

**UNIVERSAL<sup>®</sup>**

**MODEL CD-9000  
CARBON MONOXIDE ALARM**

## **OWNER'S MANUAL**

**E**

**PLEASE READ AND SAVE!**

### ***WHAT YOU SHOULD KNOW ABOUT CO***

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless, tasteless gas. It is a cumulative poison. Even low levels of CO have been shown to cause brain and other vital organ damage in unborn infants with no effect on the mother.

The following symptoms are related to CARBON MONOXIDE POISONING:

#### ***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, cardiorespiratory failure, death.

Many cases of reported CARBON MONOXIDE POISONING indicate that victims are aware they are not well, but they become so disoriented that they are unable to save themselves by either exiting the building or calling for assistance. Young children and household pets may be the first affected.

Your CO alarm is designed to detect the toxic CO fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust.

A CO alarm is NOT A SUBSTITUTE for other combustible gas, fire or smoke alarms. This carbon monoxide alarm is designed to detect carbon monoxide gas from ANY source of combustion.

**CAUTION:** This alarm will only indicate the presence of carbon monoxide gas surrounding its sensor. Carbon monoxide gas may be present in other areas.

**WARNING:** This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices which provide audible and visual warnings for carbon monoxide concentrations under 30 PPM.

### ***WHAT YOU SHOULD DO IF THE ALARM SOUNDS***

Never disconnect a CO alarm to silence an alarm. The alarm will automatically sense when the level of CO in the air falls below the danger level. You should stay outside the residence in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to the alarm. The sound produced by the alarm is loud because it is designed to awaken a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

### ***IMPORTANT CONSIDERATIONS***

**YOUR CARBON MONOXIDE ALARM HAS BEEN DESIGNED WITH AN END-OF-SERVICE LIFE OF APPROXIMATELY 6 YEARS OF OPERATION FROM INITIAL POWER UP.**

**NOTE: MANUFACTURER RECOMMENDS REPLACEMENT OF ALARM SIX YEARS AFTER DATE OF INSTALLATION.**

# WARNING

Activation of this device indicates the presence of carbon monoxide (CO) which can kill you. If alarm sounds:

1. Operate reset/silence button;
2. Call your emergency services, fire department or 911;
3. 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 reenter 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.
4. After following steps 1-3, if your alarm reactivates within a 24 hour period, repeat steps 1-3 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. If problems are identified during this inspection, have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' 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.

## INSTALLING THE ALARM FOR RESIDENTIAL USE

### LOCATION

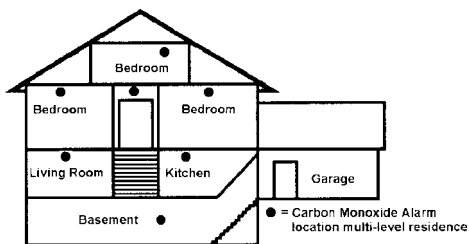
One of the most important considerations in any CO alarm system is the location of the alarms. Statistics of the National Fire Protection Association (NFPA) show that most of the fatal CO occurrences happen at night while people are sleeping.

Early warning of CO is best achieved by the installation of CO alarms on all floors and areas of the household including attached garages. Placement of a alarm in a garage may cause an alarm due to CO from automotive exhaust.

### RECOMMENDATIONS

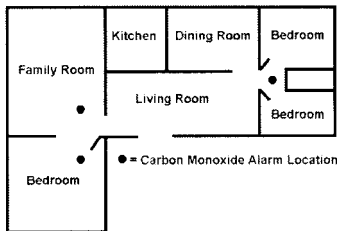
- Put a CO alarm inside each bedroom where the occupant closes the door while sleeping. Particulate smoke can be blocked by a closed door, but CO fumes are likely to get through.

FIGURE 1



Recommended CO Alarm Protection for a Multi-Level Residence

FIGURE 2



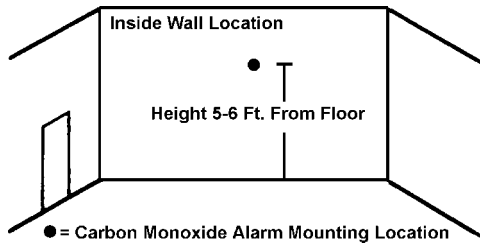
Recommended CO Alarm Protection for a Single Floor Residence

## MOUNTING LOCATION:

This CO alarm can be mounted on the wall or ceiling.

**WALL LOCATION:** Locate the top of the alarm not more than 6 feet from the floor.

**CEILING LOCATION:** Alarm should be mounted as close as possible to the center of a hallway or room. If this is not possible, the edge of the alarm should be at least 4 inches from any wall.



**FIGURE 3**

## LOCATIONS TO AVOID:

Nuisance alarms are caused by placing alarms where they will not operate properly. To avoid nuisance alarms, do not place alarms:

- Within 5 feet (1.5m) of any cooking appliance.
- Near an open window or door, because the fresh air entering the opening may delay CO from reaching the alarm.
- In damp or very humid areas or next to bathrooms with showers. Install alarms at least 10 feet (3m) away from bathrooms.
- In very cold or very hot environments or in unheated buildings or outdoor rooms where the temperature can go below or above the operating range of the alarm. Temperature limits for proper operation are 40° to 100°F (4.4° to 37.8°C). Operating humidity: 10-95% RH.

## CONDITIONS WHICH CAN RESULT IN TEMPORARY CO SITUATIONS:

- Good ventilation is recommended when household cleaning supplies or similar contaminants are used.
- Excessive spillage or reverse venting of fuel burning appliances caused by outdoor ambient conditions, such as:
  - Wind direction and/or velocity, including high gusts of wind. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
  - Negative pressure differential resulting from the use of exhaust fans.
  - Simultaneous operation of several fuel burning appliances competing for limited internal air.
  - Vent pipe connections vibrating loose from clothes dryers, furnaces, or water heaters.
  - Obstructions in or unconventional vent pipe designs which can amplify the above situations.
- Extended operation of unvented fuel burning devices (range, oven, fireplace, etc.)
- Temperature inversions which can trap exhaust gases near the ground.
- Car idling in an open or closed attached garage, or near a home.

## *What Levels of CO Cause an Alarm?*

Underwriters Laboratories Inc. UL2034 defines three specific alarm points by which all residential CO alarms must alarm. They are measured in parts per million (ppm) of CO over time (in minutes).

### **UL2034 Required Alarm Points:**

- If the alarm is exposed to **400 ppm** of CO, IT MUST ALARM BETWEEN 4 and 15 MINUTES.
- If the alarm is exposed to **150 ppm** of CO, IT MUST ALARM BETWEEN 10 and 50 MINUTES.
- If the alarm is exposed to **70 ppm** of CO, IT MUST ALARM BETWEEN 60 and 240 MINUTES.

## DEVELOPING YOUR OWN CO SAFETY PLAN

This CO alarm can quickly alert you to the presence of CO - it cannot prevent toxic CO emissions. Please note that there are hazards against which CO detection may not be effective, such as gas leaks or explosions. The ultimate responsibility for protection against toxic CO fumes rests solely on you.

Installing CO alarms is just the first step in protecting your family from toxic CO poisoning. We also suggest that you create an effective, comprehensive safety program as outlined below.

1. Install CO alarms properly following the instructions in this manual. Keep your CO alarms clean - do not wash. Wipe with a clean towel. Test your alarms weekly and repair or replace them when they no longer function. As with any electronic product, alarms have a limited life and alarms that do not work cannot protect you.
2. Develop a family escape plan and practice it with your entire family, especially small children.
  - Draw a floor plan of your home and find two ways to exit from each room. There should be one way to get out of each bedroom without opening the door.
  - Teach children what the CO alarm signal means and how they must be prepared to leave the residence by themselves if necessary.
  - Decide on a meeting place a safe distance from your house and make sure all children understand where they should go and wait if there is a dangerous CO condition.
  - Conduct CO safety drills at least every 6 months to make sure that everyone, even small children, knows what to do in order to escape safely.
  - Know where to go to call the Fire Department from outside your residence.

This unit is designed to detect carbon monoxide (CO) entering its sensing chamber. It does not sense combustible gas (such as natural gas, propane or butane), heat, smoke or flames.

**NOTE:** This CO alarm is designed for use within a single residential living unit only. In a multi-family building, the alarm may not provide early warning for residents if it is placed outside of the residential units, such as on outside porches, in corridors, lobbies, basements, or in other apartments. In multi-family buildings, each residential unit should have detectors installed as previously indicated.

When properly located, installed, and maintained, this CO alarm is designed to provide early warning of developing poisonous CO conditions at a reasonable cost. This alarm monitors the air, and when it senses CO, it activates its built-in alarm. It can provide precious time for you and your family to escape from your residence before CO can seriously injure or kill. However, such an early warning is possible only if the alarm is located, installed, and maintained as specified in the Owners Manual.

### ***IMPORTANT: WHAT YOUR CO ALARM CAN AND CANNOT DO***

This CO alarm is designed to detect carbon monoxide (CO) entering its sensing chamber. It does not sense combustible gas (such as natural gas) propane or (butane) heat, smoke or flames.

When properly located, installed and maintained, the CO alarm is designed to provide early warning of developing poisonous CO conditions at a reasonable cost. This alarm monitors the air; and, when it senses CO, it activates its built-in alarm. It can provide precious time for you and your family to escape from your residence before CO can seriously injure or kill. However, such an early warning is possible only if the alarm is located, installed and maintained as specified in the Owner's Manual.

If the bedroom doors are usually closed at night, alarms should be placed in each bedroom as well as in the common hallway between them.

CO alarms also may not sense CO on a different level of a residence or building. For example, a second floor alarm may not sense a CO leak on the first floor or in the basement. Therefore, alarms should be placed on every level of a residence or building.

If the alarm is located outside of a bedroom, it may not wake up a sound sleeper, especially if the bedroom door is closed or only partly open. If the alarm is located on a different level of the residence than the bedrooms, it is even less likely to wake up people sleeping in the bedroom.

Installing CO alarms may qualify you for lower homeowner's insurance rates, but CO alarms are not a substitute for insurance. Homeowners and renters should continue to insure their lives and property.

**WARNING:** The Model CD-9000 alarm is **not** designed for marine use.

## INSTALLATION AND OPERATION

### INSTALLATION INSTRUCTIONS: CAUTION!! READ CAREFULLY.

#### CAUTION: THIS UNIT IS SEALED. THE COVER IS NOT REMOVABLE!

- A mounting plate is provided on the back of the alarm.
- Remove the mounting plate from the back of the alarm by holding the mounting plate and twisting the alarm in the direction indicated by the "OFF" arrow on the alarm cover.
- To ensure aesthetic alignment of the alarm with the hallway or wall, the "A" line on the mounting plate must be parallel with the hallway walls when ceiling mounting or horizontal when wall mounting (See Steps A and B).
- After selecting the proper carbon monoxide alarm location as described in Figure 1, attach the mounting plate on the wall. Be sure the "UP FOR WALL MOUNTING" text and arrow are facing up. Use the screws and anchors provided to secure the mounting plate.
- To initially activate the 9 Volt battery and alarm, pull and remove the plastic pull-tab. Discard the pull-tab.
- Install the battery in the correct orientation as noted on the inside of the battery door. The alarm will beep once, indicating proper battery installation.

#### CAUTION! IF NO BATTERY IS INSTALLED, THE BATTERY DOOR WILL NOT CLOSE AND THE UNIT WILL NOT ATTACH TO THE MOUNTING BRACKET.

Alignment marks are provided on the edge of the trim plate and the alarm. After installing the mounting plate, place the alarm on the mounting plate with the alignment marks lined up. Twist the alarm in the direction indicated by the "ON" arrow on the alarm cover (See Step D) until it locks in place.

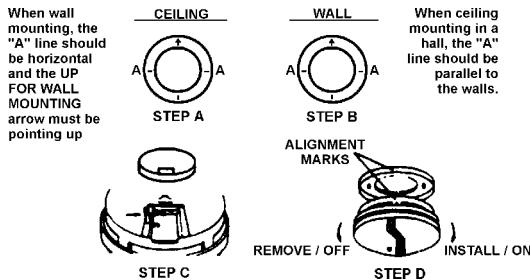


FIGURE 4

**USING TAMPER RESISTANT LOCKING PIN:** To make your carbon monoxide alarm tamper resistant, a locking pin has been provided in the bag with the screws and anchors. Using this pin will deter children and others from removing the alarm from the mounting plate. To use the pin, insert it into the hole in the side of the alarm after the alarm has been installed on the mounting plate (See Figure 5). Note the tamper resistant pin will have to be removed in order to change the battery. This can be done easily with long nose pliers. Using the long nose pliers, pull the pin out of the hole. It is now possible to remove the alarm from the mounting plate.

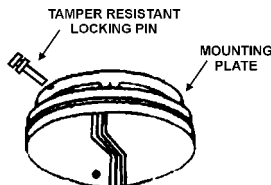


FIGURE 5

**Test alarm immediately following installation** and weekly for proper operation by pushing the test button approximately three seconds until a short beep is heard. Release the button. The alarm will then test itself for proper operation and the red LED indicator will flash 3-4 times, the alarm will sound an alarm pattern of 4 beeps with the red LED on, a 5 second quiet period and another 4 beeps with the red LED on. Then, the unit resets with a final red LED flash. The alarm then resumes normal operation.

**NORMAL OPERATION:**

In normal operation, the alarm will flash the red LED indicator once every 30 seconds. Alarm is powered and active.

**ALARM CONDITION:**

If the alarm senses unsafe levels of CO, the red LED indicator will light up and the alarm will sound. The alarm condition will be signified by a repetitive alarm sounding pattern of 4 short beeps followed by 5 seconds of silence. Immediate evacuation is required.

**TROUBLE CONDITION:**

Periodically, the alarm's measurement circuit is tested. If an error is detected, the alarm will sound a single beep and the red LED indicator will flash twice every 30 seconds. This is an indication of circuit malfunction and that the alarm requires immediate servicing.

**END-OF-SERVICE LIFE:**

The red LED indicator will flash twice and the alarm will beep twice every 30 seconds. **REPLACE ALARM.**

**LOW BATTERY:**

The alarm will chirp every 30 seconds. **REPLACE BATTERY.**

## ***MAINTENANCE***

**BATTERY REPLACEMENT:**

**IF THE TAMPER RESISTANT PIN HAS BEEN USED, REFER TO "TAMPER RESISTANT LOCKING PIN" FOR REMOVAL INSTRUCTIONS (See Figure 5).**

To replace the battery, remove the alarm from the mounting plate by rotating the alarm in the direction of the "OFF" arrow on the cover (See Figure 4, Step D).

The CO alarm is powered by a 9V Alkaline battery. A fresh battery should last for one year under normal operating conditions. This alarm has a low battery monitor circuit which will cause the alarm to "chirp" and the red LED indicator to flash approximately every 30-40 seconds for a minimum of 7 days when the battery gets low. Replace the battery when this condition occurs. **USE ONLY THE FOLLOWING 9 VOLT BATTERIES FOR CO ALARM REPLACEMENT**

Alkaline type: EVEREADY 522; DURACELL MN1604; GOLD PEAK 1604AU

Lithium type: ULTRALIFE U9VL

**NOTE: REGULAR TESTING IS RECOMMENDED.**

**WARNING! USE ONLY THE BATTERIES SPECIFIED. USE OF DIFFERENT BATTERIES MAY HAVE A DETRIMENTAL EFFECT ON THE CO ALARM. THE CONSTANT EXPOSURES TO HIGH OR LOW TEMPERATURES OR HIGH HUMIDITY MAY REDUCE BATTERY LIFE.**

**CLEANING YOUR ALARM:**

To clean your alarm, remove it from the mounting plate as outlined in the beginning of this section.

You can clean the interior of your alarm by using your vacuum cleaner hose and vacuuming through the openings around the perimeter of the alarm.

**WARNING:** The outside can be wiped with a damp cloth. Do not use any household cleaning agents, ammonia based cleaners, paints, varnishes or any other chemical on or near your alarm. **AFTER CLEANING, REINSTALL YOUR ALARM. TEST YOUR ALARM BY USING THE TEST BUTTON.**

**TESTING YOUR ALARM:**

Test alarm weekly for proper operation by pushing the test button for approximately three seconds until a short beep is heard. Release the button. The alarm will then test itself for proper operation, i.e. an alarm pattern of 4 beeps with the red LED on, a 5 second quiet period and another 4 beeps with the red LED on. Then, the unit resets with a final red LED flash. The alarm then resumes normal operation.

**THIS PRODUCT IS LISTED TO UL STANDARDS FOR SAFETY,  
UL2034, BY UNDERWRITERS LABORATORIES.**

## USI FIVE YEAR LIMITED WARRANTY

**UNIVERSAL SECURITY INSTRUMENTS, INC. ("USI") warrants your USI product to be free from defects in material and workmanship for a period of five (5) years from the date of purchase.** This warranty applies only to the original consumer purchaser and only to products used in normal residential use and service. If this product is found to be defective, USI's only obligation, and your exclusive remedy, is the repair or replacement of the product, at USI's discretion, provided that the product has not been damaged through misuse, abuse, accident, modifications, alteration, neglect or mishandling. This Warranty shall not apply to any product which is found to have been improperly installed, set-up, or used in any way not in accordance with the instructions supplied with the product. This warranty shall not apply to any batteries used in the product or to any damage which may be caused by such batteries. For replacement of this product under the terms of this Warranty, contact our Customer Service line at 1-800-390-4321, Ext. 238, for current postage and handling fees. USI's address is USI ELECTRIC, INC./UNIVERSAL SECURITY INSTRUMENTS, INC. at 11407 Cronhill Drive, Suite A, Owings Mills, Maryland 21117, You must include a proof of purchase (receipt) along with the returned product.

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This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This Warranty is only valid for merchandise purchased from outlets in the United States and Canada. This warranty expires upon end-of-service life signal.

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