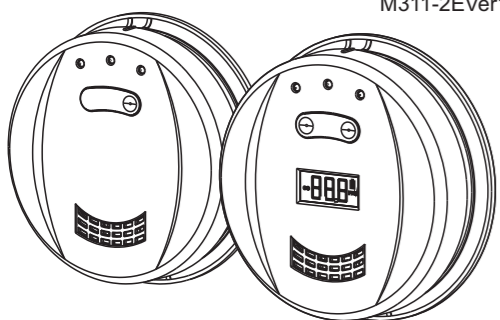


# CARBON MONOXIDE ALARM

M311-2EVer1.0



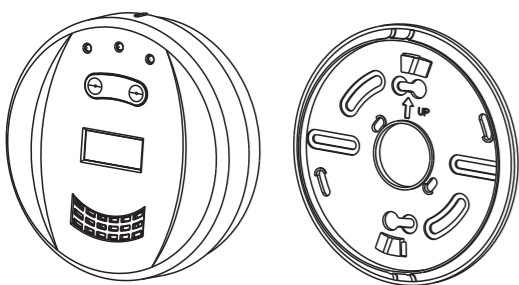
- Battery-operated CO alarm without digital display
- Battery-operated CO alarm with digital display and peak level memory

**IMPORTANT! PLEASE READ CAREFULLY AND SAVE.**  
This user's manual contains important information about your CO Alarm's operation. If you are installing this CO Alarm for use by others, you must leave this manual—or a copy of it—with the end user.

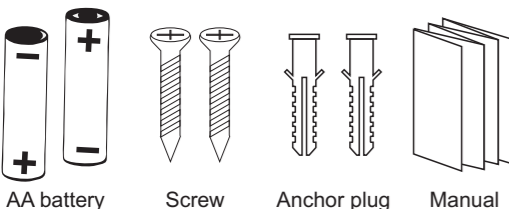


## PACKING LIST

PART NAME	QUANTITY
CO alarm	1 Piece
Mounting bracket	1 Piece
AA battery	2 Pieces
Screw	2 Pieces
Anchor plug	2 Pieces
Manual	1 Piece



CO alarm      Mounting bracket



AA battery      Screw      Anchor plug      Manual

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## 1. TECHNICAL SPECIFICATIONS AND FEATURES

### 1.1 TECHNICAL SPECIFICATIONS

Power	2-AA Batteries
Standby current	≤20μA
Alarm current	≤ 35mA
Temperature	0°C ~ 40°C
Humidity	>95% non-condensing
Audible alarm	≥85dB at 1m
Alarm output	Visual and audible indication
Warm-up period	One minute
Mounting method	Wall mounting or ceiling mounting
Execute standard	EN 50291, UL 2034, GB 15322.5

### 1.2 FEATURES

- Advanced electrochemical CO sensor technology
- Digital temperature compensation technology
- Low battery warning
- Alarm pause (Hush mode): Silence an unwanted alarm
- Display CO peak level and clear CO peak level memory
- Anti-RF Interference (20V/m-1GHz)
- LCD backlight, visible in the dark
- Battery locking feature, more secure

## 2. ALARM CONDITIONS

CARBON MONOXIDE CONCENTRATION AND RESPONSE TIME	
Concentration, ppm	Response time, minutes
30 ppm	120 minutes
50 ppm	60~90 minutes
100 ppm	10~40 minutes
300 ppm	3 minutes

## 3. IMPORTANT SAFETY INFORMATION

**WARNING!** PLEASE READ AND SAVE THESE INSTRUCTIONS.

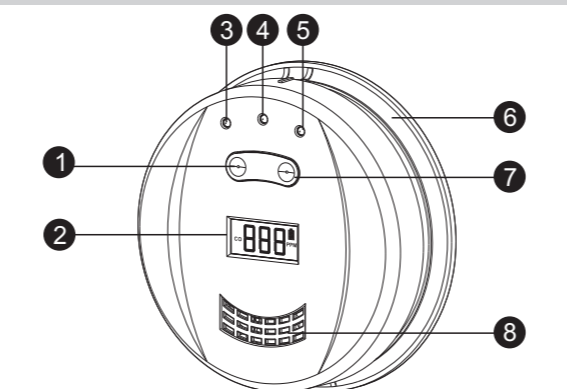
- IMPORTANT!**
- This Carbon Monoxide (CO) Alarm is a sophisticated instrument that has been carefully designed and tested to detect CO build-up in a residential environments.
  - CO cannot be seen, smelled or tasted and can be fatal. The build-up of CO in the blood is called the carboxyhemoglobin level and interferes with the body's ability to supply itself with oxygen. Depending on the concentration, carbon monoxide can kill in minutes.

- The most common sources of CO are malfunctioning, or misuse of gas appliances used for heating and cooking, vehicles engines, electric generators, blocked chimneys or flues, portable fuel burning heaters, fireplaces, fuel powered tools and operating a grill in an enclosed space.
- Indications of CO poisoning include symptoms similar to the flu, but with no fever. Other symptoms include dizziness, fatigue, weakness, headache, nausea, vomiting, sleepiness and confusion. Everyone is susceptible to the danger of CO, but unborn babies, small children, pregnant women, senior citizens and people with heart or respiratory problems may experience symptoms sooner. Each year a qualified technician should inspect and clean your heating system, vents, chimney, and flues.
- Dangers, Warnings, and Cautions alert you to important operating instructions or to potentially hazardous situations. Pay special attention to these items.
- **THIS IS NOT A SMOKE ALARM!** This CO Alarm is designed to detect carbon monoxide from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gas.
- This CO Alarm is approved for use in single-family residences. It is NOT designed for marine or RV use.

- CAUTION!**
- This CO Alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.
- WARNING!**
- The Silence Feature is for your convenience only and will not correct a CO problem. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.
  - NEVER ignore any alarm. See Section 9 WHAT TO DO IF THE ALARM SOUNDS for more information on how to respond to an alarm. Failure to respond can result in injury

- or death.
- Test this Carbon Monoxide Alarm once a week. If it ever fails to test correctly, have it replaced immediately! If the CO Alarm is not working properly, it cannot alert you to a problem.
- This product is intended for use in ordinary indoor locations of family living units. Individuals with medical conditions that may make them more sensitive to carbon monoxide may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm. For additional information on carbon monoxide and your medical condition contact your physician.

## 4. HOW YOUR CO ALARM WORKS



- 1 Peak Level Button
- 2 LCD Display
- 3 Power Light
- 4 Alarm Light
- 5 Fault Light
- 6 Mounting Bracket
- 7 Test / Hush Button
- 8 Alarm Horn

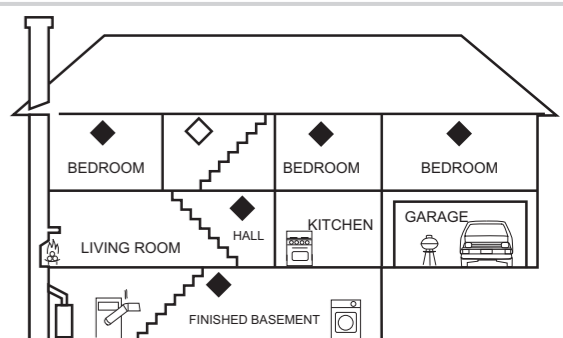
**NOTE: "DISPLAY" item only covers the model with digital display.**

CONDITION	OPERATION	LED	HORN	DISPLAY
Power up and Warm-up	Install 2 * AA battery correctly to power the alarm up. Warm-up lasts 1 minutes. LCD backlight will be on for 5 seconds. LCD will display from 0 to 9 in sequence. When completed, LEDs and backlight turn off.	The red/yellow/green LEDs flash alternatively.	One short beep	CO 888 PPM
Stand-by condition	After warm-up period, the alarm turns to standby condition.	The green LED flashes every 30 seconds.	None	None
Test condition	Press Test/Hush Button every 5 seconds to check whether the alarm horn, indicators and the display work properly. The audible alarm shall be 85 dB at 1m	Green and yellow LEDs turn on. Red LED flashes four times.	The alarm sound four beeps.	CO tES PPM
Alarm condition	The presence of carbon monoxide.	RED LED flashes every 10 seconds.	Four beeps every 10 seconds	Display Number from 30-999
Low battery	None	Yellow LED flashes every 10 seconds.	One beep every 10 seconds	CO 000 PPM
Extra-low battery	The alarm cannot work properly. Please replace batteries immediately.	Yellow LED is constantly on.	One beep every 10 seconds	CO Lb PPM
Alarm silence	Silence an unwanted alarm by momentarily pressing Test/Hush Button. It will automatically reset after 10 minutes.	RED LED flashes every 10 seconds.	None	Display Number from 30-999
Malfunction	None	Yellow LED flashes twice every 10 seconds.	Two beeps every 10 seconds	CO Err PPM
End of unit life	None	Yellow LED flashes twice every 10 seconds.	Two beeps every 10 seconds	CO End PPM
Display CO peak level	Shortly press Peak Level Button to display CO peak level. The backlight is on for 2 seconds.	None	None	Display Number from 5-999

Clear CO peak level memory	Press and hold peak level button to clear CO peak level memory. The backlight will turn on. Shortly press peak level button to confirm peak level cleared and exit the clearance interface (automatically exit the clearance interface if no operation within 3 seconds).	None	None	CO CLR PPM
Exceed CO measuring range	None	RED LED flashes every 10 seconds.	Four beeps every 10 seconds	CO HHH PPM

## 5. WHERE TO LOCATE

- 5.1 A CO Alarm should be centrally located outside of each separate sleeping area in the immediate vicinity of the bedrooms. For added protection, install additional CO Alarms in each separate bedroom, and on every level of your home.
- 5.2 If your bedroom hallway is longer than 40 feet (12 meters), install a CO Alarm at BOTH ends of the hallway.
- 5.3 In a single-level home:
  - Install at least one CO Alarm near or within each separate sleeping area.
  - For added protection, install an additional CO Alarm at least 20 feet (6 meters), away from the furnace or fuel burning heat source.
- 5.4 In a multi-level home—(same as above plus) :
  - Install at least one CO Alarm near or within each separate sleeping area.
  - For added protection, install at least one CO Alarm on each level of the home. If you have a basement, install that CO Alarm at the top of the basement stairs.



- ◇ CO alarms for limited protection
- ◆ Additional CO alarms for better coverage
- For added protection, install an additional CO Alarm at least 20 feet (6 meters) away from the furnace or fuel burning heat source.

## 6. LOCATIONS TO AVOID

**IMPORTANT:** Improper location can affect the sensitive electronic components in this alarm. To avoid causing damage to the unit, to provide optimum performance, and to prevent unnecessary nuisance alarms, **DO NOT** locate CO alarms :

- 6.1 In garages, kitchens, furnace rooms, or in any extremely dusty, dirty or greasy areas.
- 6.2 Where combustion particles are produced. Combustion particles form when something burns. Areas to avoid include poorly ventilated kitchens, garages, and furnace rooms. Keep units at least 20 feet (6 meters) from the sources of combustion particles (stove, furnace, water heater, space heater) if possible. In areas where a 20-foot (6 meter) distance is not possible — in modular, mobile, or smaller homes, for example — it is recommended the CO Alarm be placed as far from these fuel-burning sources as possible. The placement recommendations are intended to keep these Alarms at a reasonable distance from a fuel-burning source, and thus reduce “unwanted” alarms. Unwanted alarms can occur if a CO Alarm is placed directly next to a fuel-burning source. Ventilate these areas as much as possible.
- 6.3 Within 5 feet (1.5 meter) of any cooking appliance.
- 6.4 In extremely humid areas. This Alarm should be at least 10 feet (3 meter) from a bath or shower, sauna, humidifier, vaporizer, dishwasher, laundry room, utility room or other source of high humidity.
- 6.5 In areas where temperature is colder than 40° F (4° C) or hotter than 100° F (38° C). These areas include non-airconditioned crawl spaces, unfinished attics, uninsulated or poorly insulated ceilings, porches, and garages.

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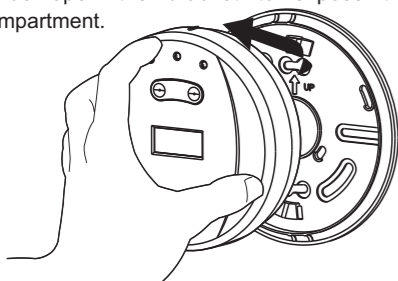
- 6.6 In turbulent air , like near ceiling fans, heat vents, air conditioners, fresh air returns, or open windows. Blowing air may prevent CO from reaching the sensors.
- 6.7 In direct sunlight.

## 7. HOW TO INSTALL

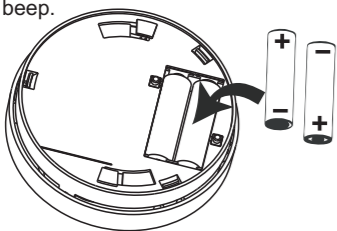
### 7.1 BATTERY INSTALLATION AND REPLACEMENT

To install or replace the batteries in this CO alarm, please perform the following steps:

- (1) Slide open the bracket to expose the battery compartment.



- (2) If replacing batteries, remove the old batteries and properly dispose of them as recommended by the battery manufacturer. If install 2 new AA batteries. Note the polarity illustration in the battery compartment. When batteries are correctly installed, the alarm horn sounds one beep.



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- (3) Screw the alarm into the bracket.

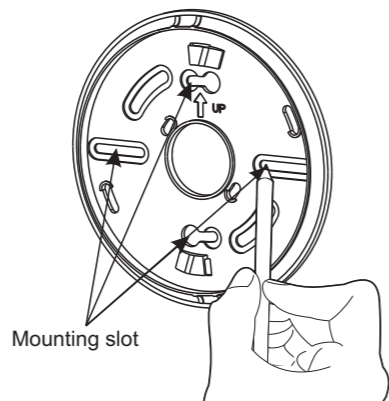
**IMPORTANT:** Constant exposures to high or low humidity may reduce battery life. A good safety measure is to replace the battery at least once a year, or at the same time as you change your clocks for daylight saving time. After installing or changing the batteries, reinstall your alarm. Test your alarm by using the test button.

### 7.2 MOUNTING

For wall mounting or ceiling mounting, follow these steps:

- (1) Draw a horizontal line 6 inches (10 cm) long on the area of walls where this CO alarm is intended to locate.
- (2) Locate the mounting bracket in your chosen position. Align the two longest mounting slots with the line. Draw a mark in the center of each slot.

**Note: The arrow marked in the bracket shall be placed upwards for wall mounting.**

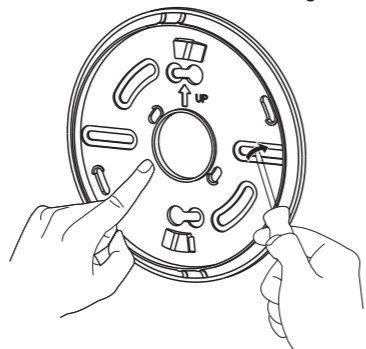


Mounting slot

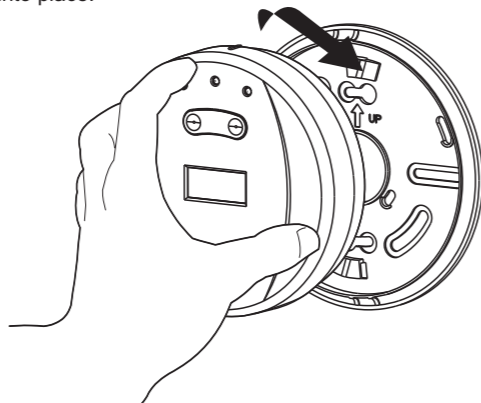
- (3) Drill the holes at the marks with a 3/16-inch (5mm) drill. **Note: Keep CO alarms away from getting plaster dust when you drill the holes.**

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- (4) Insert the anchor plugs and screw the mounting bracket to the chosen position. **DO NOT OVER-TIGHT THE SCREWS**, this will distort the mounting bracket.



- (5) Hook the CO alarm over the screws and onto the keyholes in the back mounting bracket of the alarm. After the mounting bracket is secured to the wall, Screw the alarm into the mounting bracket until it snaps into place.



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## 8. MAINTENANCE

To keep your alarm in good working order, you must follow these steps:

- 8.1 Test the alarm once a week by pressing the Test/Hush button.
- 8.2 Vacuum the alarm cover once a month to remove accumulated dust.



- 8.3 Never use detergents or solvents to clean the alarm. Chemicals can permanently damage or temporarily contaminate the sensor.
- 8.4 Avoid spraying air fresheners, hair spray, paint or other aerosols near the alarm.
- 8.5 Do not paint the unit. Paint will seal the vents and interfere with proper sensor operation.

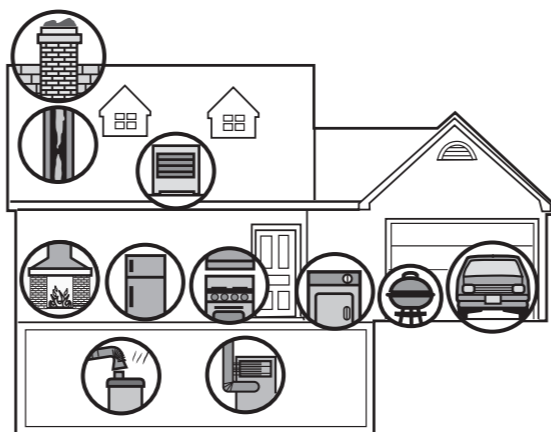
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## 9. WHAT TO DO IF THE ALARM SOUNDS

- 9.1 Call your emergency services (fire dept.).
- 9.2 Immediately move to fresh air - outdoors or by an open door/window. Do a head count to check that all persons are accounted for. Do not re-enter the premises nor move away from the open door/window until the

emergency services responders have arrived, the premises have been aired out, and your alarm remains in its normal condition.

- 9.3 After following steps 9.1-9.2, if your alarm reactivates within a 24 hour period, repeat steps 9.1-9.2 and call a qualified appliance technician to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment.
- 9.4 If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturer's instructions, or contact the manufacturer's directly, for more information about CO safety and this equipment. Make sure that motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.



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## 10. TROUBLESHOOTING

PROBLEM	SOLUTION
Press Test/Hush button, CO alarm shows no response.	Please check whether batteries are properly installed. If no problem with batteries and CO alarm still shows no response, please contact your local distributor.
Yellow LED flashes and the alarm sounds one beep every 10 seconds.	Battery is low – <b>REPLACE IT IMMEDIATELY!</b>
Yellow LED flashes twice and the alarm sounds two beeps every 10 seconds.	Sensor or unit malfunction. Please contact your local distributor.
Press Peak Level button, CO peak level cannot be displayed or CO peak level memory cannot be cleared.	Please contact your local distributor.

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## 11. LIMITATIONS OF CO ALARMS

- 11.1 CO alarms may not waken all individuals. If children or others do not readily waken to the sound of the CO alarm, or if there are infants or family members with mobility limitations, make sure that someone is assigned to assist them in the event of an emergency.
- 11.2 This CO Alarm will not sense carbon monoxide that does not reach the sensor. This CO Alarm will only sense CO at the sensor. CO may be present in other areas. Doors or other obstructions may affect the rate at which CO reaches

the CO Alarm. For this reason, if bedroom doors are usually closed at night, we recommend you install a CO Alarm in each bedroom and in the hallway between them.

- 11.3 CO Alarms may not sense CO on another level of the home. For example, a CO Alarm on the second level, near the bedrooms, may not sense CO in the basement. For this reason, one CO Alarm may not give adequate warning. Complete coverage is recommended. Place CO Alarms on each level of the home.
- 11.4 CO Alarms may not be heard.

The Alarm horn loudness meets or exceeds current UL standards of 85 dB at 3.28 feet (1 meters). However, if the CO Alarm is installed outside the bedroom, it may not wake up a sound sleeper or one who has recently used drugs or has been drinking alcoholic beverages. This is especially true if the door is closed or only partly open. Even persons who are awake may not hear the alarm horn if the sound is blocked by distance or closed doors. Noise from traffic, stereo, radio, television, air conditioner, or other appliances may also prevent alert persons from hearing the alarm horn. This CO Alarm is not intended for people who are hearing impaired.

- 11.5 CO Alarms are not a substitute for a smoke alarm. Although fire is a source of carbon monoxide, this CO Alarm does not sense smoke or fire. This CO Alarm senses CO that may be escaping unnoticed from malfunctioning furnaces, appliances, or other sources. Early warning of fire requires the installation of smoke alarms.
- 11.6 CO Alarms are not a substitute for life insurance. Though these CO Alarms warn against increasing CO levels, we does not warrant or imply in any way that they will protect lives from CO poisoning. Homeowners and renters must still insure their lives.

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- 11.7 CO Alarms have a limited life.

Although the CO Alarm and all of its parts have passed many stringent tests and are designed to be as reliable as possible, any of these parts could fail at any time. Therefore, you must test your CO Alarm weekly.

- 11.8 CO Alarms are not foolproof.

Like all other electronic devices, CO Alarms have limitations. They can only detect CO that reaches their sensors. They may not give early warning to rising CO levels if the CO is coming from a remote part of the home, away from the CO Alarm.

## 12. LIMITED WARRANTY

We warrants to the original consumer purchaser each new CO alarm to be free from defects in material and workmanship under normal use and service for a period of five years from the date of purchase. This warranty does not cover damage resulting from accident, misuse or abuse or lack of reasonable care of the product. This warranty is in lieu of all other express warranties, obligations or liabilities.

**THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF FIVE YEARS FOR THE CO ALARM FROM PURCHASE DATE.**

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

**IN NO CASE SHALL WE BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WHATSOEVER, EVEN IF THE**

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**LOSS OR DAMAGE IS CAUSED BY ITS NEGLIGENCE OR FAULT.**

This warranty gives you specific legal rights, and you may also have other legal rights which vary from country to country. If service is required, please contact local authorized distributors.

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