Carbon Monoxide Alarm

ATTENTION: PLEASE READ, FOLLOW, AND SAVE

Dear New COSTAR® 12RV-DB Owner,

Congratulations as you have taken steps to help ensure the health and life safety of you and your family. We are proud to offer you our unique, patented CO Sensor technology that detects CO in a manner similar to the human body’s response. The COSTAR® 12RV-DB is an ideal and low-cost way of warning you of both the acute and chronic effects of CO poisoning.

Please read this owner’s manual carefully so you will have a better understanding of the effects of CO poisoning and the COSTAR® 12RV-DB Alarm, as we work together pursuing a safer, healthier indoor air quality for us all.

To your good health and safety,
Mark Goldstein, Ph.D.
President
Quantum Group Inc.

WARNING: Failure to replace this product by the “REPLACE BY DATE” printed on the alarm cover may result in death by Carbon Monoxide poisoning. Replace By Date is six (6) years from date of manufacture.

1. GENERAL DESCRIPTION

The model 12RV-DB is designed for installation in Residential Vehicles. Its dual source power input allows for connection to both the house battery and to the engine battery. The design is such that the alarm selects the battery with the highest voltage to draw its power from. The alarm also includes a replaceable 9 volt alkaline battery which will power the alarm when the coach batteries are disconnected.

2. PRODUCT DATA

2.1 Sensitivity Setting: Unit will alarm at 150 ppm CO within 50 minutes
2.2 Power: dual source 12VDC nominal, max voltage range: 10-18 volts.
2.3 Backup battery: 9 volt Alkaline DURACELL MN1604
2.4 Current Draw Standby 20 µa, alarm 50ma.
2.5 Wiring: 18AWG
2.6 Operating Temperature: -40 F to 100 F (-40C to 37.8 C)
2.7 Operating Humidity: 15-95% RH
2.8 Horn (Sounder) Loudness: 85 db @ 10 ft (3.3 meters)

2.9 APPROVALS

Listed by Underwriters Laboratories to UL standard 2034 and CSA 6.19-01

2.10 WHAT YOU SHOULD KNOW ABOUT CO

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless and tasteless gas. It is a cumulative poison. Even low levels of CO have been shown to cause brain and other vital organ damage in children and infants with no effect on the mother. The following symptoms may be related to CARBON MONOXIDE POISONING and should be discussed with all members of the household.

MILD EXPOSURE:

Headaches, running nose, sore eyes, nausea, vomiting, fatigue (often described as “flu-like”) symptoms

MEDIUM EXPOSURE:

Severe throbbing headache, dizziness, drowsiness, confusion, fast heart rate;

EXTREME EXPOSURE:

Unconsciousness, convulsions, brain damage, cardiac respiratory failure, death.

Many cases of reported CARBON MONOXIDE POISONING indicate that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Also, 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 fuel-burning appliances (e.g. space heater, furnace, water heater, range, oven, clothes dryer), or other sources of combustion (e.g. kerosene-burning stove or heater or gas log fireplace) or internal combustion engines (e.g. automobile exhaust).

Furthermore, installation of this device is not a substitute for proper installation, use, and maintenance of fuel-burning appliances, including appropriate ventilation and exhaust systems. This carbon monoxide-alarm device is designed to detect carbon monoxide gas from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gases.

CAUTION: This alarm will only indicate the presence of carbon monoxide gas at the 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 commercial or industrial standards, such as Occupational Safety and Health Administration (OSHA). This device is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. Individuals with medical problems may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm. If in doubt, consult a medical practitioner.

5.0 WHAT YOU SHOULD DO IF THE ALARM SOUNDS

WARNING: Actuation of your CO alarm indicates the presence of carbon monoxide (CO), which WILL KILL YOU. If alarm signal sounds (flashing red light and pulsating horn):

* For users in the United States, follow the protocol in steps 1 through 4 below:
  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 or window. Do a head count to check that all persons are accounted for. Do not reenter the premises or move away from the open door/window until the emergency service 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 repair technician (____ - ______) to investigate the sources of CO from fuel burning equipment and appliances involved in 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 manufacturer’s instructions, or contact the manufacturers directly, for more information about CO safety and this equipment. Make sure motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

* For users in Canada, follow the protocol in steps 1 and 2 below:

1. Immediately move to fresh air – outdoors or by an open door or window. Check that all persons are accounted for. Do not re-enter the premises or move away from the open door/window until the emergency service responders have arrived, the premises have been aired out, and your alarm remains in its normal condition;

2. Call your emergency services (____ - ______) (fire department or 911). If “service” signal sounds (red light flashes and horn beeps every 30 seconds), contact the manufacturer Quantum Group, Inc. Customer Service: 1-800-432-5599 for troubleshooting and/or instructions to return the unit.

5.1 Important Considerations

The alarm will automatically sense when the level of CO in the air falls below the danger level. You should stay outside the vehicle 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 the children. The alarm is designed to detect CO concentrations under 30 ppm. If in doubt, consult a medical practitioner.

WARNING: The COSTAR® Model 12RV-DB CO Alarm is not designed for marine use.

8.0 INSTALLING THE COSTAR® 12RV-DB ALARM FOR RECREATIONAL VEHICLE USE

Figure 1: Suggested Mounting Locations for RVs

8.1 Recommend mounting locations. 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 correct installation of CO alarms.

8.2 Put a CO alarm in a central location inside the vehicle, near sleeping areas. A closed door can block particulate smoke but CO gas is likely to get through. This will allow you early warning for occupants if it is placed outside of the recreational vehicle, such as on outside porches.

8.3 This CO alarm may be mounted on the wall or ceiling.

8.4 WALL LOCATION: Mount alarm at least 3 feet (usually 5-6 feet) from the floor.

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

8.6 LOCATIONS TO AVOID

-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 detectors at least 5 feet (1.5 meters) away from bathrooms
-Locations where normal ambient temperatures are not met. Normal ambient temperature limits are 40°F to 100°F (4.4°C to 37.8°C)

8.7 ACCOMMODATION spaces should be well ventilated when household cleaning supplies or similar contaminants are stored or used.

8.8 CONDITIONS WHICH CAN RESULT IN TEMPORARY CO SITUATIONS

-Excessive spillage or reverse ventilation of fuel burning appliances causing:
  i) Outdoor ambient conditions, such as wind direction and/or velocity, including high gusts of wind, and insufficient draft in the vent pipes (cold/humid air with extended periods between cycles);
  ii) Negative pressure differential resulting from the use of exhaust fans;
  iii) Insufficient draft in the vent pipes (cold/humid air with extended periods between cycles);
  iv) Negative pressure differential resulting from the use of exhaust fans;
  v) Simultaneous operation of several fuel burning appliances competing for limited internal air;
  vi) Loose vent pipe connections from fuel-fired appliances such as clothes dryers, furnaces, or water heaters;
  vii) Unvented or unconventional vent pipe designs that can amplify the plenum locations;
  viii) Poorly designed or maintained chimneys and/or vents;
  ix) Extended operation of unvented fuel-burning devices (range, oven, fireplace, etc.);
  x) Temperature inversions that can trap exhaust gases near the ground;
  xi) RV, truck or car idling in an open or closed attached garage, or near a home.
9.0 INSTALLATION INSTRUCTIONS: CAUTION!! READ CAREFULLY

CAUTION: THIS UNIT IS SEALED, THE COVER IS NOT REMOVABLE!

9.1 Select proper location.

9.2 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.

9.3 To insure aesthetic alignment of the alarm with the hallway or wall, the UP ARROW on the mounting plate must be aligned with the hallway walls when ceiling mounting B-Pointed upward when wall mounting. (See steps A & B in figure 2)

9.4 As described in Figures 1-2, attach the mounting plate on the wall or ceiling. Be sure the “UP FOR WALL MOUNTING” text and arrow are facing up. Use the screws and anchors provided to secure the mounting plate. Follow applicable codes and regulations for wiring. Disconnect power before installation or service. Connect Red Wires to 12 Volt DC power sources. Connect Yellow Wire to Ground.

9.5 The battery is INSTALLED REVERSED FOR SHIPING. Remove and reinstall the battery in the correct orientation as noted on the inside of the battery door. When installing the battery, align the “+” and “-” terminals on the correct contacts. The alarm will beep once indicating proper battery installation.

WARNING: BATTERY REQUIRED FOR ALARM OPERATION AND DETECTION OF CARBON MONOXIDE. IF NO BATTERY IS INSTALLED, THE BATTERY DOOR WILL NOT CLOSE EASILY AND THE UNIT WILL NOT ATTACH TO THE MOUNTING BRACKET.

9.6 Attach the alarm to the mounting plate. Twist the alarm in the direction indicated by the “ON” arrow on the alarm cover (see step E) until it locks in place.

9.7 To make your carbon monoxide alarm tamper resistant, a locking pin has been provided in the bug 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 step F). Using long nose pliers pull the pin out of the hole: it is now possible to remove the alarm from the mounting plate. Test alarm immediately following installation and weekly thereafter for proper operation by pushing the test button until a short beep is heard (approximately three seconds). Release the button. The alarm will then test itself for proper operation and the RED L.E.D. will flash 5 times. At completion of the self-test, the alarm will sound 2 patterns. The alarm then resumes normal operation.

9.8 This box contains two self-adhesive labels. You should write the telephone numbers of the emergency service.