

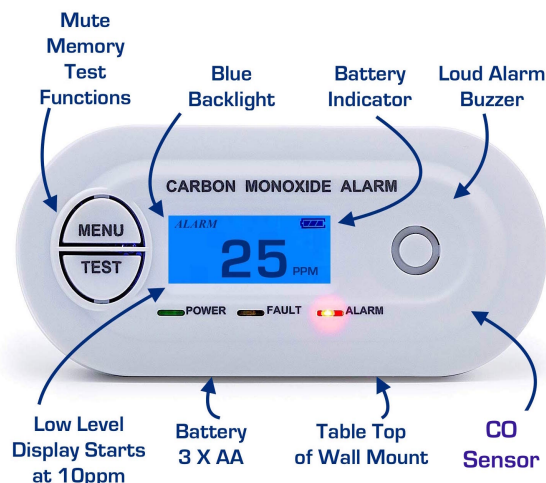
LOW LEVEL & FAST CARBON MONOXIDE ALARM, MODEL: FD-D001

FORENSICS DETECTORS™

FORENSICS
DETECTORS

FAST & LOW LEVEL CARBON MONOXIDE ALARM

Model: FD-D001
MANUAL VERSION 4.0



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 CO detector triggers an audible alarm when CO detected > 25ppm. Such low-level CO alarming is closer to Agency (see below table) CO gas exposure limits that those within UL2034 (70ppm from 60-240minutes).

Agency	CO Gas Exposure Limits
WHO	9ppm average over 8 hours
EPA	9ppm average over 8 hours
ASHRAE	9ppm average over 8 hours
NIOSH	35ppm average over 10 hours 200ppm ceiling value
OSHA	50ppm average over 8 hours
ACGIH	25ppm average over 8 hours

** WARNING **

- DOES NOT COMPLY WITH UL2034.
- ENSURE YOU ALSO HAVE A UL2034 compliant CO DETECTOR.
- CO IS A TOXIC GAS AND CAN KILL YOU.
- DO NOT TAMPER and DO NOT OPEN THE UNIT.
- NOT TO BE USED IN CORROSIVE GAS AREAS.
- DO NOT BLOCK THE GRILLED VENTS / SLOTS.
- THE UNIT CANNOT sustain EXCESSIVE SHOCK.
- THIS IS NOT A SMOKE OR FIRE DETECTOR.
- DO NOT PAINT ON OR NEAR THE MONITOR

- DO NOT SPRAY AIR REFRESHENER, CLEANING SUPPLIES, OR INSECT KILLER NEAR THE UNIT.
- UNIT DESIGNED ONLY FOR INDOOR USE,
- DO NOT TEST THE UNIT WITH EXHAUST GAS
- DISPOSE UNIT 5 YEARS after Production Date.
- DEPRESS THE TEST BUTTON WEEKLY
- **Take each ALARM seriously!**

1. FEATURES

1. Low-level display, display >10ppm.
2. Fast alarming when CO > 25ppm.
3. 5-year sensor life.
4. Low battery warning.
5. Product stable on table, no need to mount.
6. End of life warning.
7. 1-year limited warranty.

2. SPECIFICATIONS

Power Source: 3 x AA 1.5V battery
Sensor Type: Electrochemical, 5 year life
Target Gas: Carbon Monoxide
Alarm activation: 25 ppm
CO Display Range: 0-9ppm ...displays "0"
10-999ppm ...displays level
Accuracy: +/- 30% of reading
Operation Temp: 40 to 100F
Ambient Humidity: 5% to 90%
Buzzer Level: 85dB @ 1m
Product Weight: 200g
Product Life: 5 years of Label Date
Product Size: 140x66x35mm

3. CARBON MONOXIDE GAS

Carbon monoxide (CO) is a colorless, odorless, and tasteless poison gas that can be fatal when inhaled. CO 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 sources of CO.

4. SYMPTOMS OF CO POISONING

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.

The levels of exposure relate to healthy adults. Levels differ for those at higher risk. 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. Familiarization with the effects of each level is important. Please be attentive and it is your responsibility.

5. RECOMMENDED LOCATIONS

CO alarms should be mounted in or near bedrooms and living areas. It is recommended that you install the CO alarm (at minimum) 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 near bedrooms, not in the basement or furnace room. 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.**

6. LOCATIONS TO AVOID

- Do not install 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 to the weather so external air, water or rain reaches the alarm.
- Do not install in dead air spaces, such as peaks of vaulted ceilings or gabled roofs, where CO may not reach the sensor in time to provide early warning.
- Do not install on a switched or dimmer-controlled outlet.
- Do not install this unit near deep-cell large batteries. Large batteries have gas emissions that can cause the alarm to perform at less than optimum performance.
- 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 to the vents.

7. INSTALLATION

The detector comes with batteries included in the battery compartment. Open the compartment by sliding the battery cover. Remove the plastic covering the batteries. The Detector then turns ON. Establish a mount location considering the prior locations to avoid.

Having established the mounting location, ensure that there is no electrical wiring or pipe work in the area adjacent to the mounting surface. The detector comes with (a) mount plate (b) 2 x screw and (c) 2 x plastic drywall expansion anchors.

- Remove the mount plate from the detector by sliding it off. Mark the two mount hole locations on a wall using the backplate holes as a guide.
- Drill holes in the positions marked using a 5mm drill bit.
- Insert the plastic drywall expansion anchors.
- Install the mount plate, align the holes and screw the screws into the anchors.
- Slide the detector onto the mount plate.
- The detector is ready for continuous operation.

For tabletop placement, simply place the CO alarm on the table, so that the users can see the alarm clearly.

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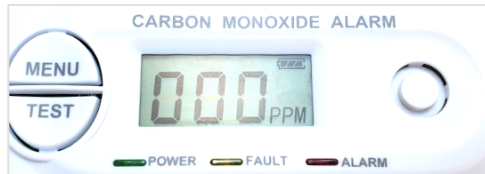
8. OPERATION

8.1 Installation of Batteries

3 x AA 1.5V batteries power this alarm. Open the battery compartment on the rear of the detector and install the batteries. Once immediately ON, a quick beep will sound to indicate ON.

8.2 NORMAL Operation

When no CO is present, the green "POWER" LED flashes once EVERY 45 SECONDS, LCD displays "0 PPM" is shown to indicate normal operation.



8.3 TESTING your CO alarm

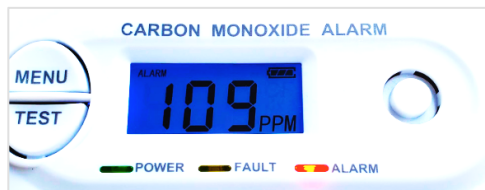
Press the TEST button once. The blue backlight will be on, dashes on the display will show and FIVE beeps with a RED LED ALARM will flash. If Test FAILURE occurs, then you will see "ERR" displayed, if so - do not use the CO detector and discard it. **TEST YOUR DETECTOR WEEKLY.**



8.4 CO ALARM SEQUENCES

When the unit detects levels of CO above 25ppm it will emit an alarm signal along with flashing of red LED (see below). When the CO concentration drops below 25ppm the alarm will stop.

CO Level	Alarm
0 to 24ppm	No Alarm
> 25ppm	Immediate, 5 beeps every 10 seconds with RED LED flash



8.5 MUTE Function

After an alarm event, one can mute and cancel the alarm by pressing the "TEST" button. When enabled, the alarm mute symbol on the display will be shown to remind you that the MUTE mode is ON. Press the "TEST" button again to re-enable the alarm. Please do NOT ignore any alarms and only MUTE considering all warnings.

8.6 Memory Function

After an alarm event, the CO alarm stores in memory the alarm event - CO concentration level. The detector has memory slots CO, C1...C9. By pressing the MENU Button, the memory location will be shown and then press TEST button to see the numerical ppm value that was recorded. Press MENU again to go to the next memory slot. Keep pressing MENU and eventually you will reach to "dEL", which means delete the memory if you wish. Please note the most recent memory slot is CO. As alarm events occur they will be pushed up the array, so the memory slot CO will always store the most recent alarm value. This is a useful function. For example, after leaving the home, one can check the memory to see if a alarm was triggered when absent from the home.

8.7 LOW BATTERY Signal

The unit has a battery indicator. When at the lowest point, you will hear a single "beep" every 45 seconds and the POWER LED will blink. This is the low battery alarm and indicates to immediately change the batteries. Always replace with 3 x AA Alkaline batteries.

8.8 FAULT Signal

The unit may experience failure. If it does, it will indicate this by blinking the FAULT LED, twice with simultaneous "beeps" which repeat every 22 seconds - in addition "Err" will be displayed. Please replace the unit.

8.9 End of Alarm Life Warning

When product is at the end of life, the LCD screen displays "End". Immediately replace the detector. Also, if the PRODUCTION DATE plus 10 years has been exceeded, please also replace the detector even if the END OF ALARM LIFE has not been triggered. As the detector ages, it reduces in sensitivity.

9. ALARM ACTION PLAN

If a CO alarm occurs, take the following action:

- Immediately move to fresh air outdoor or open all doors or windows to ventilate the area and allow the carbon monoxide to disperse.
- Where possible, SAFELY turn off fuel burning appliance. Evacuate.
- 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 fault located and cleared.

10. MAINTENANCE OF UNIT

- 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 USE EXHAUST GAS FROM A VEHICLE TO TEST THE UNIT, IT WILL DAMAGE THE SENSOR AS EXHAUST GAS HAS HIGH CONCENTRATIONS OF ACIDIC GAS.

WARRANTY DISCLAIMERS:

This product is covered by a one year limited warranty. This warranty does not cover damage resulting from accident, misuse, disassembly, abuse or lack of reasonable care of the product, or applications not in accordance with the user manual. It does not cover events and conditions outside of our control, such as Acts of God (fire, severe weather etc). It does not apply to retail stores, service centers or any distributors or agents. We will not recognize any changes to this warranty by third parties. We shall not be liable for any incidental or consequential damages caused by the breach of any express or implied warranty. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose is limited in duration for 1 year.

THIS PRODUCT CANNOT BE REPAIRED IF THE UNIT IS TAMPERED WITH IT WILL INVALIDATE THE GUARANTEE. IF THE UNIT IS FAULTY PLEASE RETURN IT TO YOUR ORIGINAL SUPPLIER WITH YOUR PROOF OF PURCHASE.

Support & Questions

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Email: sarah@forensicsdetectors.com



Product Designed in California, USA
Product Made in China