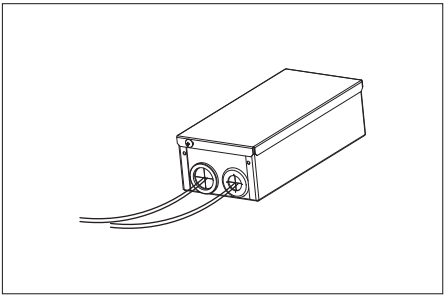
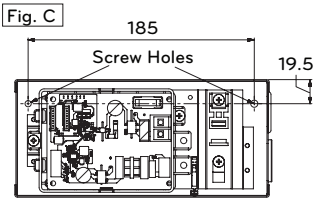


Fig. C



[mm]

NOTE

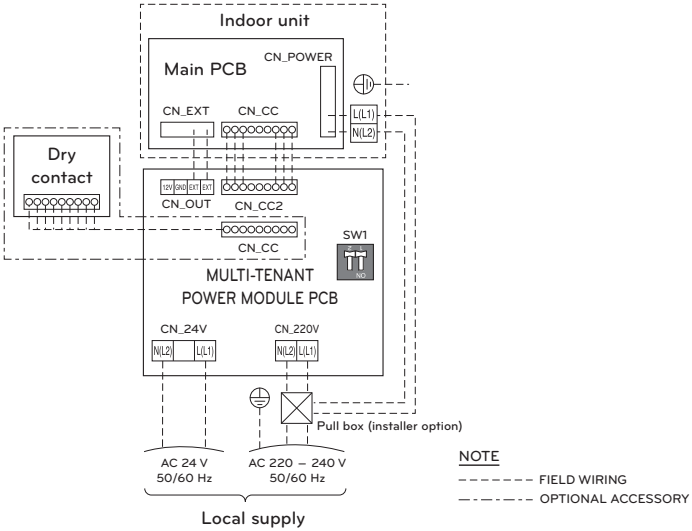
The screw holes are located inside this product as shown in Fig. C.

⚠ CAUTION

Do not install MPM at places exposed to rain or any water. Otherwise it may leads to electric shock, fire, injury, or sometimes even fatality.

ELECTRICAL WIRING

Electrical Wiring of Indoor unit and MULTI-TENANT POWER MODULE



1. Turn the power off using circuit breaker.
2. Connect the MPM'S CN_CC or CN_CC2 to Indoor unit's CN_CC using the DC power cable provided with this product.
3. Connect the MPM's CN_OUT(EXT) to Indoor unit's CN_EXT using the DC signal cable provided with this product. (Check the DC signal cable used for each indoor unit in page 5)
4. Connect the AC 24 V power cable to the CN_24V of the MPM.
5. Connect the main power cable to the MPM's CN_220V (L(L1) N(L2), Same node what is supplied to IDU).
6. If Dry contact connection is required, connect the MPM's CN_CC or CN_CC2 to the Dry contact's PCB using DC power cable provided with Dry contact.
7. Supply the power.

⚠ CAUTION

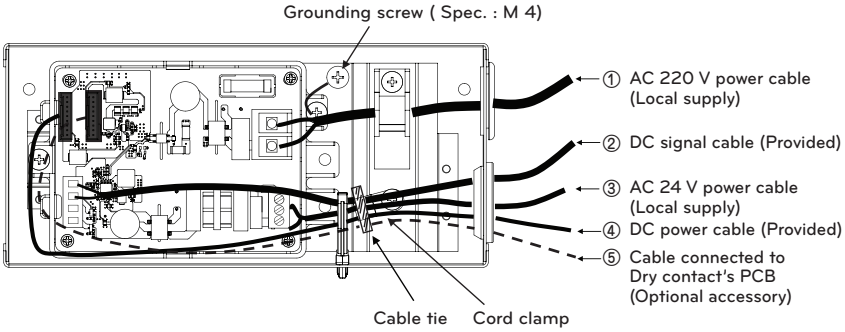
Other wires should not be connected to the terminal block of the MPM's PCB, as connecting wires for other purposes to the terminal block may cause malfunction.

⚠ WARNING

- The wire should not be exposed to the outside otherwise it may leads to the malfunction of the MULTI-TENANT POWER MODULE due to wire damage.
- Wrong wiring also causes the malfunction of the MULTI-TENANT POWER MODULE or damage to it.

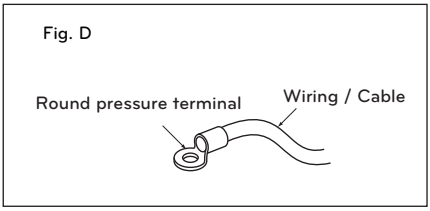
Connecting Cables

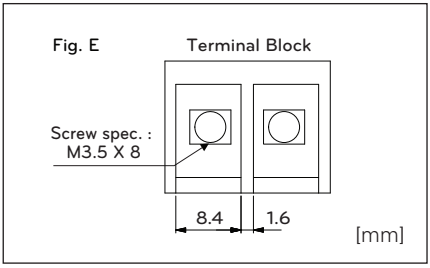
When connecting AC cables (①, ③) and DC cables (②, ④), separate cable ① from the rest (②, ③, ④) by using different runoff holes and make the cables tightly by using clamp cord and cable tie like below. (If Dry contact connection is required , the Dry contact's cable connected to MPM' s CN_CC or CN_CC2 should be wired like cable ⑤.)



Terminal Connections

Use round pressure terminals for connections to the terminal block as shown like Fig. D. (Refer to Fig. E when determining the round pressure terminal for CN_220V of MPM.)

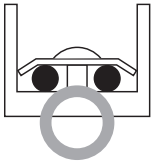




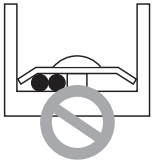
When none are available, follow the instructions below.

- When connecting wires of the same thickness, follow the instructions demonstrated in the figures.

Connect same thickness wiring to both sides.



Do not connect two wires on one side.



Do not connect wires of different thickness to the terminal block.



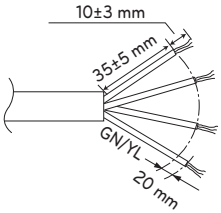
- Do not connect wires of different thickness to the terminal block. (Slack in the wiring may cause abnormal heat.)
- Use an appropriately sized screwdriver for tightening the terminals.
  - A screwdriver with a small head will strip the head and make proper tightening impossible.
- Firmly attach the wire securing in a way to prevent external forces from being imparted to the terminal block.
- Do not overtighten the terminal screws. It will damage the terminals.

⚠ WARNING

Make the connection securely so that screw in terminals may not be loosed when pulling cable.

⚠ WARNING

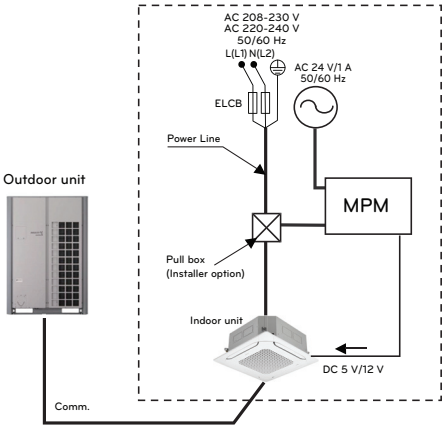
The connecting cable connected to the MPM and indoor unit should be complied with the following specifications (This equipment shall be provided with a cord set complying with the national regulation).



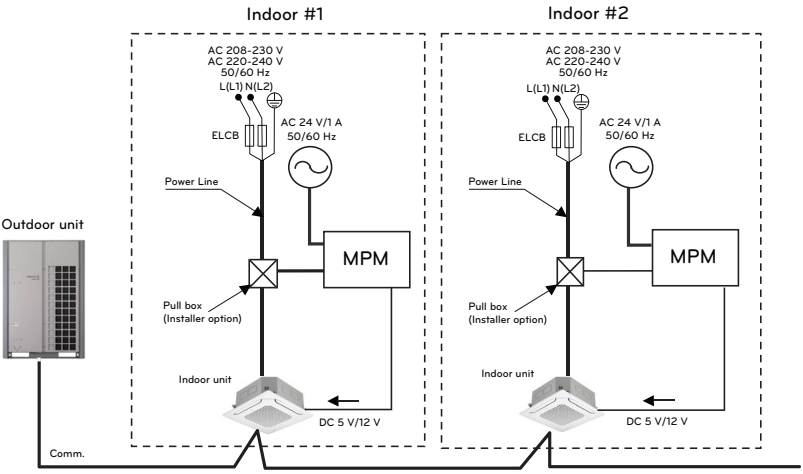
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.
- Wires should be purchased separately for installation of the product.

INSTALLATION EXAMPLE

When installing one MPM



When installing multiple MPMs



- If the building power cannot supply AC 24 V(1 A) to the MPM directly, Adaptor or Transformer should be used.
- When installing multiple MPM with one transformer, current capacity should be designed as 1 A x number of MPM.

Minimum cross-sectional area of conductors

Rated current of appliance A			Nominal cross-sectional area mm²
		≤ 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

* [a] These cords may only be used if their length does not exceed 2 m between the point where the cord or cord guard enters the appliance and the entry to the plug.

[b] Cords having the cross-sectional areas indicated in the parentheses may be used for portable appliances if their length does not exceed 2 m.

NOTE: For supply cords supplied with multi-phase appliances, the nominal cross-sectional area of the conductors is based on the maximum cross-sectional area of the conductors per phase at the supply cord connection to the appliance terminals.



Disposal of your old appliance

1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling



UK Importer : LG Electronics U.K. Ltd
Velocity 2, Brooklands Drive, Weybridge, KT13 0SL

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