



## Carbon Monoxide Alarm Détecteur de monoxyde de carbone

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10-Year Sealed Battery Operated  
Par pile d'une durée de 10 ans

User Manual  
Manuel de l'utilisateur

Model: CD01/CD02



Conforms with UL 2034 standard

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X-SENSE Technology Co., LTD.

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This user manual contains important information about your carbon monoxide alarm's operation. To ensure proper use and trouble-free operation, please read this manual carefully and store it in a safe place for future reference.

## Package Contents

- 1 × Alarm Unit
- 1 × Mounting Bracket
- 3 × Screws
- 3 × Anchor Plugs
- 1 × User Manual
- 1 × Warranty Card
- 2 × Carbon Monoxide Safety Stickers

## Introduction

All X-SENSE carbon monoxide alarms conform with the UL 2034 Standard and are designed to detect carbon monoxide.

Carbon monoxide (CO) is odorless, tasteless and invisible – it's a silent killer. Using electrochemical sensing technology, this unit can detect increased levels of carbon monoxide early, protecting your family from the dangers of carbon monoxide.

**Note: For maximum protection, use CO alarms on each level and in every bedroom of your home.**

## NEVER IGNORE THE SOUND OF THE ALARM!

Determining what type of alarm has sounded is easy with your X-SENSE Carbon Monoxide Alarm. The alarm sounder will inform you of the type of situation occurring.



## WARNING:

Actuation of your CO Alarm indicates the presence of Carbon Monoxide (CO) which can kill you.

### When the carbon monoxide alarm sounds:

- (1) Operate the test/reset button.
- (2) Call your emergency services (Fire Dept. or 911).

PHONE NUMBER

(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 has 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 manufacturer's instructions, or contact the manufacturer 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.

PHONE NUMBER

## Technical Specifications

Power source	10-year sealed lithium battery
Sensor type	Electrochemical
Product life	About 10 years
Safety standards	Conforms with UL 2034 standard
CO sensitivity	70 ppm: 60-240 minutes
	150 ppm: 10-50 minutes
	400 ppm: 4-15 minutes
Standby current	< 6 $\mu$ A (avg.)
Alarm current	< 60 mA (avg.)
Best operating ambient temperature	40-100 °F (4.4-37.8 °C)
Operating relative humidity	$\leq$ 85% (non-condensing)
Alarm loudness	$\geq$ 85 dB at 9.84 ft (3 m) @ 3.2 $\pm$ 0.3 kHz pulsing alarm
Silence duration	$\leq$ 6 minutes

## Product Overview



### CAUTION!

**THIS CO ALARM IS DESIGNED FOR INDOOR USE ONLY. DO NOT EXPOSE TO RAIN OR MOISTURE. DO NOT KNOCK OR DROP THE ALARM. DO NOT OPEN OR TAMPER WITH THE ALARM AS THIS COULD CAUSE MALFUNCTION.**

### Test & Silence Button

The Test & Silence button is used to test the unit's electronics and to silence the unit during an alarm. When testing the alarm weekly, you should first wake up your alarm by pressing the test button; once the alarm has woken up, the LCD display will activate, then press the test button again until you hear a short beep, indicating that the alarm has entered the test mode. To save power, the alarm is designed to automatically turn off the LCD display if there has been no operation for 5 minutes.

**Note: After a test has begun, the alarm will sound and the red LED will flash. This does not indicate that CO is present.**

### Alarm Sounder

The alarm will sound when there is CO present, when testing the alarm, and when there is a fault.

### LED Indicator

The LED indicator will flash in conjunction with the alarm sounder. Therefore, it will flash during the following states: when powering on, in standby mode, during CO alarm states, when exiting an alarm state, during test mode, when there is low battery, in silence mode, when there is a fault and when the unit is at the end of its life.

## Different working modes and states are shown in the below table:


Powering on	After the unit is fully mounted into the mounting bracket, it will automatically turn on. The LCD display will activate and the LED indicator will blink 8 cycles (red/green/yellow) in sequence. Afterwards, the LED indicator and LCD display will turn off, and the unit will enter the standby mode. <b>Note: The LCD display will turn off if there is no operation within 5 minutes.</b>
Standby mode	The LED indicator will flash green once every 60 seconds.
Alarm mode	During the first 4 minutes, the alarm will deliver 4 quick beeps every 5.8 seconds. After 4 minutes, the alarm will deliver 4 quick beeps every 60 seconds. The LED indicator will flash red with the alarm sound.
Exiting an alarm	When the CO concentration drops below the alarm threshold, the alarm signal stops, the LED indicator will continuously flash green once per second for 5 seconds and then enter the standby mode.
Test mode	When testing your alarm weekly, you should first wake up your alarm by pressing the test button. After the alarm is awake, press the test button again and the alarm will enter the test mode.
	Once the alarm is in test mode, the alarm will deliver 2 sets of 4 quick beeps, to indicate the alarm is operating normally. The LED indicator will flash red with the alarm sound.



Low battery	The LED indicator will flash yellow together with one beep every 60 seconds. THE UNIT MUST BE DEACTIVATED (see "Deactivation of the Alarm" section) AND REPLACED AS SOON AS POSSIBLE. (If you press the test button when there is low battery, the low battery signal will temporarily cease for 10 hours; if you press the test button again, the unit will enter the test mode and then the standby mode.)
Silence mode	If you press the test button during an alarm state, the unit will enter the silence mode. <b>Note: If the CO concentration has reached an alarm level, silence mode cannot be enabled. This unit will continue to alarm until the CO concentration has decreased to a low level.</b>
	During silence mode: the LED indicator will flash red once every 5 seconds.
	Exiting silence mode: the LED indicator will continually flash green 3 times, then the unit will enter the standby mode.
	Press the test button during an alarm state, the unit will enter the silence mode. If the CO density still exceeds the alarm threshold within 6 minutes, the unit will enter another alarm state. Otherwise, the unit will exit from silence mode after 9 minutes.
Fault	The alarm delivers 2 beeps approximately every 40 seconds and the LED indicator will flash yellow 1-4 times (meaning the alarm enter CO malfunction mode. And the alarm must be replaced immediately).

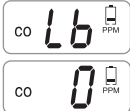


End of life	Once the maximum lifetime (10 years) is reached, the alarm delivers 2 beeps and the LED indicator will flash yellow twice every 30 seconds. This end-of-life signal can be temporarily silenced for 3 days by pressing the test button.
	The end-of-life silence feature can only be used for a total of 30 days. After 30 days, the end-of-life signal cannot be silenced.

## LCD Display

While detecting CO, the LCD will display different indications to help you understand what to do, as shown below:

LCD Display	LED Status	Alarm Sound	Unit Status	Solutions
	If a CO concentration of 30-999 ppm exists for a certain time period, the screen will be backlit blue, and the LED indicator will flash red 4 times every 5.8 seconds. After 4 minutes, it will flash red 4 times per minute.	The alarm delivers beeps and the LED indicator will flash with the same frequency.	Dangerous CO concentration has been detected.	Refer to "If the CO Alarm Sounds".

	If a CO concentration of 30-999 ppm exists for a very short time, the LED indicator will flash green once every 60 seconds.	No sound.	CO has been detected, but has not reached alarm status. Potential dangerous conditions exist.	Check if there are any sources of CO gas, such as from burning, cooking, etc. If such gas sources exist, please cut them off as soon as possible. Open the doors and windows to ventilate the room and immediately move to fresh air.
	The LED indicator flashes red 3 times for 2 cycles and then 4 times for 2 cycles, finally flashing once.	The alarm delivers beeps and the LED indicator will flash with the same frequency.	The unit is self-checking (the test button has been pressed).	None.
	The LED indicator flashes red, green and yellow in sequence.	One short beep.	The unit has been powered on.	None.
	The LED indicator flashes green once every 60 seconds.	None.	The unit is working normally with good battery life.	None.

	<p>The LCD display alternates between "Lb" and current CO level. The LED indicator flashes yellow once every 60 seconds.</p>	<p>One quick beep every 60 seconds.</p>	<p>Low battery warning.</p>	<p>As the battery is not replaceable, you will need to replace the unit.</p>
	<p>The LED indicator flashes yellow 1 time every 40 seconds.</p>	<p>Two quick beeps every 40 seconds.</p>	<p>Test button malfunction.</p>	<p>If "Err" continues to display, the unit has malfunctioned and must be replaced immediately.</p>
<p>The LED indicator flashes yellow 3 times every 40 seconds.</p>	<p>CO malfunction.</p>			
<p>The LED indicator flashes yellow 4 times every 40 seconds.</p>	<p>CO malfunction.</p>			
	<p>The LED indicator flashes yellow twice every 30 seconds.</p>	<p>Two quick beeps every 30 seconds.</p>	<p>End of life.</p>	<p>Replace the unit immediately.</p>

## Basic Safety Information

### **IMPORTANT!**

- 1. DANGERS, WARNINGS, AND CAUTIONS ALERT YOU TO IMPORTANT OPERATING INSTRUCTIONS OR TO POTENTIALLY HAZARDOUS SITUATIONS. PAY SPECIAL ATTENTION TO THESE SITUATIONS.**
- 2. THIS CARBON MONOXIDE ALARM IS ONLY APPROVED FOR HOME USE.**
- 3. THIS CARBON MONOXIDE ALARM IS DESIGNED TO DETECT CARBON MONOXIDE FROM ANY SOURCE OF COMBUSTION.**
- 4. CONSTANT EXPOSURES TO HIGH OR LOW HUMIDITY MAY REDUCE BATTERY LIFE.**

## CAUTION!

THE CARBON MONOXIDE ALARM IS NOT DESIGNED TO DETECT FIRE OR ANY OTHER GAS. IT WILL ONLY INDICATE THE PRESENCE OF CARBON MONOXIDE GAS AT THE SENSOR. CARBON MONOXIDE GAS MAY BE PRESENT IN OTHER AREAS.

## WARNING!

1. NEVER IGNORE ANY ALARM. FAILURE TO RESPOND CAN RESULT IN SERIOUS INJURY OR DEATH.
2. THE SILENCE FEATURE IS ONLY FOR YOUR CONVENIENCE AND WILL NOT CORRECT A PROBLEM. ALWAYS CHECK YOUR HOME FOR A POTENTIAL PROBLEM AFTER ANY ALARM. FAILURE TO DO SO CAN RESULT IN INJURY OR DEATH.
3. TEST THIS CO ALARM ONCE A WEEK. IF THE ALARM EVER FAILS TO TEST CORRECTLY, REPLACE IT IMMEDIATELY! IF THE ALARM CANNOT WORK PROPERLY, IT WILL NOT ALERT YOU TO A PROBLEM.
4. THIS PRODUCT IS INTENDED FOR USE IN ORDINARY INDOOR LOCATIONS OF FAMILY LIVING UNITS. IT IS NOT DESIGNED TO MEASURE CO LEVELS IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) COMMERCIAL OR INDUSTRIAL STANDARDS. INDIVIDUALS WITH MEDICAL CONDITIONS THAT MAY MAKE THEM MORE SENSITIVE TO CARBON MONOXIDE MAY CONSIDER USING WARNING DEVICES WHICH PROVIDE AUDIBLE AND VISUAL SIGNALS FOR CARBON MONOXIDE CONCENTRATIONS UNDER 30 PPM FOR ADDITIONAL INFORMATION ON CARBON MONOXIDE AND YOUR MEDICAL CONDITION CONTACT YOUR PHYSICIAN.

5. THE REPLACEMENT DATE THAT APPEARS ON THE DEVICE IS THE DATE BEYOND WHICH THE DEVICE MAY NO LONGER DETECT CARBON MONOXIDE ACCURATELY AND SHOULD BE IMMEDIATELY REPLACED.

6. THIS DEVICE IS DESIGNED TO PROTECT INDIVIDUALS FROM THE ACUTE EFFECTS OF CARBON MONOXIDE EXPOSURE. IT MAY NOT FULLY SAFEGUARD INDIVIDUALS WITH SPECIFIC MEDICAL CONDITIONS. IF IN DOUBT, CONSULT A MEDICAL PRACTITIONER.

## Installation Instructions

### Installation Locations

When choosing your installation location, make sure you can hear the alarm from all sleeping areas. If you install only one CO alarm in your home, install the alarm near to all bedrooms where possible, and not in a basement or furnace room.

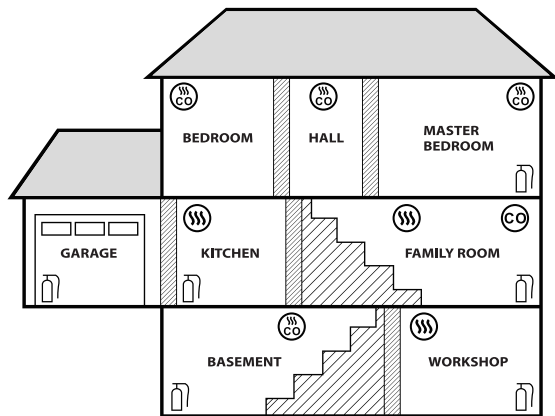
1. A CO alarm should be centrally located outside of each sleeping area in the immediate vicinity of all bedrooms. For added protection, install additional CO alarms in each separate bedroom and on each level of your home.
2. If your bedroom hallway is longer than 40 feet (12 meters), install a CO alarm at both ends of the hallway.
3. In a single-level house, install at least one CO alarm near or within each separate sleeping area. For added protection, install an additional CO alarm at least 20 feet (6 meters), away from any furnace or fuel burning heat source.
4. In multi-level houses, in addition to (3) above, install at least one CO alarm near or within each separate sleeping area. For added protection, install at least one CO alarm on each level of the house. If you have a basement, install a CO alarm at the top of the basement stairs.







## Recommended Placement

### **WARNING!**

1. THIS ALARM SHOULD BE INSTALLED BY A COMPETENT PERSON.
2. INSTALLATION OF THE ALARM SHOULD NOT BE USED AS A SUBSTITUTE FOR PROPER INSTALLATION, USE AND MAINTENANCE OF FUEL BURNING APPLIANCES INCLUDING APPROPRIATE VENTILATION AND EXHAUST SYSTEMS.



-  FIRE EXTINGUISHERS
-  SMOKE ALARMS
-  CARBON MONOXIDE ALARMS
-  SMOKE & CO ALARMS

## How to Install This Alarm

### **IMPORTANT!**

THIS CO ALARM IS DESIGNED TO BE MOUNTED ON THE CEILING OR WALL.

### **WARNING!**

FAILURE TO PROPERLY INSTALL AND ACTIVATE THIS ALARM WILL PREVENT PROPER OPERATION OF THE ALARM AND WILL PREVENT ITS RESPONSE TO CO.

## Locations to Avoid

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

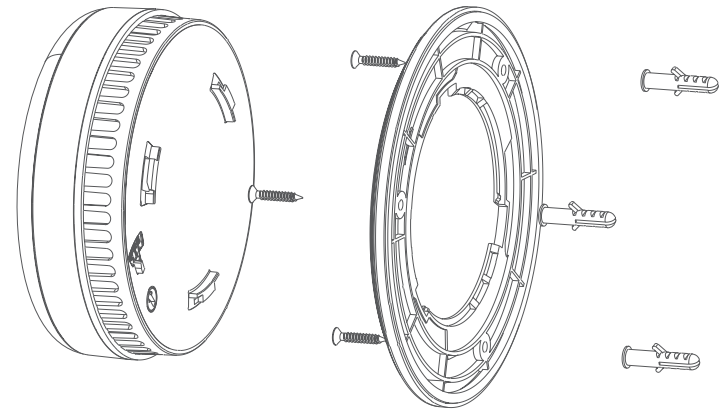
1. Do not install in garages, kitchens, furnace rooms or bathrooms! Do not install within 5 ft (1.5 m) of cooking appliances.
2. Do not install within 3 ft (0.9 m) of the following: The door to a kitchen, or a bathroom that contains a tub or shower, forced air supply ducts used for heating or cooling, ceiling or whole house ventilating fans, or other high air flow areas. Avoid excessively dusty, dirty or greasy areas. Dust, grease or household chemicals can contaminate the alarm's sensors, causing the alarm to not operate properly.

3. Place the alarm where drapes or other objects will not block the sensors. CO must be able to reach the sensors to accurately detect these conditions. Do not install in peaks of vaulted ceilings, "A" frame ceilings or gabled roofs. Keep out of damp and humid areas.
4. Install at least one (1) foot away from fluorescent lights, as electronic noise may cause nuisance alarms. Do not place in direct sunlight and keep out of insect-infested areas. Extreme temperatures will affect the sensitivity of the CO alarm. 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 garages and unfinished attics. Do not install in areas where the relative humidity (RH) is above 85%. Place away from doors and windows that open to the outside.

## Mounting Steps

1. Drill three Ø 6.0 mm holes in the wall or ceiling, then insert three plastic anchor plugs into the holes with a hammer.
2. Attach the mounting bracket to the surface of the wall or ceiling with three screws and mount the alarm into the bracket by pushing them together and twisting the unit clockwise.
3. Test the unit by using the Test/Silence button. Ensure the unit sounds in an alarm pattern.

**Note: This model is equipped with a feature that automatically activates the alarm when the alarm is attached to the mounting bracket for the first time.**



## Deactivation of the Alarm



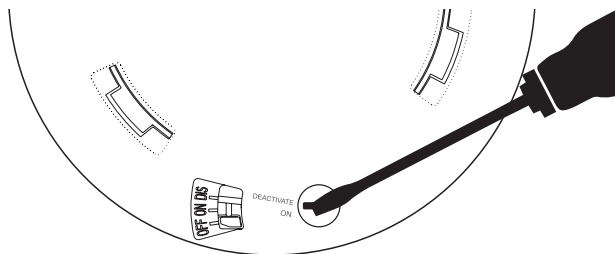
**WARNING!**

- 1. DO NOT DEACTIVATE THE ALARM UNIT UNTIL THE END-OF-LIFE SIGNAL HAS BEEN HEARD.**
- 2. ONCE THE MAXIMUM LIFETIME (10 YEARS) IS REACHED, THE ALARM DELIVERS 2 BEEPS EVERY 30 SECONDS.**
- 3. ONCE THE ALARM IS DEACTIVATED, IT WILL NO LONGER FUNCTION. IT CANNOT BE REACTIVATED AND MUST BE REPLACED.**

## To Deactivate the Alarm

Pressing the Test/Silence button can silence the end-of-life signal for up to 3 days.

1. Peel back the shaded label obstructing the "DIS" setting, and break the thin plastic guard, as below.
2. Twist the plastic pin upwards to the "DIS" position or insert a screwdriver into the slot and turn the dial clockwise to the "DIS" position.
3. Dispose of the alarm.
4. Replace the alarm.



## Weekly Test



**WARNING!**

- 1. NEVER USE AN OPEN FLAME OF ANY KIND TO TEST THIS UNIT. YOU MIGHT ACCIDENTALLY DAMAGE OR SET FIRE TO THE UNIT OR TO YOUR HOME.**
- 2. NEVER USE A VEHICLE EXHAUST TO TEST THIS UNIT. EXHAUST FUMES MAY CAUSE PERMANENT DAMAGE AND VOID YOUR WARRANTY.**
- 3. DO NOT STAND CLOSE TO THE ALARM WHEN THE ALARM IS SOUNDING. EXPOSURE AT CLOSE RANGE MAY BE HARMFUL TO YOUR HEARING. WHEN TESTING, STEP AWAY WHEN THE ALARM BEGINS TO SOUND.**

## Maintenance

To keep your CO alarm in good working order, follow these simple steps:

1. Verify the unit's alarm sound and indicators are working properly by testing the unit once a week.
2. Remove the unit from the ceiling/wall and clean the alarm cover and vents with a soft brush attachment once a month to remove dust and dirt.
3. Never use detergents or other solvents to clean the unit.
4. Avoid spraying air fresheners, hair spray or other aerosols near the alarm.
5. Do not paint the unit. Paint will seal the vents and interfere with the sensor's ability to detect CO. Never attempt to disassemble the unit or clean inside. Doing so will void your warranty.
6. When removed, place the CO alarm back in its proper location as soon as possible, to assure continuous protection from fire or carbon monoxide poisoning.
7. When household cleaning supplies or similar contaminants are used, the area should be ventilated.

## If the CO Alarm Sounds

1. Keep calm and immediately move to fresh air. Open all doors and windows to increase the rate of ventilation. Stop using all fuel-burning appliances and ensure, if possible, that they are turned off, e.g. for gas appliances, isolate the emergency control valve.
2. If the alarm continues to be activated, then evacuate the premises. Leave the doors and windows open, and only re-enter the building when the alarm has stopped. In multi-occupancy and multi-storey premises, ensure that all the occupants are alerted to the risk.
3. Get medical help for anyone suffering the effects of carbon monoxide poisoning, and advise that carbon monoxide inhalation is suspected.
4. Telephone the appropriate appliance servicing and/or maintenance agency or, when necessary, the relevant fuel supplier on their emergency number or the national Gas Emergency Service Provider, if appropriate, so that the source of carbon monoxide emissions can be identified and corrected. Unless the reason for the alarm is obviously spurious, do not use the fuel-burning appliances again, until they have been checked and cleared for use by a competent person according to national regulations.

## What You Need to Know About CO

CO cannot be seen, smelled or tasted and can be fatal. The build-up of CO in the blood is called the carboxyhemoglobin (COHb) level and interferes with the body's ability to supply itself with oxygen. Depending on the concentration, CO can kill in minutes. The most common sources of CO are malfunctioning gas appliance used for heating and cooking, vehicles running in an attached garage, blocked chimneys or flues, portable fuel burning heaters, fireplaces, fuel powered tools and operating a grill in an enclosed space.

Indications of carbon monoxide poisoning include symptoms similar to the flu, but with no fever. Other symptoms include dizziness, fatigue, weakness, headache, nausea, vomiting, sleepiness and confusion. Everyone is susceptible to the danger of CO, but experts agree that unborn babies, small children, pregnant women, senior citizens and people with heart or respiratory problems are at the highest risk for serious injury or death. Every year a qualified technician should inspect and clean your heating system, vents, chimney, and flues.

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, fast heart rate.

Extreme exposure: Unconsciousness, cardiorespiratory failure, death.

The above levels of exposure relate to healthy adults. Levels differ for those at high 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 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 effected. Familiarization with the effects of each level is important.

## The Following Conditions Can Result In Transient CO Situations:

- 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 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.
- A car idling in an open or closed attached garage, or near a home.

## Consumer Product Safety Commission

The Consumer Product Safety Commission (CPSC) recommends the use of at least one CO Alarm per household, located near the sleeping area.

## Manufacturer and Service Information

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