



LG PESC0RV0 CO2 Sensor Instruction Manual

[Home](#) » [LG](#) » LG PESC0RV0 CO2 Sensor Instruction Manual 

Contents

- 1 LG PESC0RV0 CO2 Sensor Instruction Manual
- 2 PROPRIETARY DATA NOTICE
- 3 Content familiarity required for proper installation.
- 4 SAFETY PRECAUTION
- 5 INSTALLATION
- 6 DANGER
 - 6.1 CAUTION
- 7 Introduction
 - 7.1 Factory-Supplied Parts
 - 7.2 Specifications
 - 7.3 INSTALLATION AND WIRING
 - 7.4 General Dos
 - 7.5 General Don'ts
 - 7.6 Wiring Procedure
 - 7.7 Operation
 - 7.8 Troubleshooting
 - 7.9 Contact your local sales representative if you have any questions about the CO2 sensor or its installation.
 - 7.10 Read More About This Manual & Download PDF:
 - 7.11 Documents / Resources
 - 7.11.1 References

LG PESC0RV0 CO2 Sensor Instruction Manual



PROPRIETARY DATA NOTICE

This document, as well as all reports, illustrations, data, information, and other materials are the property of LG Electronics U.S.A., Inc., and are disclosed by LG Electronics U.S.A., Inc. only in confidence.

Do not throw away, destroy, or lose this manual.
Please read carefully and store in a safe place for future reference.

Content familiarity required for proper installation.

The instructions included in this manual must be followed to prevent product malfunction, property damage, injury, or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage. The level of seriousness is classified by the symbols described by the summary list of safety precautions on page 3.

SAFETY PRECAUTION

The instructions below must be followed to prevent product malfunction, property damage, injury or death to the user or other people. Incorrect operation due to ignoring any instructions will cause harm or damage. The level of seriousness is classified by the symbols described below.

TABLE OF SYMBOLS

DANGER		<i>This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</i>
		<i>This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</i>
CAUTION		<i>This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</i>
		<i>This symbol indicates situations that may result in equipment or property damage accidents only.</i>
		<i>This symbol indicates an action should not be completed.</i>

INSTALLATION

All electrical work must be performed by a licensed electrician and conform to local building codes or, in the absence of local codes, with the National Electrical Code, and the instructions given in this manual. If the power source capacity is inadequate or the electric work is not performed properly, it may result in fire, electric shock, physical injury or death.

Do not touch the CO2 sensor's PCB, any exposed wiring, terminals, or other electrical components with tools or exposed skin when the power is connected. Only qualified technicians should install, remove, or re-install the sensor.

Improper installation or use may result in fire, electric shock, physical injury or death.

Do not install, remove, or re-install the unit by yourself (end user). Ask the dealer or an authorized technician to install the unit.

Improper installation by the user may result in fire, electric shock, physical injury or death.

For replacement of an installed sensor, always contact an authorized LG service provider.

There is risk of fire, electric shock, and physical injury or death.

Do not install the sensor in a highly humid environment or where it can be exposed to rain.

There is risk of physical injury or death due to electric shock.

Safely dispose of the packing materials.

Tear apart and throw away plastic packaging bags so that children may not play with them and risk suffocation and death.

Only qualified technicians should install, remove, or re-install the sensor.

Improper installation or use may result in product malfunction.

Do not install the sensor in a highly humid environment or where it can be exposed to rain.

There is risk of product malfunction.

OPERATION

DANGER

Do not provide power to or operate the sensor if it is flooded or submerged. Always have the dealer or an authorized technician to service the sensor.

There is risk of fire, electric shock, physical injury or death.

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

There is risk of fire, explosion, and physical injury or death.

Do not install the CO2 sensor (or its hard-wired and extension cables) in a location exposed to open flame or extreme heat. Do not touch the sensor with wet hands.

There is risk of fire, electric shock, physical injury or death

Do not modify or extend the power supply cord.

There is risk of fire, electric shock, physical injury or death

CAUTION

Only authorized persons should operate the product.

If the sensor is not operated properly, there is a risk of physical injury.

Do not let the sensor get wet.

There is risk of unit failure or malfunction.

Only authorized persons should operate the CO2 sensor.

There is risk of unit failure or malfunction.

Do not drop the CO2 sensor.

There is risk of unit failure or malfunction.

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Introduction

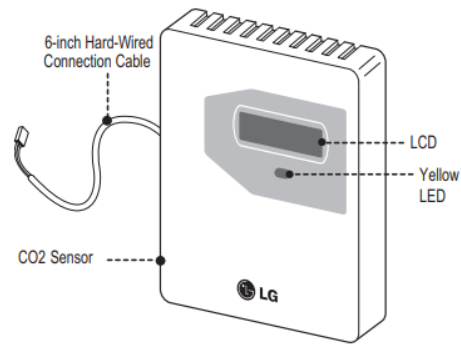
The CO2 sensor is especially designed to work in conjunction with LG Energy Recovery Ventilators (ERVs). Real-time CO2 levels are detected and displayed on the sensor's LCD. The CO2 sensor then sends the data to the LG ERV via the hard-wired connection cable coupled with the supplied 33-foot extension cable. LG ERVs, using stand-alone embedded logic, will respond to CO2 changes in the surrounding ambient air by applying demand control ventilation when its fan is set to Auto mode. Energy efficiency is increased, and indoor air quality can be improved when ventilation air is introduced to the monitored space only as necessary.

The CO2 sensor does not work with interlock or slave operation with indoor units

Factory-Supplied Parts

Figure 1: CO2 Sensor (Model No. PES-C0RV0)

Figure 1: CO2 Sensor (Model No. PES-C0RV0).


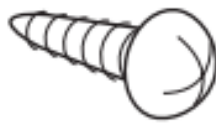
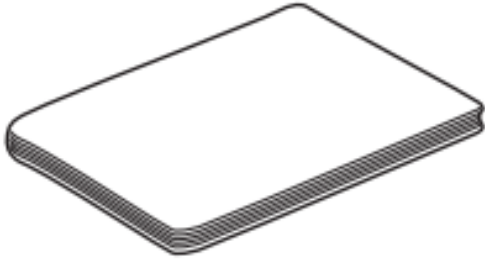


Specifications

Table 2: Specifications Table

Specifications	
For Use With	ARVU053-063ZEA2 and ARVU093-123ZFA2 LG Energy Recovery Ventilators (ERV)
Power Supply	12V DC $\pm 5\%$
Analog Output	0 to 5V DC
Measuring Range	0 to 2,000 ppm
Dimensions	4-1/16" H x 3-1/4" W x 1-1/4" D
Net Weight	4 oz. (CO2 Sensor with its 6-inch Hard-Wired Cable Only)
Shipping Weight	Approximately 1 lb.

Table 1: Factory-Supplied Parts Table

Part	Quantity	Image
33-foot Extension Cable	One (1)	
Mounting Screws	Three (3)	
Installation Manual	One (1)	

INSTALLATION AND WIRING

1. Open theTo open CO2 sensor case, insert a flat-head screwdriver in the slot (see right), and gently twist.
2. Remove the CO2 sensor Printed Circuit Board (PCB).

The installer needs to remove the PCB attached to the bottom part of the case before wall-mounting the CO2 sensor. To detach, push the support tabs out that are holding the PCB, lift the PCB up, and remove

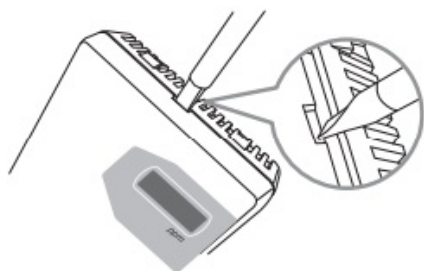


Figure 2: Removing the Cover.

o avoid damaging the CO2 sensor PCB, place it in a clean secure location while the backplate is being installed. Choose an installation location for the CO2

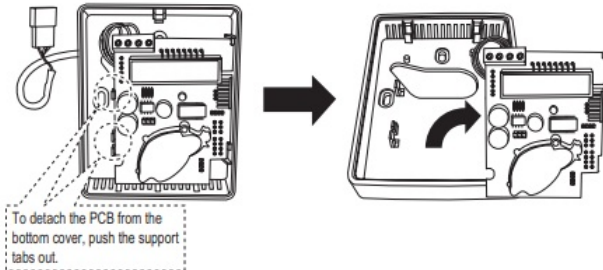
General Dos

The CO2 sensor should be installed:

- In an occupied space that has air exchange from the ERV

- Where it can accurately detect the CO2 level of the space
- Four (4) to five (5) feet above the floor where its LED display can be read easily (if CO2 sensor monitoring is required; possibly near the zone controller)
- In an area with good air circulation

Figure 3: Push the Support Tabs Out.



Where the CO2 sensor is within reach of the ERV with the one (1) factory-supplied 33-foot extension cable

General Don'ts

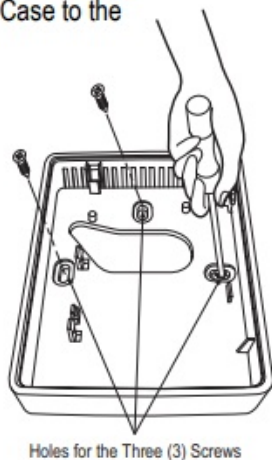
Do not install the CO2 sensor near or in:

- Drafts or dead spots behind doors and in corners
- An open window

1. Wall-mount the CO2

Using the bottom part of the case as a template, mark the area on the wall where the three (3) factory-supplied screws and the access hole for the hard-wired connection cable should go. Drill the holes, then attach the bottom of the CO2 sensor case securely to the wall.

Figure 4: Attaching the CO2 Sensor Case to the Wall.



1. Reinsert the PCB and reattach the

Figure 4: Attaching the CO2 Sensor Case to the Wall.

Wiring

The CO2 sensor PCB has a hard-wired connection cable ending in a female terminal. The factory-supplied 33-foot male extension cable connects this cable to the CN-CO2 terminal on the ERV PCB. No splicing or additional connections are required.

Figure 5: CO2 Sensor PCB.

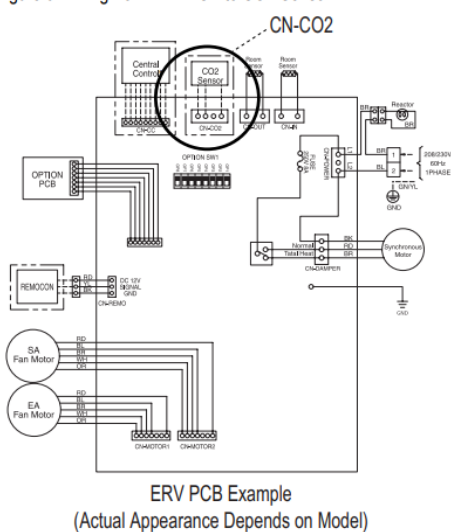


Wiring Procedure

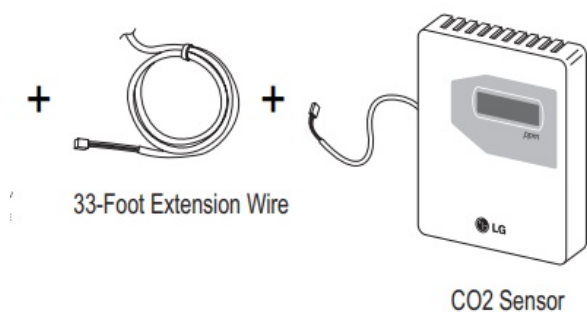
1. Power down the
2. Attach one male end of the extension cable to the female connection on the hard-wired
3. Attach the other male end of the extension cable to the CN-CO2 terminal on the ERV Main

Reattach the CO2 sensor PCB to the bottom of the case (that has already been wall-mounted). Figure 6: Wiring from ERV PCB to CO2 Sensor

Figure 6: Wiring from ERV PCB to CO2 Sensor.



ERV PCB Example (Actual Appearance Depends on Model)



Use only the hard-wired factory supplied 33-foot extension wire. Field-supplied wires and / or splicing is not / are not permitted. There is risk of unit failure or malfunction if cables other than LG supplied components are used

Operation

1. At initial power up, a wrench symbol will appear on the LCD and the yellow LED on the CO2 sensor PCB lights up for two (2) to three (3)
2. Turn ERV on at the zone controller or central Set the ERV fan mode to Auto.
3. The ambient CO2 concentration in parts per million (ppm) will then appear on the Permit the system to operate for about five [5] minutes before obtaining an accurate reading.
4. The CO2 reading will update every three (3) seconds, using data from the CO2 infrared
5. ERV fans will automatically operate according to CO2 sensor readings (see table at right).

Use only the hard-wired factory supplied 33-foot extension wire. Field-supplied wires and / or splicing is not / are not permitted. There is risk of unit failure or malfunction if cables other than LG supplied components are used.

Table 3: ERV Operation Sequence with CO2 Sensor

CO2 Sensor Reading	ERV Fan Operation
<500 ppm	Off
500-700 ppm	Low Speed
700-900 ppm	High Speed
>900 ppm	Super High Speed

Troubleshooting

- The wrench symbol displays on the LCD and the yellow LED on the CO2 sensor PCB turns on if there is an error and / or if the reading is outside the measuring range (0 to 2,000 ppm).
- Both the wrench symbol and the yellow LED will turn off when the CO2 sensor returns to normal
- If CO2 readings fluctuate ± 200 ppm, the reading may be



- If the system has been operating for more than five (5) minutes, and readings continue to be unstable, verify that the CO2 sensor's connections are properly

Contact your local sales representative if you have any questions about the CO2 sensor or its installation.






Read More About This Manual & Download PDF:

Documents / Resources

 	<p>LG PESC0RV0 CO2 Sensor [pdf] Instruction Manual PESC0RV0 CO2 Sensor, PESC0RV0, CO2 Sensor, Sensor</p>
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References

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