ENGLISH
ESPAÑOL
PORTUGUÊS

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.

SINGLE PACKAGE TYPE AIR CONDITIONER

MFL67445822
Rev.15_052323

www.lg.com

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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.

Power Supply	Capacity	Model
460 V 3~ 50/60 Hz	20 RT	AK-W240DC*0
	25 RT	AK-W300DC*0
380~415 V 3N~ 50/60 Hz	7.5 RT	AK-W090LC*0
	10 RT	AK-W120LC*0
	12.5 RT	AK-W150LC*0
	15 RT	AK-W180LC*0
	20 RT	AK-W240LC*0
	25 RT	AK-W300LC*0
220-240 V 3~ 50/60 Hz	7.5 RT	AK-W090BC*0
	10 RT	AK-W120BC*0
	12.5 RT	AK-W150BC*0
	15 RT	AK-W180BC*0
	20 RT	AK-W240BC*0
	25 RT	AK-W300BC*0

❊ * is a delimiter indicating the applied option, and is indicated by 0 to 9 or A to Z.

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 :

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

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Installation shall be in accordance with national standards of electrical appliances.
- The information contained in the manual is intended for use by a qualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

Installation

- Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.
  - 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.
- Always ground the product.
  - There is risk of fire or electric shock.
- Install the panel and the cover of control box securely.
  - There is risk of fire or electric shock.
- Always install a dedicated circuit and circuit breaker.
  - Improper wiring or installation may cause fire or electric shock
- Use the correctly rated circuit breaker or fuse.
  - There is risk of fire or electric shock.
- Use the specified wires to connect the unit.
  - 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.
- Be cautious when unpacking and installing the product.
  - Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.
- For installation, always contact the dealer or an Authorized Service Center.

- Do not install the product on a defective installation stand.
  - It may cause injury, accident, or damage to the product.
- Be sure the installation area does not deteriorate with age.
  - If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.
- Use a vacuum pump or Inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or Oxygen and Do not use Flammable gases. Otherwise, it may cause fire or explosion.
  - There is the risk of death, injury, fire or explosion.
- When using Thermostat, be sure to use double insulated thermostat.
- Do not install the unit in potentially explosive atmospheres.
- Pipes and wires should be purchased separately for installation of the product.

Operation

- Take care to ensure that power cable could not be pulled out or damaged during operation.
  - There is risk of fire or electric shock.
- Do not place anything on the power cable.
  - There is risk of fire or electric shock.
- Do not touch(operate) the product with wet hands.
  - There is risk of fire or electrical shock.
- Do not place a heater or other appliances near the power cable.
  - There is risk of fire and electric shock.
- Do not allow water to run into electric parts.
  - It may cause failure of the product or electric shock.
- Do not store or use flammable gas or combustibles near the product.
  - There is risk of fire or failure of product.
- Do not use the product in a tightly closed space for a long time.
  - Oxygen deficiency could occur.
- When flammable gas leaks, turn off the gas and open a window for ventilation before turn the product on.
  - Do not use the telephone or turn switches on or off. There is risk of explosion or fire
- If strange sounds, smell or smoke comes from product. Turn the circuit breaker off or disconnect the power supply cable.
  - There is risk of electric shock or fire.
- Stop operation and close the window in storm or hurricane. If possible, remove the product from the window before the hurricane arrives.
  - There is risk of property damage, failure of product, or electric shock.
- Do not open the panel of product during operation. (If the unit has the electrostatic filter, Do not touch it.)
  - There is risk of physical injury, electric shock, or product failure.
- 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.
- Ventilate the product from time to time when operating it together with a stove, etc.
  - There is risk of fire or electric shock.
- Turn the main power off when cleaning or maintaining the product.
  - There is risk of electric shock.
- When the product is not be used for a long time, turn off the circuit breaker.
  - There is risk of product damage or failure, or unintended operation.

- Take care to ensure that nobody could step on or fall onto the unit.
  - This could result in personal injury and product damage.

⚠ CAUTION

Installation

- Always check for gas (refrigerant) pressure after installation or repair of product.
  - Low refrigerant levels may cause failure of product.
- Install the drain hose to ensure that water is drained away properly.
  - A bad connection may cause water leakage.
- Keep level even when installing the product.
  - To avoid vibration or water leakage.
- Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.
  - It may cause a problem for your neighbors.
- Don't use people to lift and transport the product.
  - Avoid personal injury.
- Do not install the product where it will be exposed to sea wind (salt spray) directly.
  - It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.
- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.
  - Moisture may condense and wet or damage furniture.

Operation

- Do not expose the skin directly to cool air for long periods of time. (Don't sit in the draft.)
  - This could harm to your health.
- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigeration system.
  - There is risk of damage or loss of property.
- Turn on the power at least 6 hours before starting operation.
  - Starting operation immediately after turning on the main power switch can result in severe damage to internal parts. Keep the power switch turned on during the operational season.

ENGLISH

TABLE OF CONTENTS

2 TIPS FOR SAVING ENERGY

3 SAFETY INSTRUCTIONS

7 INTRODUCTION

10 DIMENSIONAL DATA

13 INSTALLATION OF UNIT

13 Inspection
13 Location and Recommendations
14 Ductwork
14 Change Airflow
15 Condensate Drain Piping
15 2 Inch filter Installation
15 2 Inch filter installation guide
16 2 Inch filter removal guide
17 Filter Differential Pressure Switch Setting Guide
17 Installation of Return Temperature Sensor
18 Installation of Remote Controller(Accessory)
21 Electronic Wiring
23 Field Wiring
27 Connect the cable to the Product
31 DIP Switch Setting in Indoor Main PCB
31 Group Control

32 INSTALLER SETTING

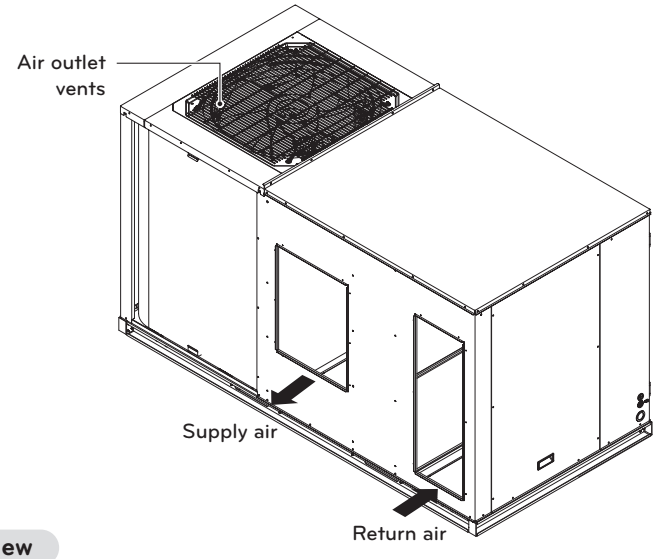
32 How to enter installer setting
33 ESP setting
34 Test run setting
34 Temperature sensor(2TH) setting
35 Self-Diagnosis Function
40 Starting the Unit
41 Final Installation Checklist and Maintenance
43 Installation guide at the seaside

INTRODUCTION (7.5, 10 RT)

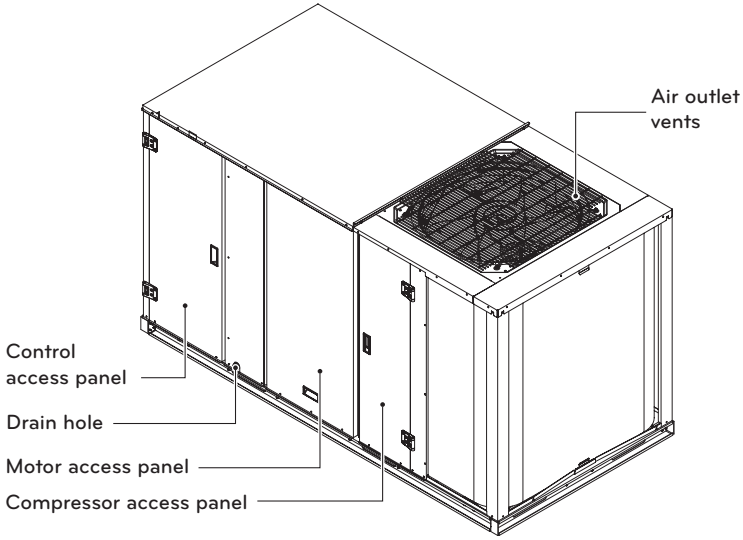
Features

Front View

※ Depending on the option, the view may be different.



Rear View

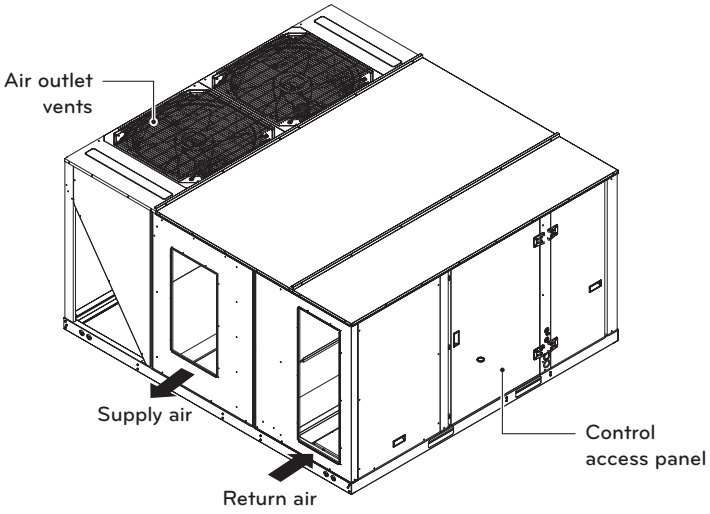


INTRODUCTION (12.5, 15 RT)

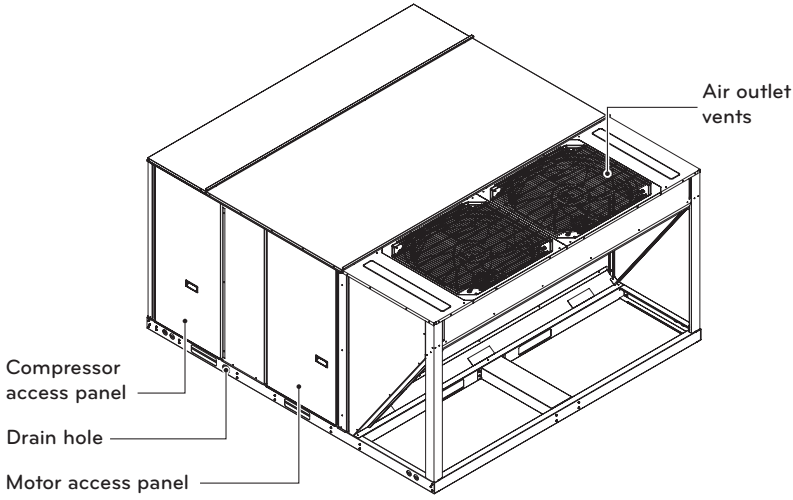
Features

Front View

※ Depending on the option, the view may be different.



Rear View

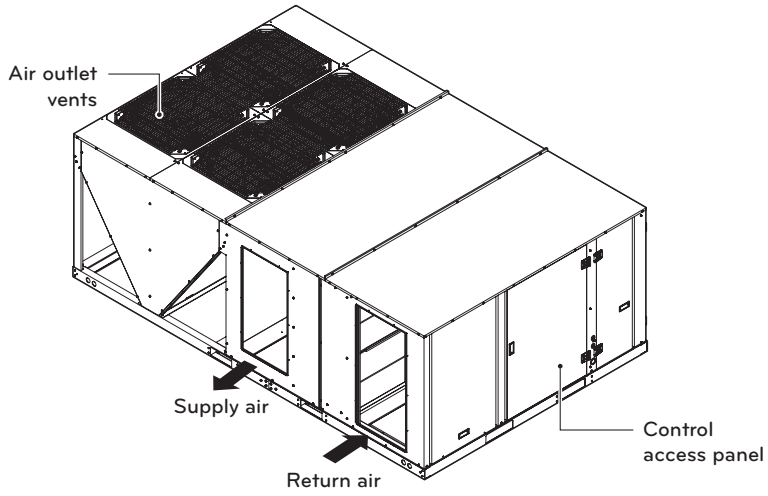


INTRODUCTION (20, 25 RT)

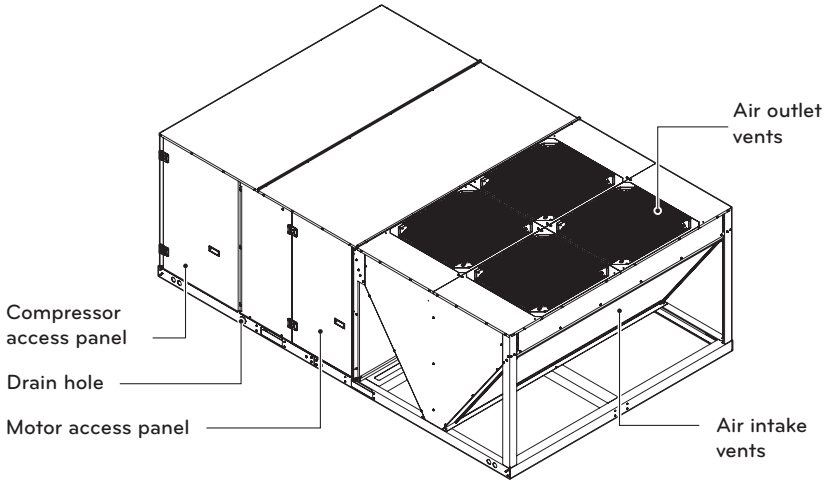
Features

Front View

※ Depending on the option, the view may be different.



Rear View



DIMENSIONAL DATA (7.5, 10 RT)

Single packaged Units are designed for outdoor mounting with vertical condenser discharge.
They can be located either at ground level or on roof.
Each unit contains an operating charge of Refrigerant as shipped.

Product Dimensions

[Unit : mm (inch)]

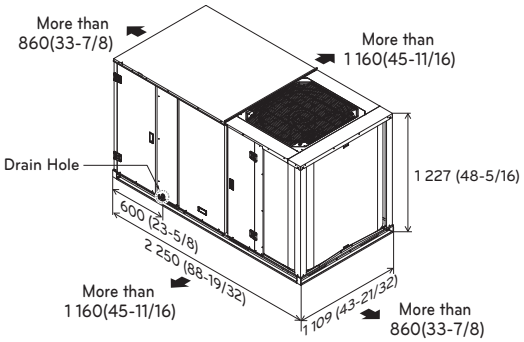


Figure 1A

Horizontal Flow Application

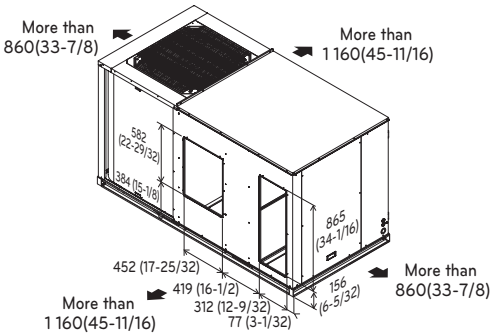


Figure 1B

Down Flow Application

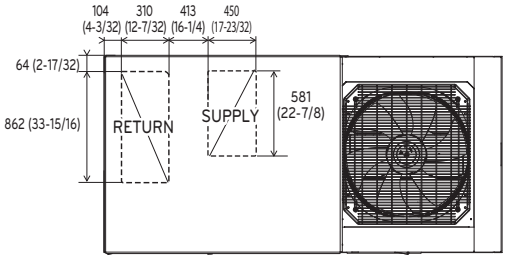


Figure 1C

※ Depending on the option, the view may be different.

DIMENSIONAL DATA (12.5, 15 RT)

Single packaged Units are designed for outdoor mounting with vertical condenser discharge.
They can be located either at ground level or on roof.
Each unit contains an operating charge of Refrigerant as shipped.

Product Dimensions

[Unit : mm (inch)]

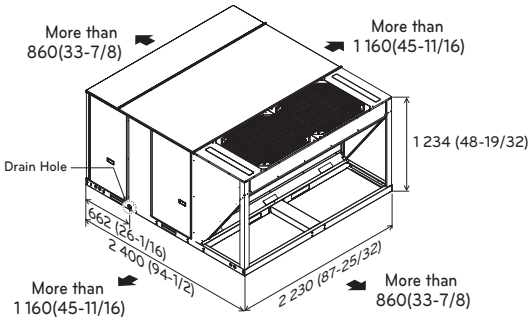


Figure 1A

Horizontal Flow Application

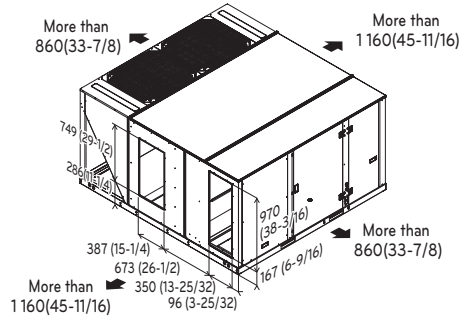


Figure 1B

Down Flow Application

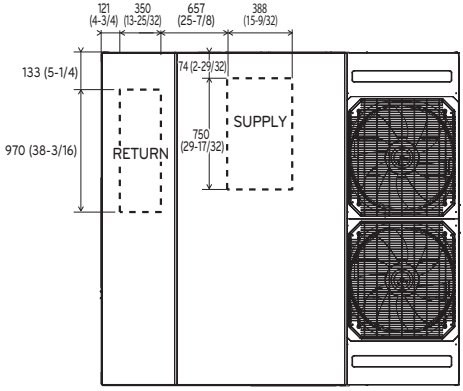


Figure 1C

※ Depending on the option, the view may be different.

DIMENSIONAL DATA (20, 25 RT)

Single packaged Units are designed for outdoor mounting with vertical condenser discharge.
They can be located either at ground level or on roof.
Each unit contains an operating charge of Refrigerant as shipped.

Product Dimensions

[Unit : mm (inch)]

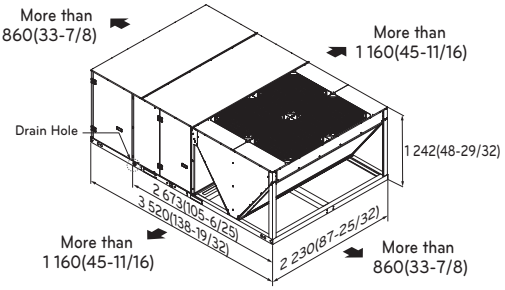


Figure 1A

Horizontal Flow Application

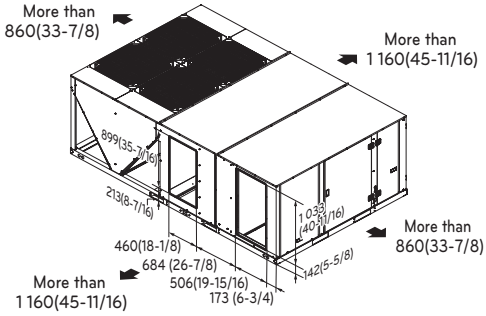


Figure 1B

Down Flow Application

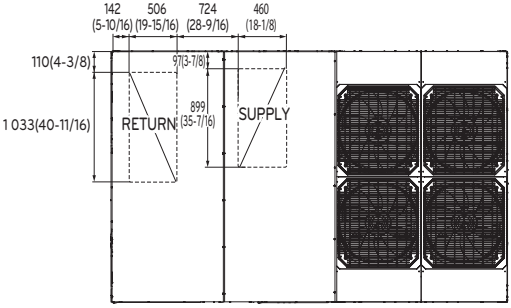


Figure 1C

※ Depending on the option, the view may be different.

INSTALLATION OF UNIT

Inspection

1 Check for damage after unit is unloaded. Report promptly, to the carrier, any damage found to unit. Do not drop unit.
2 Check the unit nameplate to determine if the unit voltage is correct for the application. Determine if adequate electrical power is available. Refer to the application specifications.
3 Check to be sure the refrigerant charge has been retained during shipment. Access to 1/4" flare pressure taps may be gained by removing compressor compartment access panel.

Location and Recommendations

Unit Support

If unit is to be roof mounted check building codes for weight distribution requirements.

Location and Clearances

Installation of unit should conform to local building codes and the National Electrical Code. Select a location that will permit unobstructed airflow into the condenser coil and away from the fan discharge and permit unobstructed service access into the compressor compartment. Suggested airflow clearances and service clearances are given in Figure 1.

Placing and Rigging

Rig the unit using either belt or cable slings. The sling eyelet must be placed through the lifting holes in the base rail of the unit. The point where the slings meet the lifting eyelet should be at least 1.8 m above the unit. Use spreader bars to prevent excessive pressure on the top of the unit during lifting.

NOTE

- The use of "spreader bars" is required when hoisting the unit (prevents damage to sides and top). Top crating can be used as spreader bars.

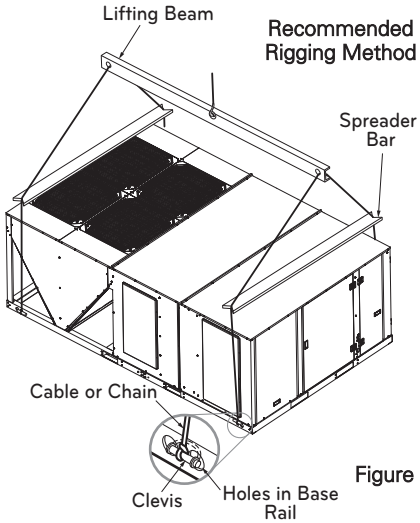


Figure 2

※ Depending on the option, the view may be different.

Roof Mounted Unit

On new roofs, the curb should be welded directly to the roof deck. For existing construction, nailers must be installed under the curb if welding is not possible. Be sure attach the down flow ductwork to the curb before setting unit in place.

When installing the unit, it must be level to insure proper condensate flow from the unit drain pan.

Slab Mount

For ground level installation, the unit base should be adequately supported and hold the unit near level. The installation must meet the guidelines set forth in local codes.

Ductwork

Ductwork construction guidelines

Connections to the unit should be made with 76 mm(3') canvas connectors to minimize noise and vibration transmission.

Elbows with turning vanes or splitters are recommended to minimize air noise and resistance.

The first elbow in the ductwork leaving the unit should be no closer than three times blower diameter to avoid turbulence and back pressure.

Attaching Horizontal Ductwork to the Unit

All conditioned air ductwork should be insulated to minimize heating and cooling duct losses. Use minimum of 50 mm(2') of insulation with a vapor barrier. The outside ductwork must be weather proofed between the unit and the building.

When attaching ductwork to a horizontal unit, provide a flexible water tight connection to prevent noise transmission from the unit to the ducts. The flexible connection must be indoors and molded out of heavy canvas.

NOTE

- Do not draw the canvas taut between the solid ducts.

Change Airflow

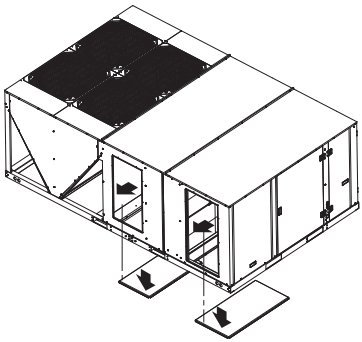
Horizontal flow to Down flow Conversion

1 Remove the covers from the down flow openings on the base panel by unscrewing as shown.

2 Close the horizontal Supply and Return openings on the front panel by attaching the covers firmly on to it which are removed from the down flow openings.

* Cover assembly should be assembled as insulation being downward.

(1)



(2)

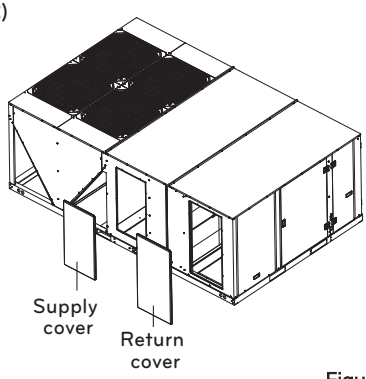


Figure 3

※ Depending on the option, the view may be different.

NOTE

- When diverting to down flow, all entry holes should be field sealed by using sealant to prevent rain water entry into the building.

Condensate Drain Piping

A 1 inch female condensate drain connection is located on the corner of the unit next to the motor access panel. A trap should be installed and filled with water before starting the unit to avoid air from being drawn through. Follow local codes and standard piping practices when running the drain line. Pitch the line downward, away from the unit, and avoid long horizontal runs. See Figure 4.

Do not use reducing fittings in the drain lines. The condensate drain must be:

1 Made of 25.4 mm(1") pipe size.(NPT)
2 For 6.35 mm per 30.48 cm(Pitched 1/4" per foot) to provide free drainage to convenient drain system.
3 Trapped
4 Must not be connected to closed drain system.

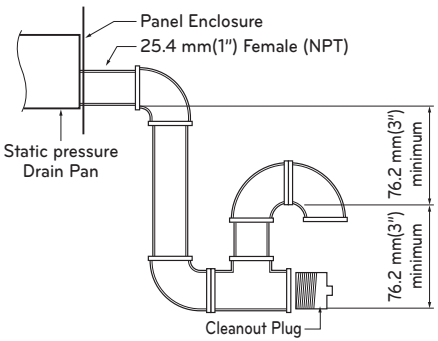


Figure 4

2 Inch filter Installation

※ The prefilter is included by default. It is made from washable material and can be cleaned using water.

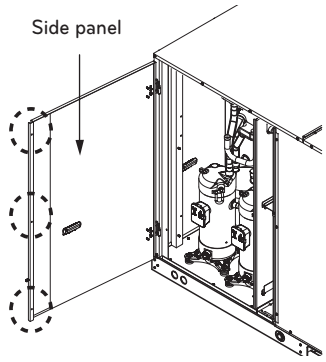
※ The filter and prefilter can be removed or inserted by opening the side panel of the product. (Refer to the 2 inch filter installation guide.)

NOTE

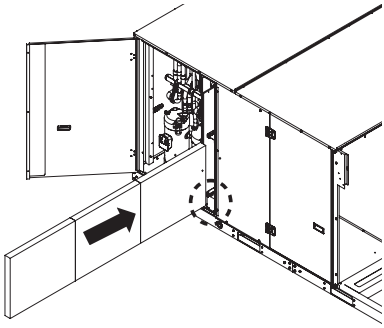
- Do not operate unit without filters in place.
- Only pre-filter is washable type.
- The 2 inch filter is not provided by default and must be field supplied. Check with local distributor.
- The prefilter and 2 inch filter can be installed together.

2 Inch filter installation guide

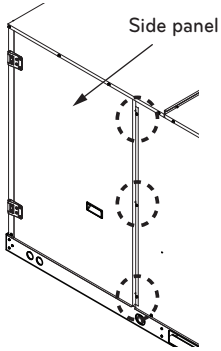
1 Loosen the screws to open the side panel.



2 Place the 2 inch filter on the upper and lower bracket and push it in.



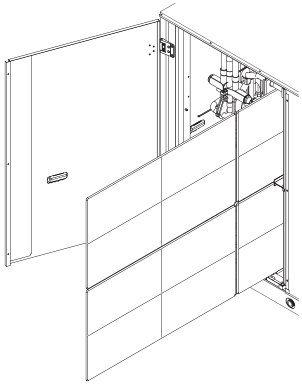
3 Close the side panel and combine with the screws.



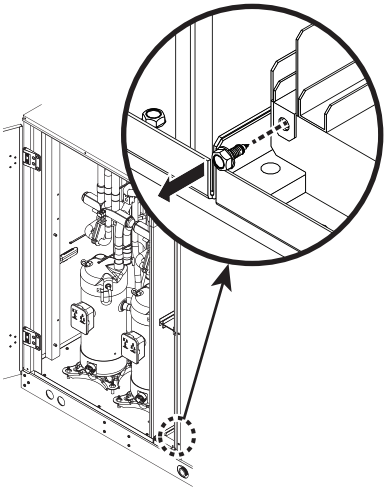
❊ 7.5 ~ 25 RT install 2 inch filter in order of 1, 2, 3

2 Inch filter removal guide

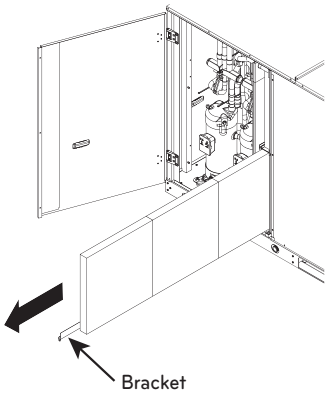
1 Pull out the upper and lower pre-filters.



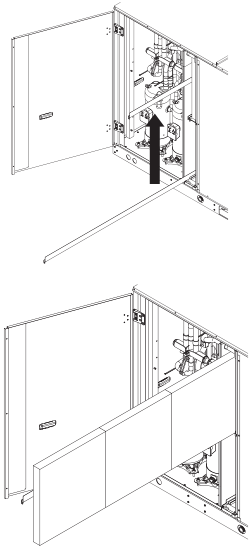
2 Loosen the marked screw to use the 2 inch filter removal bracket.



3 Pull out the lower 2 inch filter using the bracket.



4 Move the 2 inch filter removal bracket to upside and pull out the upper 2 inch filter.



5 After removing the 2 inch filter, place the bracket back in place.

6 Push in the upper and lower pre-filters.

❉ 12.5 ~ 25 RT remove 2 inch filter in order of 1, 2, 3, 4, 5, 6

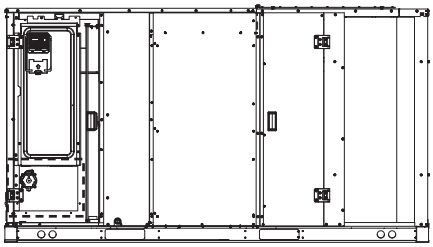
Filter Differential Pressure Switch Setting Guide

The switch detects an increase in static pressure indicating a dirty filter condition. An alarm is displayed on the remote control.

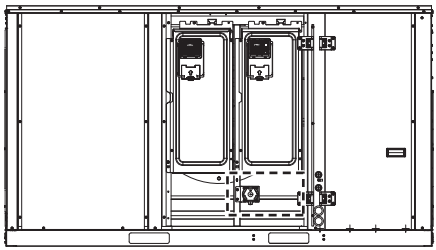
Default value is 100 Pa. Adjust default values according to airflow or filter class.

Remove the cap of the filter differential pressure switch and turn the gage.

7.5, 10 RT



12.5, 15 RT



20, 25 RT

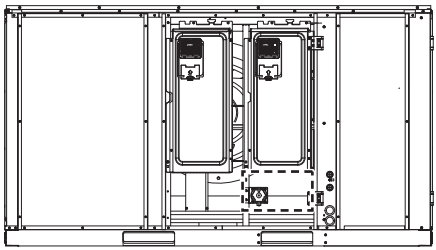


Figure 5 Filter Differential Pressure Switch

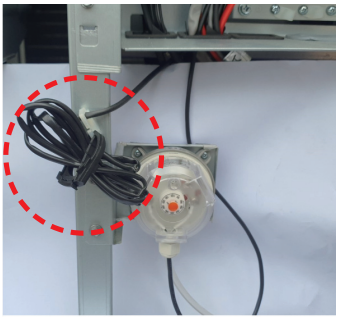


Figure 6 Return Temperature Sensor

Installation of Return Temperature Sensor

The indoor temperature sensor is located at the bottom of C/BOX A CYCLE. (Figure 6) Install the indoor temperature sensor where the customer wants it.

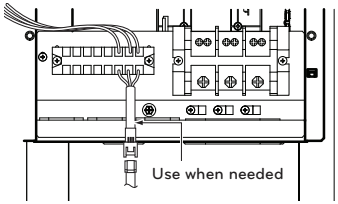
The return temperature sensor can be installed anywhere the user wants, but install it in the indoor air intake path where there is no heat.

Installation of Remote Controller(Accessory)

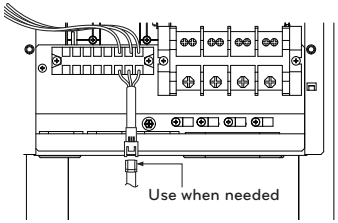
1 Please insert wired remote controller connection cable to the CN-REMO in indoor PCB, or connect directly local connection cable to terminal block in control box.

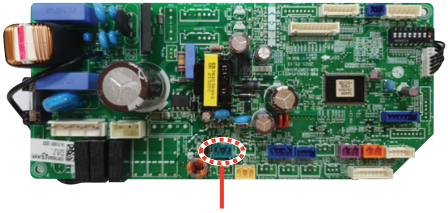
- It should be use supplied local connection cable permitted in each national standard.

460 V 3~ 50/60 Hz
220-240 V 3~ 50/60 Hz



380-415 V 3N~ 50/60 Hz

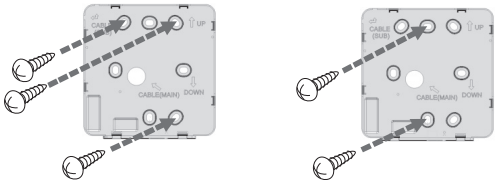




CN-REMO : Remote controller connection

2 After fixing the remote controller installation plate on the desired location, fix it firmly with the provided screws.

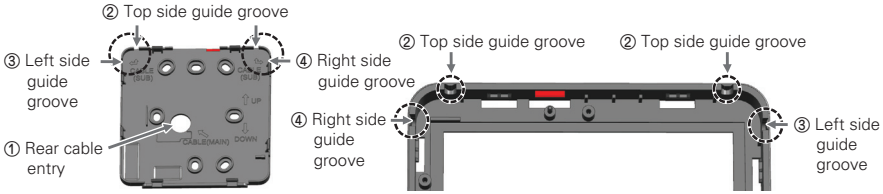
- If the installation plate is not flat on the surface, it may result in the controller being twisted and cause a defect.
- If there is a mounting box, install the remote controller installation plate using the fixings holes which suit, as in the below diagrams.
- Do not leave a gap with the wall or product loose after the installation.



3 The wired remote controller cable can be installed in 4 directions. Install to the suitable direction according to the installation environment.

- Installation direction: Rear entry, top side, right side, left side.
- When you install the remote controller cable at the top, right and left side, remove the remote controller cable guide hole before the installation.
  ※ Use a long nose pliers to remove the guide hole.

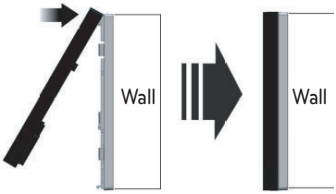
4 After removing the hole, trim the cut surface neatly.



5 After fixing the remote controller top side on the installation plate attached to the wall as in the following figure, press the bottom side to combine with the installation plate.

- Do not leave a gap in the top, bottom, left, and right side of the remote controller and the installation plate after combining them.
- Before combining with the installation plate, arrange the cables to avoid interference with the circuit parts.

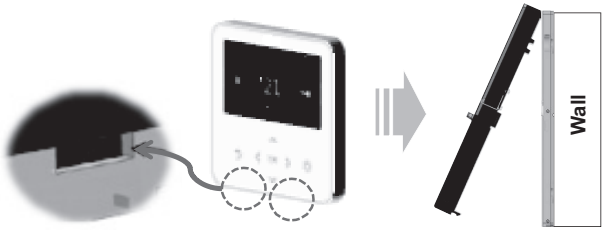
<Order of Combining>



6 When you remove the remote controller from the installation plate, insert a small flat head screwdriver into the bottom side separation hole and turn clockwise to separate the remote controller.

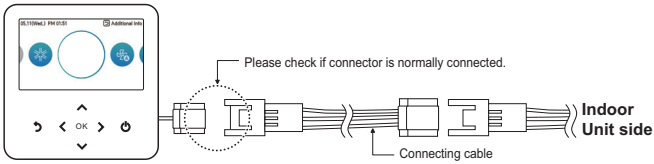
- There are 2 separation holes at the bottom part. Slowly separate one by one.
- Be careful not to damage the internal parts during the removal.

<Order of Separation>



7 Use the connection cables to connect the indoor unit with the remote controller.

DC 12 V	Red
Signal	Yellow
GND	Black



8 For the following cases, separately purchase and use the cables suitable for the situation.

- Do not install the cable over 50 m. (It may cause communication issues.)
- If the distance between the wired remote controller and the indoor unit is 10 m or more : 10 m extension cable (model name: PZCWRC1)
- If you control several indoor unit products with one wired remote controller : Group control cable (model name: PZCWRCG3)

NOTE

During the wired remote controller installation, do not bury it in the wall. (It may cause temperature sensor failure.)

Do not install the cable over 50 m. (It may cause communication defect.)

When you install the extension cable, carefully check the direction of the connectors on the remote controller side and the product side before the installation.

Specification of extension cable: AWG 24, 3 conductor or above.

Wired remote controller installation

- Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.
  Install the remote controller about 1.2~1.5 m(4~5 ft) above the floor in an area with good air circulation at an average temperature.

Do not install the remote controller where it can be affected by:

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly as shown in Fig 7. (The standard height is 1.2~1.5 m(4~5 ft) from floor level.)

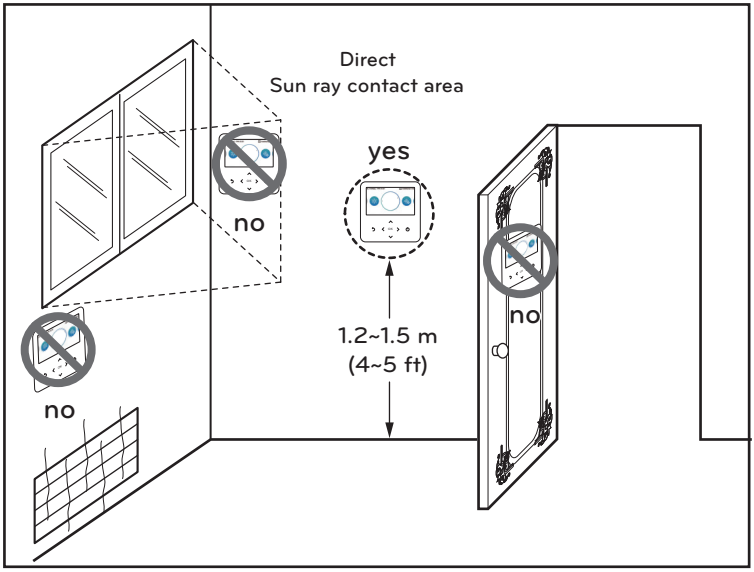


Figure 7 Typical locations for remote controller

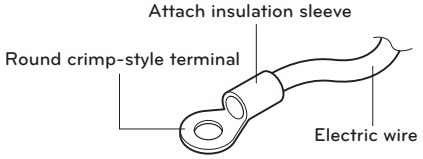
Electronic Wiring

Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.

⚠ WARNING

- Be sure to have authorized electrical engineers do the electric work using special circuits in accordance with regulations and this installation manual. If power supply circuit has a lack of capacity or electric work deficiency, it may cause an electric shock or fire.

Use round crimp-style terminals for connecting wires to the terminal block.

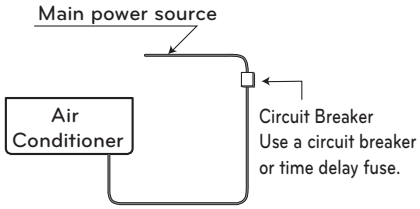


⚠ CAUTION

- The circuit diagram is not subject to change without notice.
- Be sure to connect wires according to the circuit diagram.
- Connect the wires firmly, so that not to be pulled out easily.
- Connect the wires according to color codes by referring the circuit diagram.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

⚠ CAUTION

- Provide a circuit breaker between power source and the unit as shown below.



⚠ CAUTION

- The power cord connected to the outdoor unit(Main Power supply cable) should be complied with the following specifications (Cable type approved by HAR or SAA).
- Select the wire size based on the Current (MAX.).

Cable Type	H07RN-F

Wire size		
mm²	AWG	Ampacity
8.4	8	40
13.3	6	55
21.2	4	70
33.6	2	95
42.4	1	110

• 220-240 V 3~ 50/60 Hz

Capacity (RT)	Voltage range (V)	Current (MAX.) (A)
7.5	198~264 V	54
10	198~264 V	54
12.5	198~264 V	100
15	198~264 V	100
20	198~264 V	61 (A Cycle) 49 (B Cycle)
25	198~264 V	61 (A Cycle) 49 (B Cycle)

• 380-415 V 3N~ 50/60 Hz

Capacity (RT)	Voltage range (V)	Current (MAX.) (A)
7.5	342~456 V	43
10	342~456 V	43
12.5	342~456 V	60
15	342~456 V	60
20	342~456 V	88
25	342~456 V	88

• 460 V 3~ 50/60 Hz

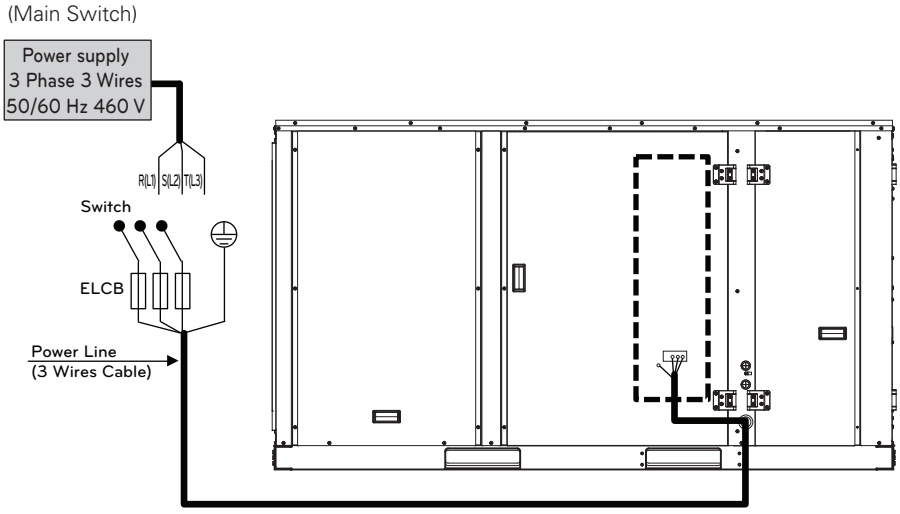
Capacity (RT)	Voltage range (V)	Current (MAX.) (A)
20	416~506 V	69
25	416~506 V	69

Field Wiring

⚠ CAUTION

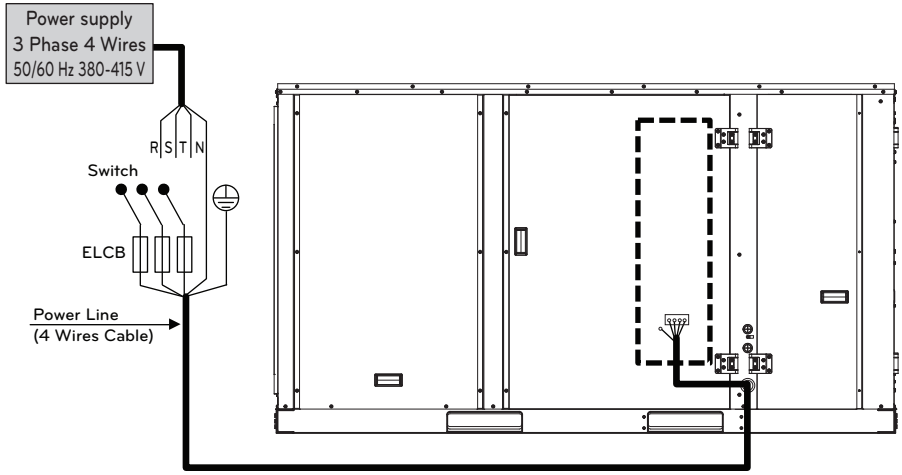
- Unit ground Lines are required for preventing electrical shock accident during current leakage, Communication disorder by noise effect and motor current leakage (without connection to pipe).
- Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
- If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
  Running the product in reversed phase may break the compressor and other parts.
- Wires should be purchased separately for installation of the product.

460 V 3~ 50/60 Hz (20, 25 RT)



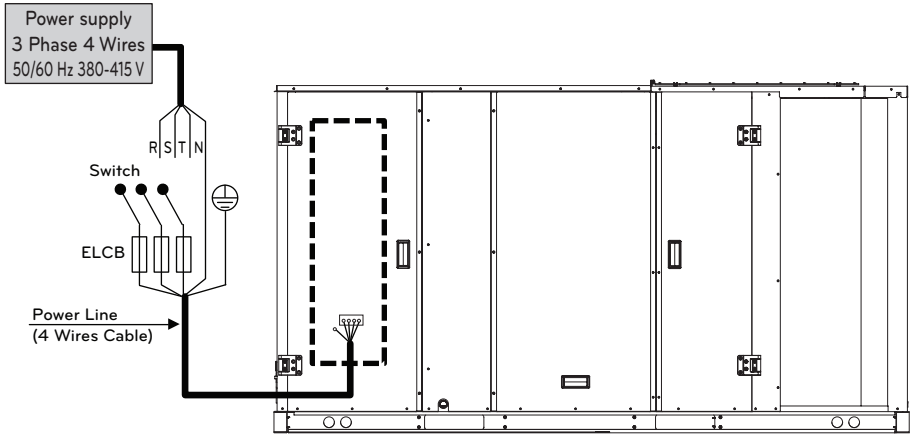
380-415 V 3N~ 50/60 Hz (12.5, 15, 20, 25 RT)

(Main Switch)



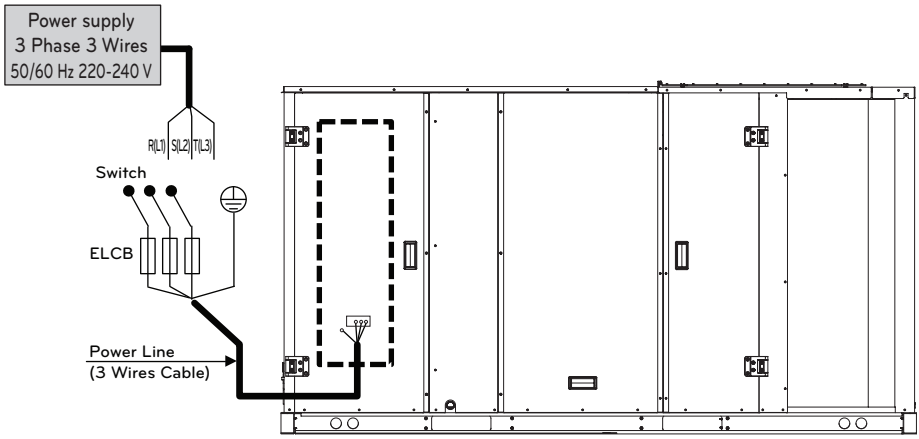
380-415 V 3N~ 50/60 Hz (7.5, 10 RT)

(Main Switch)



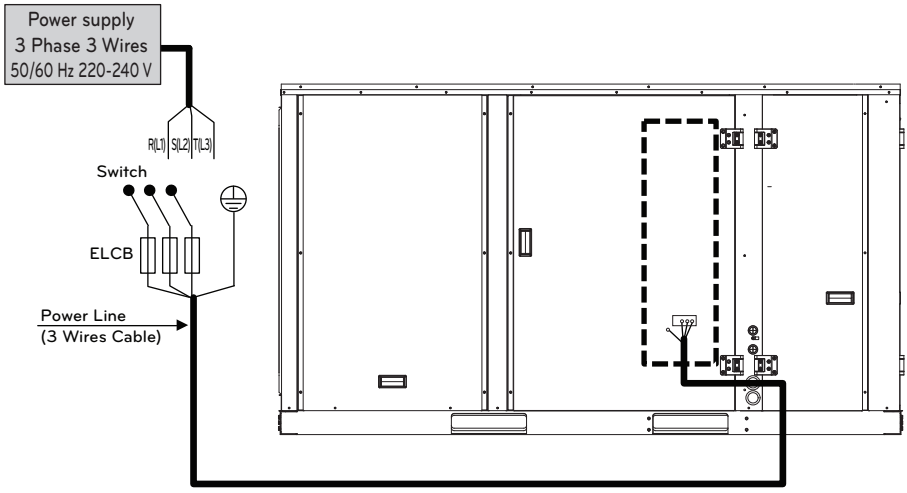
220-240 V 3~ 50/60 Hz (7.5, 10 RT)

(Main Switch)

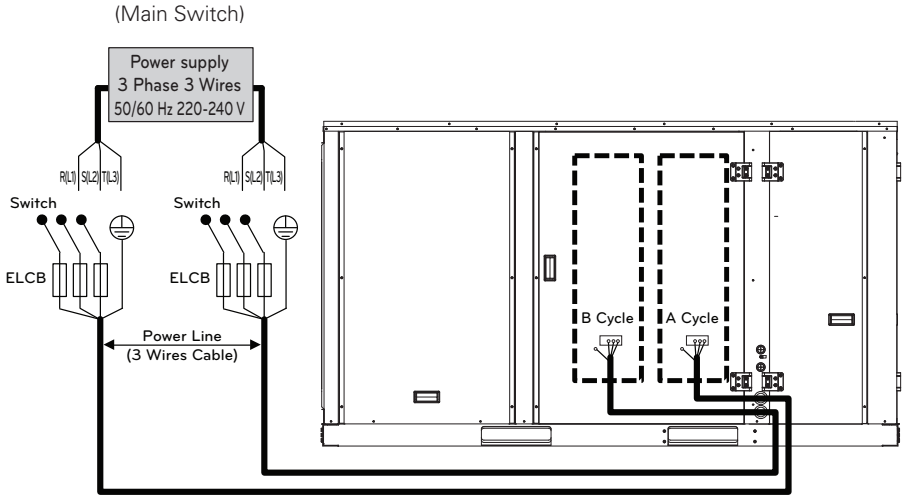


220-240 V 3~ 50/60 Hz (12.5, 15 RT)

(Main Switch)



220-240 V 3~ 50/60 Hz (20, 25 RT)



Connect the cable to the Product

1 Remove the cover control from the unit by loosening the screw.
Connect the wires to the terminals on the control board individually as the following.

2 Secure the cable onto the control board with the holder (clamper).

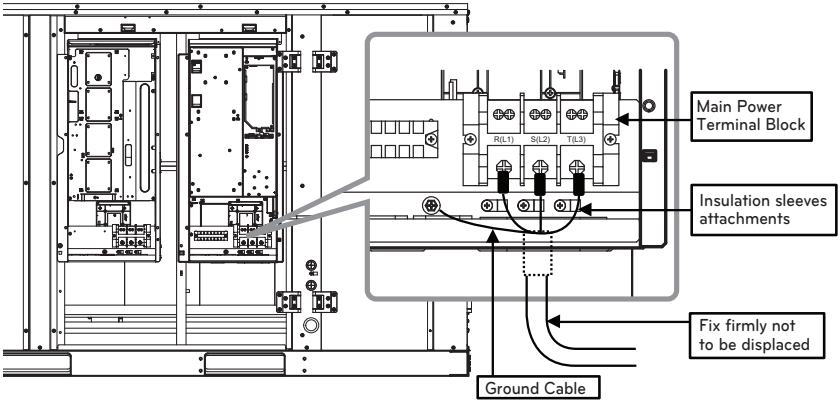
3 Refix the cover control to the original position with the screw.

4 Use a recognized circuit breaker between the power source and the unit. A disconnection device to adequately disconnect all supply lines must be fitted.

⚠ CAUTION

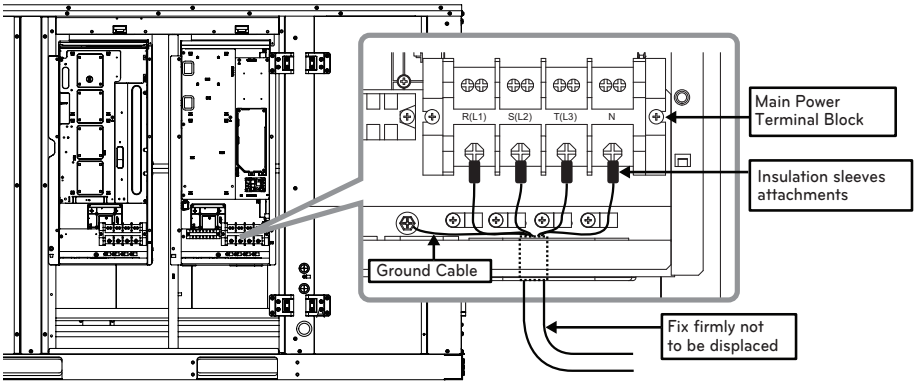
- To select Circuit Breaker correctly, refer to Electric Characteristics in the Product Data Book.

460 V 3~ 50/60 Hz (20, 25 RT)
220-240 V 3~ 50/60 Hz (12.5, 15 RT)



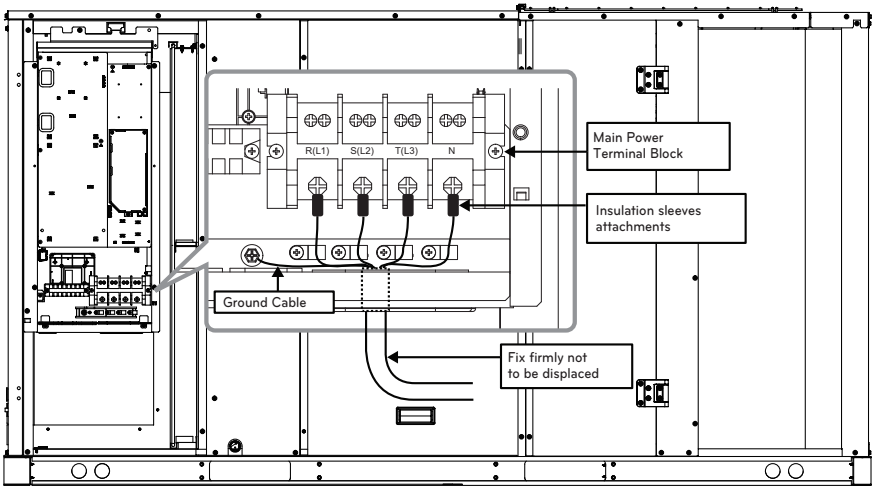
The power source must be supplied to the A cycle Control Box (A Cycle) only.

380-415 V 3N~ 50/60 Hz (12.5, 15, 20, 25 RT)



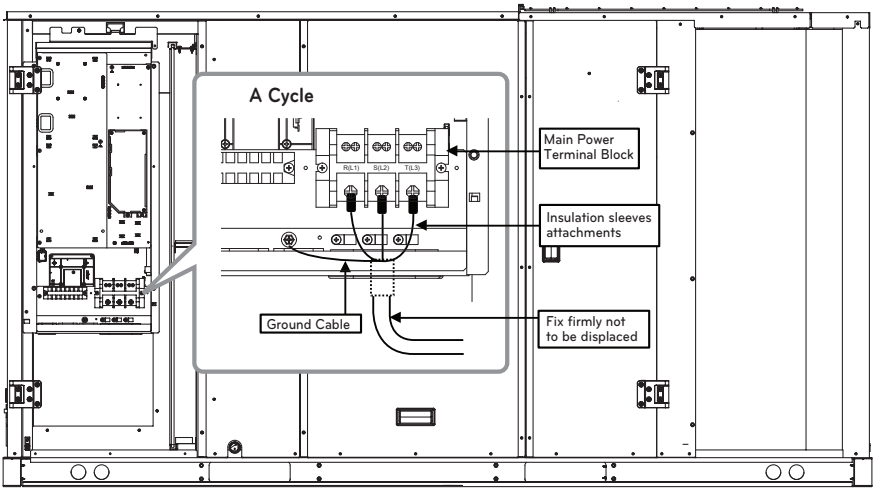
The power source must be supplied to the A cycle Control Box (A Cycle) only.

380-415 V 3N~ 50/60 Hz (7.5, 10 RT)



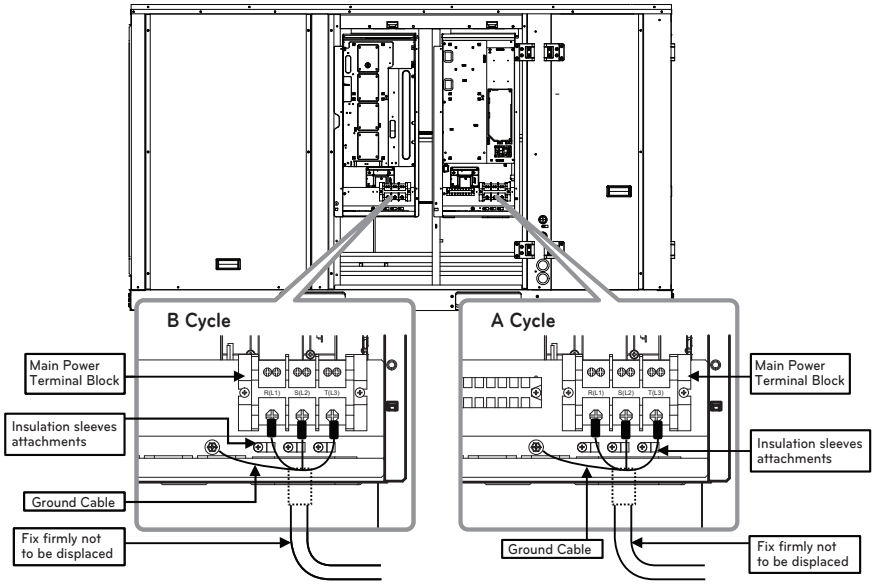
The power source must be supplied to the A cycle Control Box (A Cycle) only.

220-240 V 3~ 50/60 Hz (7.5, 10 RT)



The power source must be supplied to the A cycle Control Box (A Cycle) only.

220-240 V 3~ 50/60 Hz (20, 25 RT)

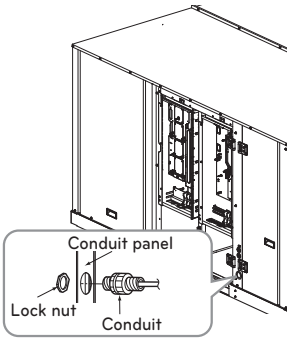


The power source must be supplied to each Control Box (A : Master, B : Slave) individually.

460 V 3~ 50/60 Hz
(20, 25 RT)

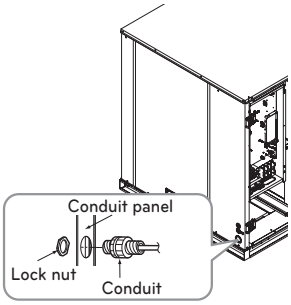
380-415 V 3N~ 50/60 Hz
(12.5, 15, 20, 25 RT)

220-240 V 3~ 50/60 Hz
(12.5, 15 RT)

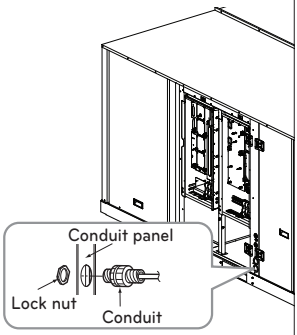


380-415 V 3N~ 50/60Hz
(7.5, 10 RT)

220-240 V 3~ 50/60 Hz
(7.5, 10 RT)



220-240 V 3~ 50/60 Hz
(20, 25 RT)



⚠ WARNING

- Ground Lines to the product are required for preventing electrical shock accident during current leakage, Transmission disorder by noise effect and motor current leakage(without connection to pipe).

⚠ CAUTION

- After the confirmation of the above conditions, prepare the wiring as follows.

1. Never fail to have an individual power circuit specifically for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control cover.
2. Firmly tighten the terminal screws to prevent them loosening. After tightening, pull the wires lightly to confirm that they do not move. (If they are loose the unit, the unit will not operate normally or it can cause burn-out of the wires.)
3. Specification of power source.
4. Confirm that electrical capacity is sufficient.
5. See to that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
6. Confirm that the cable thickness is as specified in the power source specification. (Particularly note the relation between cable length and thickness.
7. Do not install an earth leakage circuit breaker in a wet or moist area.
8. The following would be caused by voltage drop.
   - Vibration of a magnetic switch, which will damage the contact point, fuse breaking, disturbance of the normal function of the overload.
9. The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3 mm in each active(phase) conductors.

DIP Switch Setting in Indoor Main PCB

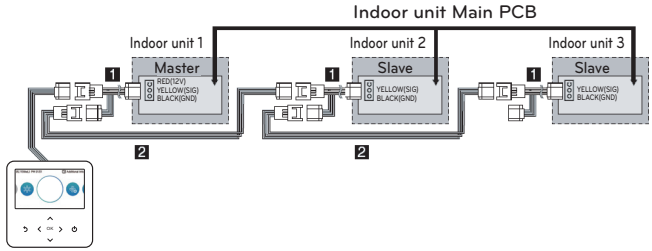
	Function	Description	Setting "Off"	Setting "On"	Default
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Variable	Auto	Off
SW5*	Return Air Sensor	Installed Sensor or Not	Not installed	Installed	Off
					On
SW6	CTI	Installed CTI or not	Not installed	Installed	Off

* In case of a model equipped with a return temperature sensor, the default value of SW5 is On.

Group Control

- It connects and controls 2 or more air conditioner indoor units(Maximum number of IDU : 16ea) to one wired remote controller.

  ※ Connect using the group control cable.

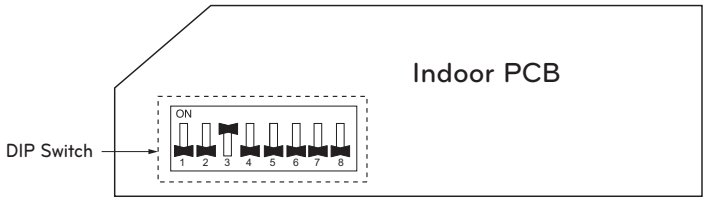


① Group control cable (PZCWRCG3): Connect to indoor unit's wired remote controller connector

② Extension cable (PZCWRC1): Connect to No. ① cable and slave indoor unit's wired remote controller connector

While No. ① cable is connected, connect No. ② cable.

- Using the supplied Wired Remote Controller, wire them like above.
- Ensure that the color of wire.
- If the main PCB is not directly connected to the wired remote controller, set the DIP switch "3" in the main PCB as "ON" position.(OFF ⟶ Master / ON ⟶ Slave)
- Please connect with same type unit. (Single Package)
- If there were connected with different type Indoor unit, It is can not operate some functions.



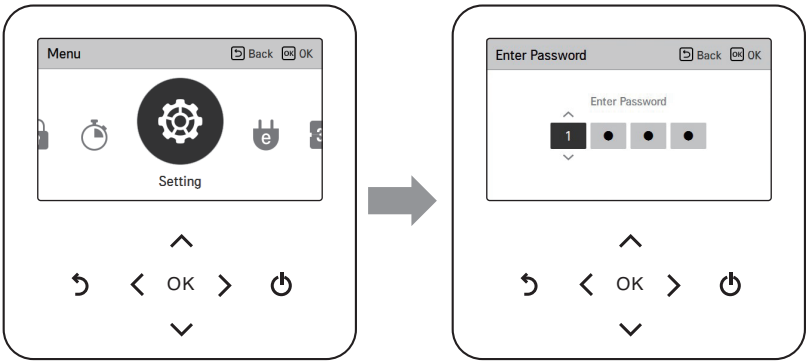
INSTALLER SETTING

How to enter installer setting

⚠ CAUTION

The installer setting mode is the mode to set the remote controller's detail function. If the installer setting mode is incorrectly set, it may cause product failure, user's injury, or property damage. It must be set by the installation specialist with the installation license, and if it is installed or changed without installation license, all problems caused will be the responsibility of the installer, and may void the LG warranty.

- In the menu screen, press [<, >(left/right)] button to select the setting category, and press [∧(up)] button for 3 seconds to enter the password input screen for the installer setting.
- Input the password and press [OK] button to move to the installer setting list.



※ Installer setting password

Main screen ⟶ menu ⟶ setting ⟶ service ⟶ RMC version information ⟶ SW Version

Example) SW version : 1.00.1 a

In the above case, the password is 1001.

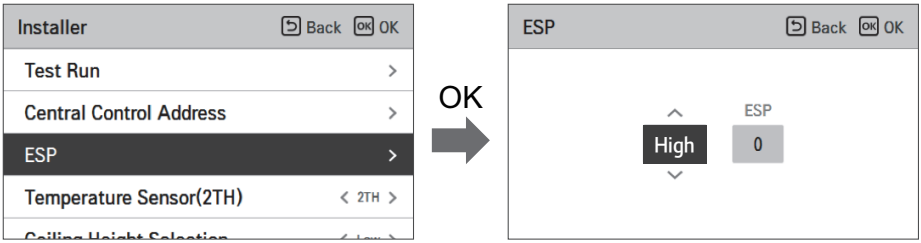
Menu	Description
ESP setting	It is the function to set the wind amount value corresponding to each wind amount for easy installation.
Test run setting	It is the function to set the trial operation at the initial product installation.

NOTE

Some categories of the installer setting menu may not be available depending on the product function or the menu name may be different.

ESP setting

It is the function to set the fan speed value corresponding to each fan speed for easy installation.



NOTE

If ESP is incorrectly set, the air conditioner may malfunction.
This function must be set by the installation specialist that holds an installation license.
For ventilation products, separate ESP values are used for the supply and exhaust fans.

- In the installer setting list, select the ESP setting category, and press [OK] button to move to the detail screen.

Product	ESP fan speed	Value
Single Package	High	0~255

NOTE

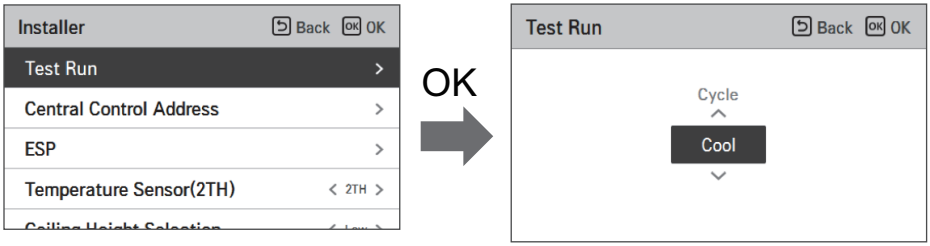
Be especially careful not to switch ESP values corresponding to each fan speed.
Engineering manuals have ESP setting tables that reference air flow and corresponding value setting to achieve the flow.
The ESP values that can be set may be different for each product and capacity.

Test run setting

After product installation, the Test run must be performed. For Test run related details, refer to the product manual.

- In the installer setting list, select the Test run setting category, and press [OK] button to move to the detail screen.
  - You can select 'cooling Test run / heating Test run'.
  - During the Test run, if you start the following functions, the Test run stops.

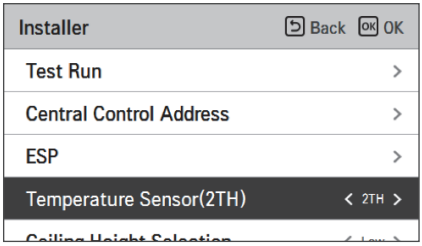
☞ Operation mode, desired temperature, fan speed, wind direction, start/stop



Temperature sensor(2TH) setting

It is the function to select the temperature sensor to decide the indoor temperature.

- You can set the following setting values using [<,>(left/right)] button.



Temperature sensor location		Description
Remote controller		Operate the system with wired remote controller's temperature sensor.
Indoor Unit		Operate the system with indoor unit's temperature sensor.
2TH	Cool	Compare the temperatures of the indoor unit and the wired remote controller and operate with the higher temperature. (There are system operated with lower temperature)
	Heat	Compare the temperatures of the indoor unit and the wired remote controller and operate with the lower temperature.

Self-Diagnosis Function

Error Indicator

- This function indicates types of failure in self-diagnosis and occurrence of failure for air condition.
- Error mark is displayed on wired remote controller, and 7-segment LED of outdoor unit control board as shown in the table.
- If more than two troubles occur simultaneously, lower number of error code is first displayed.
- After error occurrence, if error is released, error LED is also released simultaneously.

Error Display

1st, 2nd LED of 7-segment indicates error number, 3rd LED indicates unit number.

Ex) 211 : No.21 error of A Cycle unit, 862 : No.86 error of B Cycle Unit,
011 ⟶ 051 : No.105 error of A Cycle Unit

	Display				Title	Cause of Error
Indoor unit related error	-	0	1	-	Air temperature sensor of indoor unit (only return air sensor was installed)	Air temperature sensor of indoor unit is open or short
	-	0	3	-	Communication error : wired remote controller ↔ indoor unit	Failing to receive wired remote controller signal in indoor unit PCB
	-	0	5	-	Communication error : outdoor unit ↔ indoor unit	Failing to receive outdoor unit signal in indoor unit PCB
	-	0	9	-	Indoor EEPROM Error	In case when the serial number marked on EEPROM of Indoor unit is 0 or FFFFFF
	-	1	0	-	Indoor unit BLDC fan motor failure	Disconnecting the fan motor connector Failure of indoor fan motor lock
	2	3	7	-	Communication defect in indoor communication PCB ↔ outdoor communication PCB	Indoor communication PCB did not receive signal from outdoor communication PCB for over 3 minutes continuously
Outdoor unit related error	2	1		1	A Cycle Inverter Compressor IPM Fault (Compressor / IDU Fan)	A cycle Inverter Compressor Drive IPM Fault (Compressor / IDU Fan)
				2	B Cycle Inverter Compressor IPM Fault	B Cycle Inverter Compressor Drive IPM Fault
	2	2		1	Inverter Board Input Over Current (RMS) of A Cycle (Compressor / IDU Fan)	A Cycle Inverter Board Input Current excess (RMS) (Compressor / IDU Fan)
				2	Inverter Board Input Over Current (RMS) of B Cycle	B Cycle Inverter Board Input Current excess (RMS)
	2	3		1	A Cycle Inverter Compressor / IDU Fan DC link Low Voltage	DC charging is not performed at A Cycle after starting relay turn on.
				2	B Cycle Inverter Compressor DC link Low Voltage	DC charging is not performed at B Cycle after starting relay turn on.
	2	4		1	A Cycle High Pressure Switch	System is turned off by A Cycle high pressure switch.
				2	B Cycle High Pressure Switch	System is turned off by B Cycle high pressure switch.
	2	5		1	A Cycle Unit Input Voltage High/ Low Voltage(Compressor / IDU Fan)	A Cycle Unit input voltage is abnormal(Compressor / IDU Fan)
				2	B Cycle Unit Input Voltage High/ Low Voltage	B Cycle Unit input voltage is abnormal
	2	6		1	A Cycle Inverter Compressor / IDU Fan Start Failure	The First Start Failure by A Cycle Inverter Compressor / IDU Fan Abnormality
				2	B Cycle Inverter Compressor Start Failure	The First Start Failure by B Cycle Inverter Compressor Abnormality

Display				Title	Cause of Error
Outdoor unit related error	2	9	1	A Cycle Inverter Compressor Over Current	A Cycle Inverter Compressor Fault OR Drive Fault
			2	B Cycle Inverter Compressor Over Current	B Cycle Inverter Compressor Fault OR Drive Fault
	3	2	1	A Cycle Inverter Compressor / IDU Fan High Discharge Temperature	System is turned off by A Cycle Inverter Compressor / IDU Fan High Discharge Temperature
			2	B Cycle Inverter Compressor High Discharge Temperature	System is turned off by B Cycle Inverter Compressor High Discharge Temperature
	3	4	1	High Pressure of A Cycle	System is turned off by excessive increase of high pressure of A Cycle
			2	High Pressure of B Cycle	System is turned off by excessive increase of high pressure of B Cycle
	3	5	1	Low Pressure of A Cycle	System is turned off by excessive decrease of low pressure of A Cycle
			2	Low Pressure of B Cycle	System is turned off by excessive decrease of low pressure of B Cycle
	3	6	1	A Cycle low compression ratio.	5 minutes after the compressor operation, the compression ratio is less than 1.8 or continuous operation for 3 minutes in condition less than differential pressure 400 kPa.
			2	B Cycle low compression ratio.	5 minutes after the compressor operation, the compression ratio is less than 1.8 or continuous operation for 3 minutes in condition less than differential pressure 400 kPa.
	4	0	1	A Cycle Inverter Compressor / IDU Fan CT Sensor Fault	A Cycle Inverter Compressor / IDU CT Sensor open or short
			2	B Cycle Inverter Compressor CT Sensor Fault	B Cycle Inverter Compressor CT Sensor open or short
	4	1	1	A Cycle Inverter Compressor Discharge Temperature Sensor Fault	A Cycle Inverter Compressor Discharge Temperature Sensor open or short
			2	B Cycle Inverter Compressor Discharge Temperature Sensor Fault	B Cycle Inverter Compressor Discharge Temperature Sensor open or short
	4	2	1	A Cycle Low Pressure Sensor Fault	A Cycle Low Pressure Sensor open or short
			2	B Cycle Low Pressure Sensor Fault	B Cycle Low Pressure Sensor open or short
	4	3	1	A Cycle High Pressure Sensor Fault	A Cycle High Pressure Sensor open or short
			2	B Cycle High Pressure Sensor Fault	B Cycle High Pressure Sensor open or short
	4	4	1	A Cycle Air Temperature Sensor Fault	A Cycle Air Temperature Sensor open or short
			2	B Cycle Air Temperature Sensor Fault	B Cycle Air Temperature Sensor open or short
	4	5	1	A Cycle Outdoor Unit Heat Exchanger Temperature Sensor Fault	A Cycle Outdoor Unit Heat Exchanger Temperature Sensor open or short
			2	B Cycle Outdoor Unit Heat Exchanger Temperature Sensor Fault	B Cycle Outdoor Unit Heat Exchanger Temperature Sensor open or short

Display				Title	Cause of Error
Outdoor unit related error	4	6	1	A Cycle Suction Temperature Sensor Fault	A Cycle Suction Temperature Sensor open or short
			2	B Cycle Suction Temperature Sensor Fault	B Cycle Suction Temperature Sensor open or short
	5	0	1	Omitting connection of R, S, T power of A Cycle (Compressor / IDU Fan)	Omitting connection of A Cycle (Compressor / IDU Fan)
			2	Omitting connection of R, S, T power of B Cycle	Omitting connection of B Cycle
	5	1	1	Mismatch capacity of indoor units	Mismatch connection of indoor units compared to capacity of Outdoor Unit
	5	2	1	Communication error : inverter PCB → Main PCB (Compressor / IDU Fan)	Failing to receive inverter signal at main PCB of A Cycle (Compressor / IDU Fan)
			2	Communication error : inverter PCB → Main PCB	Failing to receive inverter signal at main PCB of B Cycle
	5	3	1	Communication error : indoor unit → main PCB of A Cycle	Failing to receive indoor unit signal at main PCB of A Cycle.
	5	7	1	A Cycle Communication Error with Inverter Controller (Compressor / IDU Fan)	A Cycle Controller part cannot receive inverter control signals (usually happens after on-boarding) (Compressor / IDU Fan)
			2	B Cycle Communication Error with Inverter Controller	B Cycle Controller part cannot receive inverter control signals (usually happens after on-boarding)
	5	9	2	Series Installation Error	Different capacity of the EEPROM
	6	0	1	Inverter PCB EEPROM Error of A Cycle	Access Error of Inverter PCB of A Cycle
			2	Inverter PCB EEPROM Error of B Cycle	Access Error of Inverter PCB of B Cycle
	6	2	1	Inverter IPM temperature excessive rise error.	Temperature of Inverter IPM Heat sink is excessive rises.
			2	Inverter IPM temperature excessive rise error.	Temperature of Inverter IPM Heat sink is excessive rises.
	6	5	1	A Cycle Faulty IPM Temperature Sensor	A Cycle IPM Temperature Sensor short/open
			2	B Cycle Faulty IPM Temperature Sensor	B Cycle IPM Temperature Sensor short/open
	6	7	1	A Cycle Fan Lock	Restriction of A Cycle
			2	B Cycle Fan Lock	Restriction of B Cycle
	7	5	1	A Cycle Fan CT Sensor Error	A Cycle Fan CT Sensor open or short
			2	B Cycle Fan CT Sensor Error	B Cycle Fan CT Sensor open or short
	7	7	1	A Cycle Fan Over Current Error	A Cycle Fan Current is over 10A
			2	B Cycle Fan Over Current Error	B Cycle Fan Current is over 10A

Display				Title	Cause of Error
Outdoor unit related error	7 9		1	A Cycle Fan Start Failure Error	A Cycle Fan First Position Sensing Failure
			2	B Cycle Fan Start Failure Error	B Cycle Fan First Position Sensing Failure
	8 6		1	A Cycle Main PCB EEPROM Error	Communication Fail between A Cycle Main MICOM and EEPROM or omitting EEPROM
			2	B Cycle Main PCB EEPROM Error	Communication Fail between B Cycle Main MICOM and EEPROM or omitting EEPROM
	8 7		1	A Cycle Fan PCB EEPROM Error	Communication Fail Between A Cycle Fan MICOM and EEPROM or omitting EEPROM
			2	B Cycle Fan PCB EEPROM Error	Communication Fail Between B Cycle Fan MICOM and EEPROM or omitting EEPROM
	1 0 4		2	Communication Error between A Cycle and B Cycle	Failing to receive B Cycle signal at main PCB of A Cycle
	1 0 5		1	A Cycle Fan PCB Communication Error	Failing to receive fan signal at main PCB of unit.
			2	B Cycle Fan PCB Communication Error	Failing to receive fan signal at main PCB of unit.
	1 0 6		1	A Cycle FAN IPM Fault Error	Instant Over Current at A Cycle Fan IPM
			2	B Cycle FAN IPM Fault Error	Instant Over Current at B Cycle Fan IPM
	1 0 7		1	A Cycle Fan DC Link Low Voltage Error	A Cycle Fan DC Link Input Voltage is abnormal
			2	B Cycle Fan DC Link Low Voltage Error	B Cycle Fan DC Link Input Voltage is abnormal
	1 1 3		1	Eva inlet pipe Temperature Sensor Error in A Cycle	Eva inlet pipe temperature sensor of A Cycle is open or short
			2	Eva inlet pipe Temperature Sensor Error in B Cycle	Eva inlet pipe temperature sensor of A Cycle is open or short
	1 1 5		1	Eva outlet pipe Temperature Sensor Error in A Cycle	Eva outlet pipe Temperature Sensor open or short
			2	Eva outlet pipe Temperature Sensor Error in B Cycle	Eva outlet pipe Temperature Sensor open or short
	1 1 6		*	Outdoor Unit Oil Level Sensor Error	Oil Level Sensor of Outdoor Unit is open or short
	1 4 5		1	A Cycle outdoor unit Main Board - External Board communication error	A Cycle Outdoor Unit Main Board Main-Sub Micom communication failed
			2	B Cycle outdoor unit Main Board - External Board communication error	B Cycle Outdoor Unit Main Board Main-Sub Micom communication failed
	1 5 0		1	A Cycle Unit Discharge Superheat not satisfied	Outdoor Unit Compressor Discharge Superheat not satisfied during 5 Min.
			2	B Cycle Unit Discharge Superheat not satisfied	Outdoor Unit Compressor Discharge Superheat not satisfied during 5 Min.

Display					Title	Cause of Error
Outdoor unit related error	1	5	1	1	Failure of operation mode conversion at A Cycle	Pressure unbalance between A Cycles
				2	Failure of operation mode conversion at B Cycle	Pressure unbalance between B Cycles
	1	9	3	1	Excessive increase of A Cycle Fan PCB Heat Sink Temperature	A Cycle Fan Inverter PCB Temperature is Over 95 °C
				2	Excessive increase of B Cycle Fan PCB Heat Sink Temperature	B Cycle Fan Inverter PCB Temperature is Over 95 °C
	1	9	4	1	A Cycle Fan PCB Heat Sink Temperature Sensor Error	A Cycle Fan PCB Heat Sink Temperature Sensor open or short
				2	B Cycle Fan PCB Heat Sink Temperature Sensor Error	B Cycle Fan PCB Heat Sink Temperature Sensor open or short

Starting the Unit

Cooling (Heating) Mode

Verify that the unit airflow rate is adjusted controller provided in 'ESP SETTING' section of this manual.
To start the unit in the cooling(heating) mode, close unit disconnect switch and set the operating mode to Cool(Heat) and move the cooling set point approximately 5 ˚C below(above) room temperature. The condenser fan motor, compressor and evaporator fan motor should operate automatically. There will be a delay of up to 3 minutes before the unit will start in the cooling mode.

Operating Pressures

After the unit has operated in the cooling mode for a short period of time, install pressure gauges on the gauge ports of the suction line valves.

NOTE

- Always route refrigerant hoses through the port hole provided and have compressor access panel in place.

Check the suction pressures and compare them to the normal operating pressures about from 700~1 000 kPa.

NOTE

- Do not use pressures to determine the unit refrigerant charge. The correct charge is shown on the unit nameplate. To charge the system accurately, use superheat charging or weigh the charge.

Voltage

With the compressor operating, check the line voltage at the unit. The voltage should be within the range shown on the unit nameplate. If low voltage is encountered, check the size and length of the supply line from the main disconnect to the unit. The line may be undersized for the length of the run.

⚠ WARNING

- Bodily injury can result from high voltage electrical components. If operating checks must be performed with the unit operating, it is the technician's responsibility to recognize these hazards and proceed safely. Failure to do so could result in severe personal injury or death due to electrical shock or contact with moving parts.

Final Installation Checklist and Maintenance

- Is the outdoor unit fan and indoor blower operating correctly, with proper rotation and without undue noise?
- Have voltage and running currents been checked to determine if it is within limits?
- Have the air discharge grilles been adjusted to balance the system?
- Has the ductwork been checked for air leaks and condensation?
- Has the indoor airflow been checked and adjusted if necessary?
- Has the unit been checked for tubing and sheet metal rattles and are there unusual noises to be checked?
- Are all covers and panels in place and properly fastened?
- Has the owner or maintenance personnel been given this manual, warranty, and been instructed on proper operation and maintenance?

Routine Maintenance By Owner

You can do some of the periodic maintenance functions for your unit yourself; this includes cleaning air filters, cleaning unit cabinet, cleaning the condenser coil, and conducting a general unit inspection on a regular basis.

Unfiltered air circulates through the unit's condenser coil and can cause the coil's surface to become clogged with dust, dirt, etc.. To clean the coil, vertically (i.e., along the fins) stroke the coil surface with a soft bristled brush.

Keep all vegetation away from the condenser coil area.

⚠ WARNING

- Before removing access panels to service unit, disconnect power supply. Failure to disconnect power before attempting any servicing can result in severe injury or death.

Maintenance Performed by Serviceman

To keep your unit operating safely and efficiently, the manufacturer recommends that a qualified serviceman check the entire system at least once each year, or more frequently if conditions warrant. Your serviceman may examine these areas of your unit:

1. Motors and drive system components	➔ Check the cleanliness of Indoor Fan
2. Condenser coils	➔ For cleaning
3. Safety Controls	➔ For mechanical cleaning
4. Electrical components and wiring	➔ For possible replacement or connection tightness
5. Condensate drain	➔ For cleaning
6. Inspect the unit duct connections to ensure they are physically sound and sealed to the unit casing.	
7. Inspect the unit mounting support to see that it is sound.	
8. Inspect the unit to ensure there is no obvious deterioration.	

⚠ CAUTION

- To prevent injury or death due to electrical shock of contact with moving parts, lock unit disconnect switch in open position before servicing unit.
  To prevent an explosion and possible injury, death and equipment damage, do not store combustible materials, gasoline or other flammable vapors and liquids near the unit.

Inspect the control panel wiring to verify that all electrical connections are tight and wire insulation is intact.

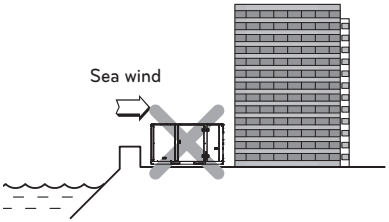
Installation guide at the seaside

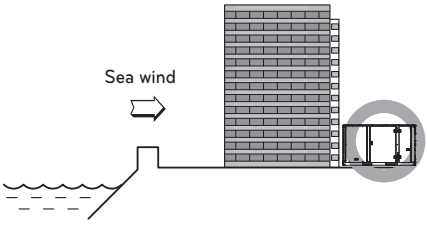
⚠ CAUTION

- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
- Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.
- If outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional anticorrosion treatment on the heat exchanger.

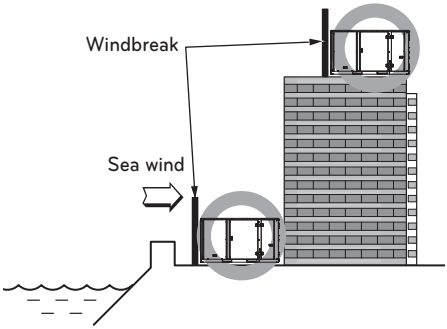
Selecting the location(Outdoor Unit)

If the outdoor unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided. Install the outdoor unit on the opposite side of the sea wind direction.





In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150 % of the outdoor unit.
- It should be keep more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

Select a well-drained place.

- If you can't meet above guide line in the seaside installation, please contact LG Electronics for the additional anticorrosion.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water

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