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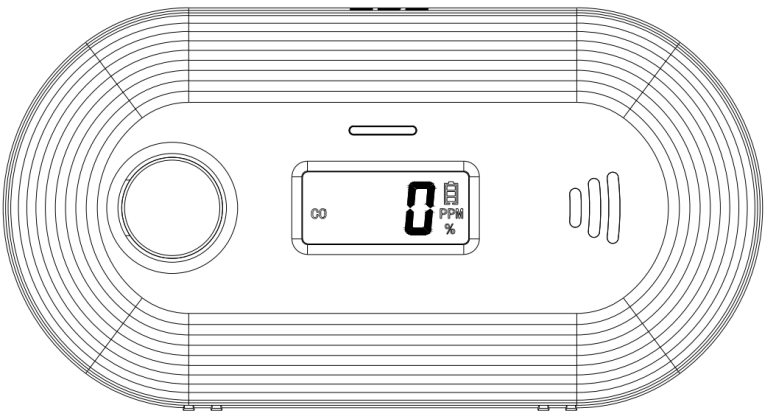
User Manual

Low Level Carbon Monoxide Alarm

7-Year Life

Model: FD-V001

Version: v1.0



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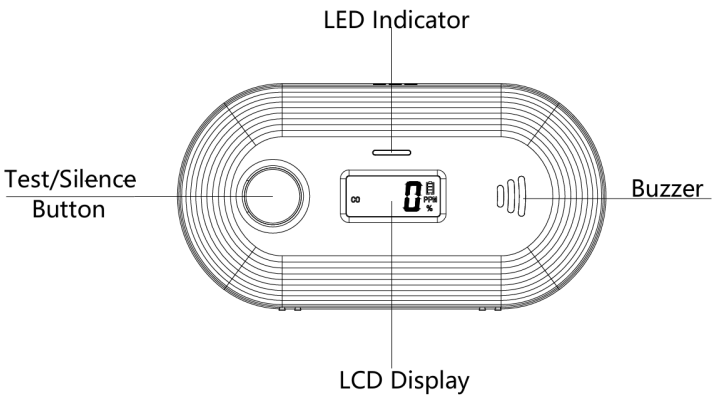
Introduction

The FORENSICS LOW LEVEL & FAST CO ALARM is designed to provide added protection for older adults, elderly, pregnant women, young children, and persons with medical conditions who may be more vulnerable to the adverse health effects of exposure to low CO levels. This unit is also perfect for small enclosed spaces where CO can rapidly accumulate such as a vehicle, RV, camper bus or small portable enclosures. This CO detector triggers an audible alarm when CO detected >25ppm (60 seconds) or >50ppm (instantly). These low-level alarm thresholds align more closely with official agency CO exposure limits compared to UL2034 standard detectors, which typically alarm at 70ppm after 60-240 minutes. This faster, more sensitive detection provides an extra layer of safety for at-risk individuals and in potentially hazardous environments.

Agency	CO Gas Exposure Limits
WHO	9ppm average over 8hours
EPA	9ppm average over 8 hours
ASHRAE	9ppm average over 8 hours
NIOSH	35ppm average over 10 hours
OSHA	50ppm average over 8 hours
ACGIH	25ppm average over 8 hours



Beware

- **DOES NOT COMPLY WITH UL2034.**
- **CO IS A TOXIC GAS and CAN KILL YOU.**
- **DO NOT BLOCK THE GRILLED VENTS / SLOTS.**
- **THIS IS NOT A SMOKE OR FIRE DETECTOR.**
- **DO NOT PAINT ON OR NEAR THE MONITOR.**
- **UNIT DESIGNED ONLY FOR INDOOR USE.**
- **DO NOT TEST THE UNIT WITH EXHAUST GAS.**
- **DISPOSE UNIT 7 YEARS after Production Date.**
- **DEPRESS THE TEST BUTTON WEEKLY.**

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Specifications

Power Source:	DC 3V, Sealed Lithium Battery (7-year life)
Sensor Type:	Electrochemical CO sensor (7-year life)
Target Gas:	Carbon Monoxide
Alarm Thresholds:	25 ppm (after 60 secs) or >50ppm (instant)
CO Display Range:	0-9ppm …displays “0” 10-999ppm …displays CO ppm level
Accuracy:	+/- 30% of reading
Operation Temp:	20 to 122F
Ambient Humidity:	10 to 90 %RH
Product Weight:	7oz (200g)
Product Life:	7 years
Product Size:	5.51 x 2.60 x 1.38 inches (140 x 66 x 35mm)
Alarm Volume:	>85 dB(A) at 3 meters
Mute Silence Time:	6 minutes (after pressing Silence Button)
Wi-Fi Wireless Frequency:	2.4GHz
Wireless Protocol:	IEEE 802.11b/g/n
Phone App:	TuyaSmart/Smart Life APP (Android and iOS)

Packing List

1 × Low Level CO Detector
2 × Screws
2 × Anchor Plugs
1 × User Manual

Carbon Monoxide Gas

Carbon monoxide (CO) is a colorless, odorless, and tasteless poison gas that can be fatal when inhaled. CO gas inhibits the blood's capacity to carry oxygen. Inside your home, appliances used for heating and cooking are the most likely sources of CO. CO can be produced when burning any fossil fuel: gasoline, propane, natural gas, oil and wood. CO can be produced by any fuel-burning appliance that is malfunctioning, improperly installed, or not ventilated correctly. Possible CO sources include furnaces, gas ranges/stoves, gas clothes dryers, water heaters, portable fuel burning space heaters, fireplaces, wood-burning stoves and swimming pool heaters. Blocked chimneys or flues, back drafting and changes in air pressure, corroded or disconnected vent pipes, or a loose or cracked furnace exchanger can also release CO into your home or space. Vehicles and other combustion engines running in an attached garage or using a charcoal/ gas grill or hibachi in an enclosed area are also dangerous sources of CO gas.

Symptoms of Carbon Monoxide

Initial carbon monoxide poisoning symptoms include dizziness, severe headaches, nausea, vomiting and disorientation. Everyone is susceptible but experts agree that unborn babies, pregnant women, senior citizens and people with heart or respiratory problems are especially vulnerable. If symptoms of carbon monoxide poisoning are experienced seek medical attention immediately. CO poisoning can be determined by a carboxyhemoglobin blood test. The following symptoms are related to CARBON MONOXIDE POISONING and should be discussed with ALL members of the household:

- **Mild Exposure:** Slight headache, nausea, vomiting, fatigue (often described as “Flu-like” symptoms).
- **Medium Exposure:** Severe throbbing headache, drowsiness, confusion, fast heart rate.
- **Extreme Exposure:** Unconsciousness, convulsions, cardio respiratory failure and death.

Exposure to high levels of carbon monoxide can be fatal or cause permanent damage and disabilities. Many cases of reported carbon monoxide poisoning indicate that while victims are aware they are not feeling well, they become so disoriented they are unable to save themselves by either exiting the building/home, or calling for assistance. Also, young children and household pets may be the most sensitive.

Recommended Installation Locations

CO alarms should be mounted in or near bedrooms and living areas. At best, having one CO detector per bedroom and in main living areas is best. At the minimum, it is recommended to install a CO alarm on each level of your home. When choosing your installation locations, make sure you can hear the alarm from all sleeping areas. If you install only one CO alarm in your home, install it within or near bedrooms, as most poisoning occur during sleeping hours. When wall mounting, keep it out of the reach of children, pets or accidental bumps. Under no circumstances should children be allowed to handle the CO alarm. **Placing the alarm at eye level is recommended as it allows for optimum daily monitoring of the digital display.**

Installation Locations to Avoid

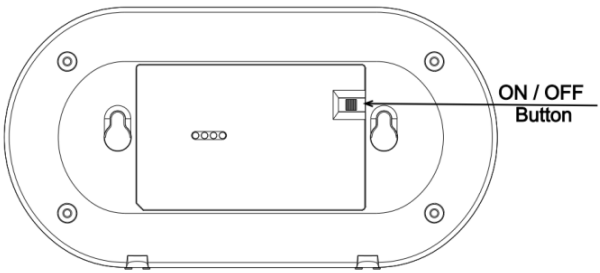
- Avoid installation in areas where the temperature is colder than 40°F (4.4°C) or hotter than 100°F (37.8°C) such as crawl spaces, attics, porches and garages.
- Do not install within 5 ft. of heating or cooking appliances.
- Do not install near vents, flues, chimneys or any forced/unforced air ventilation openings.

- Do not install near ceiling fans, doors, windows or areas directly exposed external air, water or rain reaches the alarm.
- Do not install in dead air spaces, such as peaks of vaulted ceilings or gabled roofs.
- Do not install on a switched or dimmer-controlled outlet.
- Do not install this unit near deep-cell large batteries. Large batteries have hydrogen gas emissions that can cause the alarm to perform at less than optimum performance and false alarm.
- Do not obstruct the vents located on the alarm. Do not place the alarm where drapes, furniture or other objects block the flow of air.
- Avoid installing in high humidity areas such as bathrooms.

Installation Instructions

The CO detector comes with a sealed battery. The sealed battery is built-in to the unit and so there is no need to install any batteries.

1. Turn ON the detector by switching it to the ON position from the backside switch. Establish a mount location.



2. Having established the mounting location, ensure that there is no electrical wiring or pipe work in the area adjacent to the mounting surface.

3. Draw two screw holes according to the size and layout of the mounting holes on the back of the product. Drill the screw holes 30 mm (1.18 inches) deep using a 6.0 mm (1/4-inch) drill bit. **The distance between the center of the two holes is 74 mm (2.9 inches).**

4. Insert the anchor plug into the screw hole and hammer it in until the head of the anchor plug is flush with the wall.

5. Use the two provided screws or 3.5 x 25 mm countersunk screws to screw into the two anchor plugs. NOTE: The distance between the top of the screw and the wall should not exceed 3.0mm. Otherwise, when encountering external forces, the device has the risk of falling.

6. Mount and lock the device onto the wall by aligning the two mounting slots on the back of the device with the screws on the wall.

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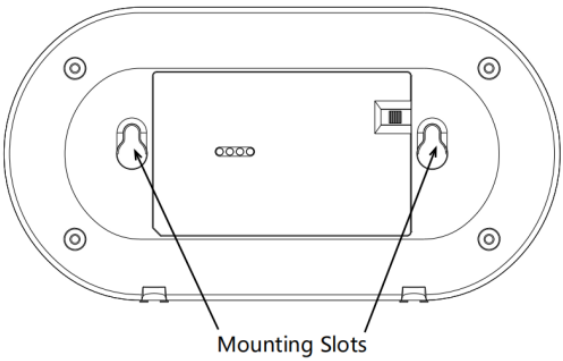


7. Test the device by pushing the test button to make sure that the device is functioning properly.

Alarm Testing

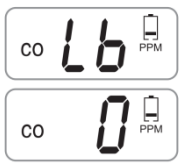
Test the unit to ensure proper operation by pressing the Test button, the alarm will sound and enter into TEST MODE.

Mute Mode

Press the test button during ALARM MODE to have the unit enter MUTE MODE. If the CO density still exceeds the alarm threshold after 6 minutes, the unit will re-enter the ALARM MODE. If the CO concentration is above 180 ppm, the silence function cannot be enabled which has been designed for your safety.

Operating and Status

Mode	LCD Display	LED Indicator	Audible Alarm	Remarks
Normal Mode	CO 0 PPM	Flashes green once every 1min	None	Normal Operation
Alarm Mode	CO 124 PPM	Flashes red 4 times every 5 seconds	4 beeps repeating every 5 seconds	Dangerous CO concentration is detected.

Test Mode		2 sets of 4 red flashes	2 sets of 4 beeps	Press the Test/Silence button.
Mute Mode		Flashes red 4 times every 5 seconds	None	After 6 minutes, the unit will exit mute mode and continue to alarm.
Low Battery	 Alternates between "Lb" and CO level	Flashes yellow once every 1 minute	One beep every 1 minute	Replace the unit immediately.
Fault ERROR		Flashes yellow 2 times every 45 secs	2 beeps every 45 seconds	The unit has malfunctioned. Replace immediately.
End of Life		Flashes yellow 3 times every 1 minute	3 beeps every 1 minute	Replace the unit immediately.

WiFi Connection Set-Up

This unit can notify your cell phone when there is an alarm. To do this, the unit must be connected to your local WiFi. To start, make sure to:

1. Download the TuyaSmart/Smart Life app and connect the alarm to your Wi-Fi via the app. Search for TuyaSmart/Smart Life in the App Store or Google Play, or simply scan the included QR code to install the TuyaSmart/Smart Life app. You will also need to register an account.
2. Know your Wi-Fi network name and password.
3. Make sure you are connecting alarms to a 2.4GHz Wi-Fi network. **(incompatible with 5GHz Wi-Fi network).**

4. Make sure the Bluetooth on your phone is turned ON.

TuyaSmart App

Smart Life App

How to Wi-Fi Connect?

1. Activate the CO detector.
2. Press the Test/Silence button four times until the green light is blinking.
3. Open the TuyaSmart/Smart Life app, tap the “+” icon in the top right corner of the “Home” page, or directly tap “Add Device” to add the device.
4. When found the the device will show “**FORENSICS CO Detector**”. Select it.
5. Then confirm and enter your Wi-Fi Information.
6. Once you have successfully connected your device to the app, you can continue to the “Settings” section to set up push notifications.
7. To test a push notification, we recommend pressing the test button to enter the TEST MODE. This will send a push notification to ensure your alarm notifications are working. This will send a “test” Battery Power Notification to your phone for test purposes.

Not connecting?

1. Unsuccessful connection may be because your router, mobile phone, and alarm are not as close to each other as possible, you have incorrectly entered your Wi-Fi password, or the Bluetooth on your phone is not enabled.
2. If your home Wi-Fi router is a 2.4 and 5 GHz dual-band that works with a single SSID name, please refer to your Wi-Fi router manual to create separate SSIDs for the 2.4 and 5 GHz channels. Must use the 2.4GHz SSID.

Need more help?
Go to www.forensicsdetectors.com.
Go to the “Software” menu and select FD-V001 submenu.
There will be a video showing you how to set up and connect the FD-V0001 to your phone.

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Low Level CO Alarm Threshold Protocol

When the unit detects levels of CO at and above 25ppm it will emit an alarm signal along with flash the red LED (ALARM MODE). When the CO concentration drops below 25ppm the alarm will stop. The unit will send a push notification via Wi-Fi to your phone if Wi-Fi notifications have been setup.

CO Level	Active Alarm (ALARM MODE)
0 to 24ppm	no alarm
> 25ppm	after 60 seconds
> 50ppm	immediate alarm ON

Maintenance

- Test the alarm weekly by pressing the TEST button.
- Check grilled vent slots to ensure no blockage.
- Clean your CO alarm regularly to prevent dust build up.
- This can be done using a vacuum cleaner with the brush attachment once per month. Clean gently around the front grilled vent slots.
- Never use cleaning solutions on your alarm.
- Do not paint the alarm.
- Do not tamper with any of component as this may lead to a product fault and cause Risk of death.
- Do not place the detector in the bathroom, it will trigger a false alarm when high humidity occurs due to operation of the shower.
- DO NOT USE EXHAUST GAS FROM A VEHICLE TO TEST THE UNIT, IT WILL DAMAGE THE SENSOR AS EXHAUST GAS HAS HIGH CONCENTRATIONS OF ACIDIC GAS.

What to Do When the CO Alarm Sounds

If a CO alarm occurs, take the following action:

- Immediately move to fresh air outdoor. Evacuate.
- Call 911.
- ONLY If possible, SAFELY turn off fuel burning appliance from the appliance itself or a shutoff valve.

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- Do not re-enter the premises nor move away from the open door or window until emergency services responders have arrived, the premises have been aired out, and your alarm remains in its normal condition.
- Seek medical help immediately for anyone suffering from the symptoms of headache, drowsiness, nausea, etc.
- Do not use the appliances again until they have been checked by a qualified technician and the CO source has been identified and rectified.

Trouble Shooting

PROBLEM	SOLUTION
Your alarm does not sound during testing	Check whether the ON/OFF button to the ON position, and make sure you push the test button firmly
False alarms triggered intermittently	Check the location of your alarm. Make sure there is no high humidity which can trigger a false alarm. Make sure there is no hydrogen production nearby, which can also trigger the CO sensor.
Yellow LED flashes and the alarm sounds one beep every 60 seconds.	The battery is low. Replace the device immediately
Yellow LED flashes and the alarm sounds 2 beeps every 45 seconds	The alarm is malfunctioning. Turn it OFF for 10 minutes. Turn it back on. If this repeats, replace the device immediately.
Device failed to connect to the network.	Make sure the Bluetooth on your phone is turned on when you connect the Phone to the target Wi-Fi network. Make sure Wi-Fi is operating at 2.4GHz. Make sure you are in Bluetooth range.

Are Low Level CO Detectors Compliant with UL2034?

Many customers are surprised (and some even get mad) that this Low level CO detector (FD-V001) is **not** UL2034 compliant.

Our low-level CO detector is designed to alarm at 25ppm, which is lower than the UL2034 standard's first alarm level of 70ppm. While this increased sensitivity provides earlier warnings, it also means the detector does not strictly comply with UL2034 requirements. Despite seeming counterintuitive, this lower alarm threshold, though offering faster detection, prevents the device from meeting the specific UL2034 certification criteria. This design choice prioritizes earlier detection of CO presence over strict adherence to the UL2034 standard.

We recommend using both our low-level CO detector and a UL2034 compliant device. This dual approach provides earlier warnings while ensuring compliance with local, county or state law. Using only our low-level detector may not meet regulatory requirements for homeowners, tenants, or landlords. For more detailed information on this topic, please visit the BLOG section on our website at www.forensicsdetectors.com.

Warranty

This product is covered by a one-year limited warranty.

THIS PRODUCT CANNOT BE REPAIRED IF THE UNIT IS TAMPERED WITH IT WILL INVALIDATE THE GUARANTEE.

Customer Service

Website: www.forensicsdetectors.com
Email: sarah@forensicsdetectors.com

Product Designed in California, USA
Product Made in China