LG
Life's Good

ENGLISH
ITALIANO
ESPAÑOL
FRANÇAIS
DEUTSCH
PORTUGUÊS
РУССКИЙЯЗЫК

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.

TYPE: Ceiling Suspended

P/NO : MFL42803111

www.lg.com

TABLE OF CONTENTS

Installation Requirements	Required Parts	Required Tools
Introduction 3		
Safety Precautions 4		
Installation		
Selection of the best location 7	❏ Installation guide map ❏ Four type "A" screws & plastic anchors ❏ Connecting cable	❏ Level gauge ❏ Screw driver ❏ Electric drill ❏ Hole core drill ❏ Horizontal meter
Preparing Work for Installation 7	❏ Pipes: Gas side Liquid side (Refer to Product Data)	❏ Flaring tool set ❏ Specified torque wrenches (different depending on model No.) ❏ Spanner .....Half union
Indoor unit Installation.....9	❏ Insulation materials	
Preparation of Piping.....10		
Checking the Drainage.....12		
Wiring Connection 12		
Side Cover Assembly.....14		❏ Hexagonal wrench ❏ Gas-leak detector ❏ Vacuum pump ❏ Gauge manifold
Installation of Wired Remote Controller 15		
Optional Operation of Wired Remote Controller 17		❏ Owner's manual ❏ Thermometer
Dip Switch Setting 18		
Group Control Setting.....19		

ENGLISH

Introduction

Symbols used in this Manual

This symbol alerts you to the risk of electric shock.

This symbol alerts you to hazards that may cause harm to the air conditioner.

NOTICE **This symbol indicates special notes.**

Features

Standard Accessories

Name	Installation plate	Type "A" screw and plastic anchor	(Other)
Quantity	1EA	4EA	• Owner's manual • Installation manual
Shape			

Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.
- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- 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 to properties only.

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

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

⚠WARNING

■ 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 breaker.

- Improper wiring or installation may cause fire or electric shock.

Use the correctly rated breaker or fuse.

- There is risk of fire or electric shock.

Do not modify or extend the power cable.

- There is risk of fire or electric shock.

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.

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.

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

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.

■ Operation

Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.

⚠CAUTION

■ Installation

Always check for gas (refrigerant) leakage 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.

Use two or more 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.

If you eat the liquid from the batteries, brush your teeth and see doctor. Do not use the remote if the batteries have leaked.

- The chemicals in batteries could cause burns or other health hazards.

ENGLISH

Installation

Read completely, then follow step by step.

Select the best Location

Indoor unit

1. Do not have any heat or steam near the unit.
2. Select a place where there are no obstacles in front of the unit.
3. Make sure that condensation drainage can be conveniently routed away.
4. Do not install near a doorway.
5. Ensure that the interval between a wall and the left (or right) of the unit is more than 70cm.
6. Use a stud finder to locate studs to prevent unnecessary damage to the wall.

⚠CAUTION : In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

Preparing Work for Installation

Open side cover

1. Remove two screws from side-cover as shown in fig.
2. Unlock side-cover from side panel by slightly pulling the edge of side cover.
3. Tap the side-cover with your palm on the back-side.(Inlet grill side.)
4. Hold the side-cover with other hand while tapping to prevent it to fall down.
5. The Drain hole is on the left side of the unit and side cover opening is common for drain pipe, connecting pipe and wiring diagram.
6. Remove the rubber stopple in the desired drain direction.
7. Knock out the pipe hole from the left side-cover with the help or nipper/plier.
8. Knock hole on right side-cover only if right side is selected for water drain.

MOUNTING THE ANCHOR NUT AND BOLT

- Prepare 4 suspension bolts. (Each bolts length should be same.)
- Measure and mark the position for the Suspension bolts and the piping hole.
- Drill the hole for anchor nut on the ceiling.
- Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the anchor-nuts firmly.
- Secure the hangers onto the Suspension bolts (adjust level roughly.) using nuts, washers and spring washers.
- Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- Adjust a level on the direction of top-bottom by adjusting supension bolts. Then the unit will be declined to the bottomside so as to drain well.

DIM. / Capacity(Btu/h)	A	B
18/24k	855	320

⚠CAUTION

: Tighten the nut and bolt to prevent unit falling.

DRILL A HOLE IN THE WALL.

- Drill the piping hole with a ø70mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.

Indoor unit installation

Hang the Indoor unit on suspension bolt as per following guidelines:

1. Lift the indoor unit to sufficient height.
2. Insert the suspended part of four suspension bolt in the four hangers provided on the side of main body one by one.
3. Lower the indoor unit till the hangers rest on their respective flat washer.
4. Adjust the level in the top down direction by adjusting the suspension bolts.
   Inclined the indoor unit as per direction provided in the fig

⚠CAUTION

: Installation Information For Declination

1. **Install declination** of the indoor unit is very **important for the drain** of the convertible type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 10mm.
3. If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

Front of view

- The unit must be horizontal or inclined at angle.
- The inclination should be less than or equal to 1° or in between 10 to 20mm inclined in drain direction as shown in fig.

Side of view

- The unit must be declined to the bottomside of the unit when finished installation.

Preparation of Piping

Main cause of gas leakage is defect in flaring work. Carry out correct flaring work in the following procedure.

1. Cut the pipes and the cable.

- Use the accessory piping kit or the pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5m longer than the pipe length.

2. Burrs removal

- Completely remove all burrs from the cut cross section of pipe/tube.
- Put the end of the copper tube/pipe to downward direction as you remove burrs in order to avoid to let burrs drop in the tubing.

3. Flaring work

- Carry out flaring work using flaring tool as shown below.

Indoor unit [kW(Btu/h]	Pipe		" A "	
	Gas(mm)	Liquid(mm)	Gas(mm)	Liquid(mm)
<5.6(19,100)	12.7	6.35	0.5~0.8	0~0.5
<16.0(54,600)	15.88	9.52	0.8~1.0	0.5~0.8
<22.4(76,400)	19.05	9.52	1.0~1.3	0.5~0.8

Firmly hold copper tube in a bar(or die) as indicated dimension in the table above.

4. Check

- Compare the flared work with figure below.
- If flare is noted to be defective, cut off the flared section and do flaring work again.

FLARE SHAPE and FLARE NUT TIGHTENING TORQUE

Precautions when connecting pipes

- See the following table for flare part machining dimensions.
- When connecting the flare nuts, apply refrigerant oil to the inside and outside of the flares and turn them three or four times at first. (Use ester oil or ether oil.)
- See the following table for tightening torque.(Applying too much torque may cause the flares to crack.)
- After all the piping has been connected, use nitrogen to perform a gas leak check.

pipe size	Torque(kgf.m)	A(mm)	flare shape
Ø6.35	1.8~2.5	8.7~9.1	
Ø9.52	3.4~4.2	12.8-13.2	
Ø12.7	5.5~6.6	16.2-16.6	
Ø15.88	6.3~8.2	19.3-19.7	

ENGLISH

CAUTION

- Always use a charge hose for service port connection.
- After tightening the cap, check that no refrigerant leaks are present.
- When loosening a flare nut, always use two wrenches in combination, When connecting the piping, always use a spanner and torque wrench in combination to tighten the flare nut.
- When connecting a flare nut, coat the flare(inner and outer faces) with oil for R410A(PVE) and hand tighten the nut 3 to 4 turns as the initial tightening.

Opening shutoff valve

1. Remove the cap and turn the valve counter clockwise with the hexagon wrench.
2. Turn it until the shaft stops.
   Do not apply excessive force to the shutoff valve. Doing so may break the valve body, as the valve is not a backseat type. Always use the special tool.
3. Make sure to tighten the cap securely.

Closing shutoff valve

1. Remove the cap and turn the valve clockwise with the hexagon wrench.
2. Securely tighten the valve until the shaft contacts the main body seal.
3. Make sure to tighten the cap securely.
   * For the tightening torque, refer to the table on the below.

Tightening torque

<table>
<tr><th rowspan="2">Shutoff valve size</th><th colspan="6">Tightening torque N-m(Turn clockwise to close)</th></tr>
<tr><th colspan="2">Shaft(valve body)</th><th>Cap(Valve lid)</th><th>Service port</th><th>Flare nut</th><th>Gas line piping attached to unit</th></tr>
<tr><td>Ø6.35</td><td rowspan="2">5.4-6.6</td><td rowspan="3">Hexagonal wrench 4mm</td><td rowspan="2">13.5-16.5</td><td rowspan="6">11.5-13.9</td><td>14-17</td><td rowspan="4">-</td></tr>
<tr><td>Ø9.52</td><td>33-39</td></tr>
<tr><td>Ø12.7</td><td>8.1-9.9</td><td>18-22</td><td>50-60</td></tr>
<tr><td>Ø15.88</td><td>13.5-16.5</td><td>Hexagonal wrench 6mm</td><td>23-27</td><td>62-75</td></tr>
<tr><td>Ø22.2</td><td rowspan="2">27-33</td><td rowspan="2">Hexagonal wrench 10mm</td><td rowspan="2">36-44</td><td rowspan="2">-</td><td rowspan="2">22-28</td></tr>
<tr><td>Ø25.4</td></tr>
</table>

HEAT INSULATION

1. Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120°C).

2. Precautions in high humidity circumstance:
   This air conditioner has been tested according to the "ISO Conditions with Mist" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere (dew point temperature: more than 23°C), water drops are liable to fall. In this case, add heat insulation material according to the following procedure:
   - Heat insulation material to be prepared... EPDM (Ethylene Propylene Diene Methylene)-over 120°C the heat-resistance temperature.
   - Add the insulation over 10mm thickness at high humidity environment.

Checking the Drainage

1. Set the air direction louvers up-and-down to the position(horizontally) by hand.

To check the drainage.

1. Pour a glass of water on the evaporator using a kettle.
2. Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

Drain piping

1. The drain hose should point downward for easy drain flow.

2. Do not make drain piping like the following.

Wiring Connection

Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.

WARNING : Make sure that the screws of the terminal are free from looseness.

ENGLISH

CAUTION:

After the confirmation of the above conditions, prepare the wiring as follows:

1) **Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control box cover.**
2) **Provide a circuit breaker switch between power source and the unit.**
3) **The screws which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)**
4) **Specification of power source**
5) **Confirm that electrical capacity is sufficient.**
6) **Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.**
7) **Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)**
8) **Never fail to equip a leakage breaker where it is wet or moist.**
9) **The following troubles would be caused by voltage drop-down.**
   - Vibration of a magnetic switch, damage on the contact point, fuse breaking, disturbance by the normal function of an overload protection device.
   - Proper starting power is not given to the compressor.

HAND OVER

Teach the customer the operation and maintenance procedures, using the operation manual.
(air filter cleaning, temperature control, etc.)

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 5ft(1.5m) 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.1.
  (The standard height is 1.2~1.5 m from floor level.)

Fig.1 Typical locations for remote controller

Side Cover Assembly

1. **Cover the sides of main body with side-cover as shown in fig.**

2. **Lift slightly the edge of side-cover with hands to fix the cover properly on the panel.**

3. **Push the side-cover from front side (air outlet side) towards the inlet grill side to lock the side cover on the main body.**

4. **Fasten the securing screw.**

ENGLISH

Installation of Wired Remote Controller

1. Please fix tightly using provided screw after placing remote controller setup board on the place where you like to setup.

- Please set it up not to bend because poor setup could take place if setup board bends. Please set up remote controller board fit to the reclamation box if there is a reclamation box.

2. Can set up Wired remote controller cable into three directions.

- Setup direction: the surface of wall reclamation, upper, right
- If setting up remote controller cable into upper and right side, please set up after removing remote controller cable guide groove.

❊ Remove guide groove with long nose.

① Reclamation to the surface of the wall
② Upper part guide groove
③ Right part guide groove

<Wire guide grooves>

3. Please fix remote controller upper part into the setup board attached to the surface of the wall, as the picture below, and then, connect with setup board by pressing lower part.

- Please connect not to make a gap at the remote controller and setup board's upper and lower, right and left part.

<Connecting order>

When separating remote controller from setup board, as the picture below, after inserting into the lower separating hole using screw driver and then, spinning clockwise, remote controller is separated.

- There are two separating holes. Please individually separate one at a time.
- Please be careful not to damage the inside components when separating.

<Separating order>

4. Please connect indoor unit and remote controller using connection cable.

5. Please use extension cable if the distance between wired remote controller and indoor unit is more than 10m.

⚠CAUTION

When installing the wired remote controller, do not bury it in the wall.
(It can cause damage in the temperature sensor.)
Do not install the cable to be 50m or above.
(It can cause communication error.)

- When installing the extension cable, check the connecting direction of the connector of the remote controller side and the product side for correct installation.
- If you install the extension cable in the opposite direction, the connector will not be connected.
- Specification of extension cable: 2547 1007 22# 2 core 3 shield 5 or above.

ENGLISH

Name and function of wired remote controller(Accessory)

Please attach the inform label inside of the door. Please choose proper language depend on your country.

1. **Operation indication screen**
2. **Set temperature button**
   - It will set not room temperature but outlet air temperature.
3. **Fan speed button**
   - Fan Speed have 3 Steps.
   - Middle and Low step is same
4. **ON/OFF button**
5. **Opration mode selection button**
6. **Wireless remote controller receiver**
   - Some products don't receive the wireless signals.
7. **Air flow button**
8. **Subfunction button**
9. **Function setting button**
10. **Ventilation button**
11. **Reservation**
12. **Up,down,left,right button**
    - To check the indoor temperature, press button.
13. **Room temperature button**
    - Displays only the room temperature of the remote controller perception.
    - There is no control of room temperature.
    - In case of fresh air intake unit, displays only the temperature around remote controller.
14. **Setting/Cancel button**
15. **Exit button**

※ Some functions may not be operated and displayed depending on the product type.

※ It will display strange value to the room temperature if wired remote controller is not connected.

Model : PQRCVSL0 (Black Color)
PQRCVSL0QW (White Color)

Dip Switch Setting of Indoor unit PCB

	Function	Description	Setting Off	Setting On	Default
SW1	Communication	N/A (Default)	-	-	Off
SW2	Cycle	N/A (Default)	-	-	Off
SW3	Group Control	Selection of Master or Slave	Master	Slave	Off
SW4	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller Selection of Manual or Auto operation Mode	Auto	Off
SW5	Installation	Fan continuous operation	Continuous operation Removall	-	Off
SW6	Heater linkage	N/A	-	-	Off
SW7	Ventilator linkage	Selection of Ventilator linkage	Linkage Removal	Working	Off
	Vane selection (Console)	Selection of up/down side Vane	Up side + Down side Vane	Up side Vane Only	
	Region selection	Selection tropical region	General model	Tropical model	
SW8	Etc.	Spare	-	-	Off

⚠ CAUTION

For Multi V Models, Dip switch 1, 2, 6, 8 must be set OFF.

ENGLISH

Group Control Setting

1. Group Control 1

■ **Wired remote controller 1 + Indoor units**

■ **Dip Switch in PCB (Cassette and Duct Type indoor units)**

① **Master Setting**
- No. 3 Off

② **Slave Setting**
- No. 3 On

1. **It is possible to 16 indoor units(Max) by one wired remote controller.**
   Set only one indoor unit to Master, set the others to Slave.
2. **It is possible to connect with every type of indoor units.**
3. **It is possible to use wireless remote controller at the same time.**
4. **It is possible to connect with Dry Contact and Central controller at the same time.**
   - The Master indoor unit is possible to recognize Dry Contact and Central Controller only.
   - In case of Central controller and Group controller at the same time, it is possible to connect standard 2series indoor units or later since Feb. 2009.
   - In case of Central controller setting, the Central controller can control indoor units after setting only the address of master indoor unit.
   - Slave indoor unit will be operated like master indoor unit.
   - Slave indoor unit can not be individually controlled by Central controller.
   - Some remote controller can't perform with Dry Contact and Central controller at the same time. So contact us further information about it.

5. In case of any error occurs at indoor unit, display on the wired remote controller.
Exception of the error indoor unit, an individual indoor unit control possibility.

6. In case of Group Control, it is possible to use following functions.
- Selection of operation options (operation/stop/mode/set temperature)
- Control of flow rate (High/Middle/Low)
- It is not possible at some functions.

❊ Master/Slave setting of indoor units be set possible using a PCB Dip Switch.
❊ It is possible to connect indoor units since Feb. 2009. In the other cases, please contact LGE.
❊ It can be the cause of malfuctions when there is no setting of master and slave.

2. Group Control 2

❊ **It is possible to control N indoor units by wired remote controller M units. (M + N ≤ 17 Units)**
Set only one indoor unit to Master, set the others to Slave.
Set only one wired remote controller to Master, set the others to Slave.
Other than those, it is same with the Group Control 1.

3. Group Control 3

■ **Mixture connection with indoor units and Fresh Air Intake Unit**

❋ **In case of connecting with standard indoor unit and Fresh Intake Unit, separate Fresh Air Intake Unit with standard units.** (Because setting temperature are different.)

❋ **Other than those, it is same with Group Control 1.**

* FAU : Fresh Air Intake Unit
Standard: Standard Indoor Unit

4. 2 Remote Control

■ **Wired remote controller 2 + Indoor unit 1**

1. It is possible to connect two wired remote controllers with one indoor unit.

2. Every types of indoor unit is possible to connect two remote controller.

3. It is possible to use wireless remote controller at the same time.

4. It is possible to connect with Dry Contact and Central controller at the same time.

5. In case of any error occurs at indoor unit, display on the wired remote controller.

6. There isn't limits of indoor unit function.

❊ Maximum 2wired remote controllers can be connected with 1 indoor unit.

5. Accessories for group control setting

It is possible to set group control by using below accessories.

Indoor unit 2 EA +Wired remote controller	Indoor unit 1 EA +Wired remote controller 2EA
❊ PZCWRCG3 cable used for connection	❊ PZCWRC2 cable used for connection

LG
Life's Good