



ENGLISH



CO & Propane Gas Alarm for RVs RVCOLP-2

Propane Gas Alarm for RVs RVLP-2

Owner's Manual

Please Read this Entire Manual Before
Using the RV Safe Alarm



ASSEMBLED IN THE USA

Specifications

Supply Voltage Thresholds

9 to 15 VDC (13.5V nominal)

Supply Current (Max)

90mA at 13.5V / 95mA at 8V

Supply Current (Typical)

48mA at 13.5V

Operating Temperature

-40°F to 150°F (-40°C to 66°C)

Humidity

15% to 90%

CO Detection Thresholds

(RVCOLP models only)

70 ppm for 60 to 120 minutes

150 ppm for 10 to 30 minutes

400 ppm for 4 to 15 minutes

5250 ppm (<25% LEL) for 30 seconds

85dB at 10 feet (Minimum)

LP Detection Threshold

5 years

Audible Indicator

Conforms to RV Standards for:

UL1484

UL2034 and complies with CSA 6.19.01

Warranty

1 Year

Weight

1.3 oz

Dimensions

4.21"x 2.61"x 0.57"

(10.7 cm x 6.6 cm x 1.4 cm)

General Warnings

Carbon monoxide (CO) gases and propane, or liquefied petroleum (LP) can be dangerous. Propane is commonly used in recreational vehicles, and early detection of propane leaks can help prevent dangerous conditions. Carbon monoxide can also accumulate with improper ventilation or with malfunctioning appliances.

CAUTION USING PRODUCTS CONTAINING SILICONE NEAR THE ALARM CAN CAUSE PERMANENT DAMAGE. EXAMPLES INCLUDE: SILICONE ADHESIVES AND CAULK, SILICONE LUBRICANTS, STAIN GUARDS, HAIR CARE, AND GROOMING PRODUCTS.

CAUTION DO NOT COVER OR OBSTRUCT RV SAFE WITH ANYTHING THAT COULD PREVENT GAS FROM ENTERING THE ALARM.

RV Safe will only detect CO and propane gas present at the sensor. Gases may be present in other areas.

WARNING THIS ALARM HAS NOT BEEN DESIGNED TO DETECT SMOKE, FIRE, OR GASES OTHER THAN CARBON MONOXIDE AND PROPANE.

This product is intended for use in recreational vehicles (RVs) only. It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards.

WARNING TEST ALARM OPERATION AFTER VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP, AND AT LEAST ONCE PER WEEK DURING USE.

Test button tests electrical functions only, not the alarm's ability to detect gases. Carefully test with propane or butane gas for 30 seconds to verify propane sensor function. Be sure that there are no open flames or sources of ignition.

WARNING ACTIVATION OF YOUR CO ALARM INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN KILL YOU.

CO Alarm State (RVCOLP models only)

If CO gas exceeds CO detection threshold, the alarm will enter CO alarm state.

If alarm horn sounds with a 4-chirp pattern (Model RVCOLP-2 only):

1. Press the Silence/Test button.
2. Call your Local Emergency Services number or 911. Fill in your local Fire Department number here.
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 or move away from the open door/window until the emergency services responders arrive, the premises have been aired out, and your alarm returns to its normal state.
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 at () _____ to investigate for sources of CO and LP from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection, have equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturers directly for more information about CO and LP safety and this equipment. Make sure that motor vehicles are not and have not been operating in an enclosed area near the RV.

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. Young children and household pets are typically the first affected. If you experience ANY symptoms of CO poisoning, consult your physician.

Potential Problem Sources of CO Gas

The sources of carbon monoxide gas can be very difficult to locate due to the odorless, colorless nature of the gas, especially after the RV has been aired-out prior to the investigator's arrival. Look closely at the following:

- 1) Car idling nearby.
- 2) Motorhome or generator exhaust entering RV.
- 3) Excessive spillage or reverse venting of fuel-burning appliances.
 - 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 connection vibrating loose from clothes dryer, furnace, or water heater.
 - Obstructions or unconventional vent pipe designs which amplify the above situations.
- 4) Extended operation of unventilated fuel-burning devices (range, oven, fireplace, etc.).
- 5) Temperature inversions which can trap exhaust gases near the ground.
- 6) Poorly designed or maintained vents.

Understanding the Dangers of Propane Gas

- Liquefied petroleum (LP) gas is commonly called propane and is used as fuel for heating and cooking appliances, especially for RVs.
- Propane gas is explosive at the lower-explosive-limit (LEL), which is 21,000 parts per million (ppm). RV Safe will alarm at below 25% LEL.
- Propane gas is denser than air, and will usually accumulate close to the floor. Therefore, RV Safe should be placed near the floor in order to quickly detect propane gas leaks.

Alarm Features and Functions

RV Safe includes an 85dB audible horn, two LEDs, and a Silence/Test button. The chart below summarizes the alarm outputs in each state.

Alarm States

State	Green LED	Red LED	Audible Horn
Warm-Up (3 mins)	Flashing	OFF	OFF
Normal Operation	ON	OFF	OFF
Power Off	OFF	OFF	OFF
Self Test	OFF	ON/Flashing	4 chirps / constant beeps
CO Alarm (RVCOLP only)	OFF	Flashing	4 chirps
Propane Alarm	OFF	ON	Constant beeps
Alarm Silenced (5 Minutes Max.)	OFF	Flash each second	OFF
Low Battery	Flash each minute	Flash each minute	Chirp each minute
High Voltage	Flash each minute	Flash each minute	Double chirp each minute
End-of-Life or Other Failure	OFF	Double flash each minute	Chirp each minute

Warm-Up State

Green LED will flash for the first 3 minutes after power-up to indicate the alarm is in a Warm-Up state. Alarm will not detect CO or Propane for the first 3 minutes.

Normal Operation State

The green power LED is ON when the alarm is functioning normally and no CO or propane gas is present. Press the Silence/Test button to perform a self test and enter the Test State.

Power Off State

If no LEDs are on, then the alarm is powered off. Apply power to the alarm to resume normal operation.

Self Test State

If the Silence/Test button is pressed while in normal operation, the alarm will perform a self test of the CO sensor, propane sensor and battery voltage. If the self test passes, the alarm will perform 2 cycles of the CO horn pattern (4 rapid chirps followed by a 4 second pause), followed by the propane horn pattern (constantly beeping).

Self Test Failure Codes

Result	Alarm Output	Solutions
CO or Propane Failure or End-of-Life	Long beep with red LED blinking	Replace alarm
Low Battery	Long beep with red and green LED on solid	Charge or replace RV battery

Note: Test button tests electrical functions only, not the alarm's ability to detect gases. Carefully test with propane or butane gas for 30 seconds to verify propane sensor function. Be sure that there are no open flames or sources of ignition.

WARNING ACTIVATION OF YOUR CO ALARM INDICATES THE PRESENCE OF CARBON MONOXIDE (CO) WHICH CAN KILL YOU.

CO Alarm State (RVCOLP models only)

If CO gas exceeds CO detection threshold, the alarm will enter CO alarm state.

If alarm horn sounds with a 4-chirp pattern (Model RVCOLP-2 only):

1. Press the Silence/Test button.
2. Call your Local Emergency Services number or 911. Fill in your local Fire Department number here.
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 or move away from the open door/window until the emergency services responders arrive, the premises have been aired out, and your alarm returns to its normal state.
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 at () _____ to investigate for sources of CO and LP from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection, have equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturers directly for more information about CO and LP safety and this equipment. Make sure that motor vehicles are not and have not been operating in an enclosed area near the RV.

WARNING ACTIVATION OF YOUR PROPANE ALARM INDICATES THE PRESENCE OF PROPANE GAS, WHICH CAN CAUSE AN EXPLOSION AND/OR FIRE. THIS NORMALLY INDICATES A LEAK IN THE PROPANE GAS PIPES OR A PROPANE GAS APPLIANCE.

Propane Alarm State

If propane gas exceeds 25% of the lower-explosive limit for more than 30 seconds, the alarm will enter propane alarm state.

If alarm horn sounds with constant beeps:

- 1) Evacuate everyone from the RV.
- 2) Shut off propane gas supply at propane tanks or supply.
- 3) Do not touch any electrical switch in or near the RV.
- 4) Do not start vehicle's engine or generator.
- 5) Contact a qualified RV or gas technician for repairs.
- 6) If you cannot reach a gas supplier or qualified Service Technician, contact the local fire department.
- 7) Do not turn on gas supply until the leak has been repaired.

Alarm Silenced State

A CO alarm or propane alarm can be silenced for up to 5 minutes by pressing the Silence/Test button. The red LED will flash each second while the alarm is silenced. The original alarm state will resume after 5 minutes if the CO or propane levels still exceed safe levels.

Low Battery State

If the supply voltage drops below 9VDC, the alarm will enter Low Battery State. The horn will chirp every minute and both LEDs will flash every minute. Alarm performance cannot be guaranteed as the supply voltage drops below the low battery threshold. Charge or replace the RV battery immediately.

DO NOT DISCONNECT THE ALARM.

End-of-Life or other Failure State

If the CO or propane alarm fails a self test, or if the End-of-Life is reached (after 5 years of operation), the alarm will enter the Failure State. The horn will chirp every minute and both LEDs will do a double flash every minute. Replace the alarm immediately.

Conditions That Could Adversely Affect Your Alarm

- Exposure to water, splashes, spray, and condensation
- Corrosive liquids such as acids
- Alkaline base metals, like salt spray
- High concentrations of Hydrogen
- Closed interior doors or other obstructions blocking gases from reaching the alarm
- Do not paint the alarm. Paint can block air flow to the sensor
- Silicone adhesives including hair sprays
- Cleaning supplies, chemical sprays, and perfume products
- Do not paint the alarm. Paint can block air flow to the sensor

WARNING FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN FAILURE OF THE ALARM AND WILL VOID THE WARRANTY.

Exposure to products containing silicone/silicone vapors can cause permanent damage to the alarm. Exposure to any chemical cleaners or solvents can cause permanent damage to the alarm.

Maintaining Your Alarm

- Verify proper alarm function by pressing the Silence/Test button after storage, before every use and once per week during extended use.
- Vacuum the alarm with a soft brush attachment to remove dust monthly.

WARNING! Limitations of CO and Propane Gas Alarms

CO and propane alarms have been proven to be both effective and reliable, but they may not be effective under all conditions. No alarm/sensor design can offer total protection of life and property. A CO and/or propane alarm is not a substitute for an adequate homeowner's property insurance or life insurance policy.

WARNING - This product is intended for use in ordinary indoor locations of recreational vehicles (RVs). It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial or industrial standards.

CO and propane alarms will not work without a source of power. The alarm will not operate nor sound if the power source is low or disconnected.

CAUTION - This CO alarm will only indicate the presence of carbon monoxide gas near the sensor. Carbon monoxide gas may be present in other areas of the RV.

Alarm warning signals may not be heard. A deep sleeper, hearing-impaired person, young child or someone impaired by drugs or alcohol may not awaken in response to a alarm activation. This can occur even when an alarm is located inside the individual's bedroom. Make sure emergency exit drills are practiced that take this possibility into account.

CO sensors may not always activate and provide early enough warning. A CO sensor will only activate when it is maintained in working order and sufficient amounts of CO gas reaches the unit.

If the RV will be used in areas where external CO sources such as portable generators or idling vehicles might be present, it is recommend that the RV's owner install additional CO alarms in the RV.

Individuals with medical problems may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm.

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. If in doubt, consult a medical practitioner.

WARNING - The installation of CO alarms should not be used as a substitute for proper installation, use, and maintenance of fuel-burning appliances, including appropriate ventilation and exhaust systems.

CO ALARMS CANNOT GUARANTEE THAT YOU WILL NEVER SUFFER ANY ILLNESS OR INJURY FROM EXPOSURE TO CARBON MONOXIDE GAS.

Installing Your RV Safe Alarm