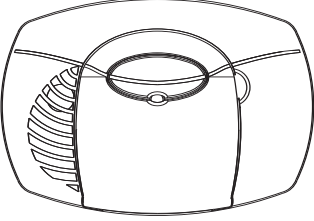


## USER'S MANUAL

## BATTERY OPERATED CARBON MONOXIDE ALARM WITH SILENCE FEATURE



Model CO400

Printed in Mexico  
M09-0058-000 P 02/07

## IMPORTANT!

## PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE.

This user's manual contains important information about your Carbon Monoxide (CO) Alarm's operation. If you are installing this CO Alarm for use by others, you must leave this manual—or a copy of it—with the end user.

## TABLE OF CONTENTS

Introduction	1-2
Basic Safety Information	1
How Your CO Alarm Works	1
Understanding Your CO Alarm	2
Installation	2-3
Where to Install CO Alarms	2
Where CO Alarms Should NOT Be Installed	2
How to Install Your CO Alarm	3
If Your CO Alarm Sounds	3
If the Alarm Signal Sounds	3
Using the Silence Feature	3
Testing and Maintenance	4
Weekly Testing	4
Regular Maintenance	4
What You Need to Know About CO	4-6
What is CO?	4
Symptoms of CO Poisoning	4
Finding the Source of CO After an Alarm	4
How Can I Protect My Family?	4
Potential Sources of CO in the Home	5-6
Underwriters Laboratories Inc. UL2034	5-6
General Limitations of CO Alarms	5-6
Troubleshooting Guide	5-6
Limited Guarantee	5-6

© 2007 BRK Brands Europe Ltd., a Subsidiary of Jarden Corporation  
All rights reserved.  
BRK Brands Europe Ltd., Gordano Gate, Portishead, Bristol BS20 7GG  
United Kingdom Customer Service Dept.: +44 (0) 1275 845 024  
E-mail address: info@firstalert.co.uk • info@brk.co.uk  
www.firstalert.eu • www.brkeurope.com

## INTRODUCTION

## BASIC SAFETY INFORMATION

## IMPORTANT!

- Dangers, Warnings, and Cautions alert you to important operating instructions or to potentially hazardous situations. Pay special attention to these items.
- THIS IS NOT A SMOKE ALARM!** This CO Alarm is designed to detect carbon monoxide from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gas.
- This CO Alarm is approved for use in single-family residences. It is NOT designed for marine use or for use in a caravan.

## CAUTION!

- This CO Alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.

## WARNING!

- The Silence Feature is for your convenience only and will not correct a CO problem. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.
- NEVER ignore your Carbon Monoxide Alarm if it alarms. Refer to "If Your CO Alarm Sounds" for more information. Failure to do so can result in injury or death.
- Test the CO Alarm once a week. If the CO Alarm ever fails to test correctly, have it replaced immediately! If the CO Alarm is not working properly, it cannot alert you to a problem.
- 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 American 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.

## HOW YOUR CO ALARM WORKS

## GENERAL INFORMATION

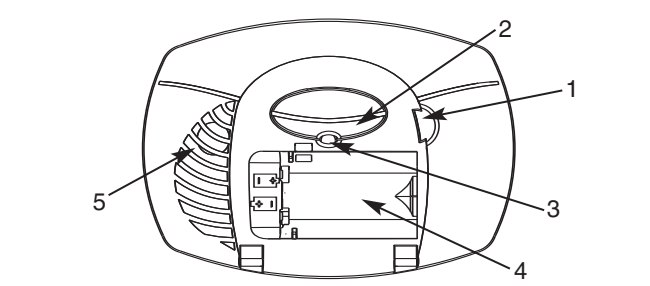
## WARNING!

- This CO Alarm does not operate without working batteries. Removing the batteries, or failure to replace them at the end of their service life, removes your protection.

A CO Alarm measures the CO levels in the air. It will alarm if CO levels rise quickly (if the heat exchanger on your furnace breaks, for example), or if CO is consistently present (a slow CO leak on a fuel-burning appliance).

This Carbon Monoxide Alarm features a permanently installed sensor and an 85 dB alarm horn. It also has a silence feature to temporarily quiet the alarm horn.

## THE PARTS OF YOUR CO ALARM



- |                           |  |
|---------------------------|--|
| 1 Open door here          | 4 Battery Compartment  |
| 2 Test/Silence Button     | 5 (Behind Cover) Alarm Horn: 85dB audible alarm for test, alarm, and unit malfunction warning. |
| 3 POWER/ALARM Light (RED) |  |

## UNDERSTANDING YOUR CO ALARM

## WELCOME CHIRP

Horn chirps and light blinks once when batteries are first connected.

## ALARM RECEIVING BATTERY POWER

Light flashes every minute. Horn is silent.

## LOW BATTERY WARNING

The light continues to flash (RED) and the horn also "chirps" once every minute. This warning should last for up to 30 days, but you should replace the batteries as soon as possible.

## DURING TESTING

Light flashes Red in sync with the horn pattern (4 beeps, pause, 4 beeps), simulating a CO Alarm condition.

## CO ALARM

Sensor has detected enough CO to trigger an alarm. Light flashes rapidly and horn sounds loudly (repeating 4 beeps, pause). See "If Your CO Alarm Sounds" for details. **During an alarm, move everyone to a source of fresh air. DO NOT move the CO Alarm!**

## CO ALARM REQUIRES SERVICE (MALFUNCTION SIGNAL)

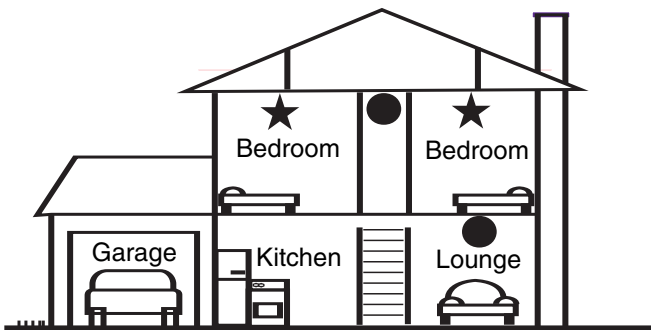
The light flashes (RED) and the horn sounds 3 quick "chirps" every minute. CO Alarm needs to be replaced.

## INSTALLATION

## WHERE TO INSTALL CO ALARMS

The National Fire Protection Association (NFPA) recommends that a CO Alarm should be centrally located outside of each separate sleeping area in the immediate vicinity of the bedrooms. For added protection, install additional CO Alarms in each separate bedroom, and on every level of your home.

If your bedroom hallway is longer than 12 meters (40 feet), install a CO Alarm at BOTH ends of the hallway.



- Carbon Monoxide Alarms
- For added protection

## In a Single-level Home:

- Install at least one CO Alarm near or within each separate sleeping area.
- For added protection, install an additional CO Alarm at least 6 meters (20 feet) away from the furnace or fuel burning heat source.

## In a Multi-level Home:

- 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 home.
- For added protection, install an additional CO Alarm at least 6 meters (20 feet) away from the furnace or fuel burning heat source.

## In Mobile Homes:

- Install CO Alarms on inside walls ONLY. Uninsulated outside walls and roofs of mobile homes often transfer heat and cold from outdoors. The Alarm should be located at least 152 mm (6 inches) from all exterior walls and at least 305 mm (12 inches) from supply or return vents.

## WHERE CO ALARMS SHOULD NOT BE INSTALLED

## DO NOT LOCATE THIS CO ALARM:

- In garages, kitchens, furnace rooms, or in any extremely dusty, dirty or greasy areas.
- Closer than 6 meters (20 feet) from a furnace or other fuel burning heat source, or fuel burning appliances like a water heater.
- Within 1.5 meters (5 feet) of any cooking appliance.
- In extremely humid areas. This alarm should be at least 3 meters (10 feet) from a bath or shower, sauna, humidifier, vaporizer, dishwasher, laundry room, utility room or other source of high humidity.
- In areas where temperature is colder than 4° C (40° F) or hotter than 38° C (100° F). These areas include unconditioned crawl spaces, unfinished attics, uninsulated or poorly insulated ceilings, porches, and garages.
- In turbulent air, like near ceiling fans, heat vents, air conditioners, fresh air returns, or open windows. Blowing air may prevent CO from reaching the sensors.
- Outside the Mobile Home.
- In direct sunlight.

## WARNING!

- This CO Alarm is designed for use inside a single-family home or apartment. It is not meant to be used in common lobbies, hallways, or basements of multi-family buildings unless working CO Alarms are also installed in each family living unit. CO Alarms in common areas may not be heard from inside individual family living units.

- This CO Alarm alone is not a suitable substitute for complete detection systems in places which house many people, like hotels or dormitories, unless a CO Alarm is also placed in each unit.
- DO NOT use this CO Alarm in warehouses, industrial or commercial buildings, special-purpose non-residential buildings, or airplanes. This CO Alarm is specifically designed for residential use, and may not provide adequate protection in non-residential applications.

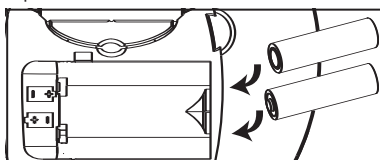
## HOW TO INSTALL YOUR CO ALARM

Read "Where To Install Your CO Alarm" before starting.

Before you start installation, find the pair of self-adhesive labels included with this CO Alarm. On each label write in the phone number of your emergency responder (like 999 in the UK or 112 in Europe) and a qualified appliance technician. Place one label near the CO Alarm, and the other label in the "fresh air" location you plan to go if the alarm sounds.

## INSTALLING THE AA BATTERIES

- Flip the battery door down to open.
- Install both AA batteries (included) inside the battery compartment as indicated. Make sure the "+" and "-" ends of each battery are aligned properly. A chirp will be issued.
- Close the battery door.



## TO MOUNT ON THE WALL

Tools you will need: pencil, drill with 5mm or 3/16" drill bit, flathead screwdriver, hammer.

- Choose a location on the wall. Do not install the Alarm closer than 102 mm (4") from where the wall meets the ceiling.
- Hold the mounting guide template against the wall, and make a mark inside each keyhole where you will drill your mounting hole as shown in the diagram below.
- Use a 5 mm (3/16") drill bit to drill through the marks you made for the mounting holes.
- Insert the plastic screw anchors into the mounting holes until they are flush with the wall. If necessary, tap them gently with a hammer.
- Insert the screws into the anchors until the screwhead is 3 mm (1/8 inch) away from the wall.
- Slide the CO Alarm onto the screws until you feel it click into place.
- Test the CO Alarm as described in "Weekly Testing."

## IF YOUR CO ALARM SOUNDS

## WARNING!

Activation of your CO Alarm indicates the presence of carbon monoxide (CO) which can kill you. In other words, when your CO Alarm sounds, you must not ignore it!

## IF THE ALARM SIGNAL SOUNDS:

- Operate the Test/Silence button.
- Call your emergency services or fire department (like 999 in the UK or 112 in Europe). Write down the number of your local emergency service here:

- 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 re-enter the premises, or move away from the open door or window until the emergency services responder has arrived, the premises have been aired out, and your CO Alarm remains in its normal condition.

- After following steps 1-3, if your CO 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 manufacturers 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. Write down the number of a qualified appliance technician here:

## "ALARM-MOVE TO FRESH AIR"

If you hear the alarm horn and the Red light is flashing, move everyone to a source of fresh air. DO NOT disconnect the batteries from the CO Alarm!

## WARNING!

Alarms have various limitations. See "General Limitations of CO Alarms" for details.

## USING THE SILENCE FEATURE

## WARNING!

- The Silence Feature is for your convenience only and will not correct a CO problem. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.
- NEVER remove the batteries from your CO Alarm to silence the horn. Use the silence feature. Removing the batteries removes your protection! See "If Your CO Alarm Sounds" for details on responding to an alarm.

The Silence Feature is intended to temporarily silence your CO Alarm's alarm horn while you correct the problem—it will not correct a CO problem. While the Alarm is silenced it will continue to monitor the air for CO.

When CO reaches alarm levels the alarm will sound—repeating horn pattern: 4 beeps, a pause, 4 beeps, etc. Press and hold the Test/Silence button until the horn is silent. The initial Silence cycle will last approximately 4 minutes.

NOTE: After initial 4-minute Silence cycle, the CO Alarm re-evaluates present CO levels and responds accordingly. If CO levels remain potentially dangerous—or start rising higher—the horn will start sounding again.

## While the detector is silenced:

If the CO Alarm...	This means...
Is silent for only 4 minutes, then starts sounding loudly—4 beeps, pause, 4 beeps, pause	CO levels are still potentially dangerous.
If the CO Alarm...	This means...
Remains silent after you pressed the Test/Silence button	CO levels are dropping.

## SILENCING THE LOW BATTERY WARNING

This silence feature can temporarily quiet the low battery warning "chirp" for up to 8 hours. You can silence the low battery warning "chirp" by pressing the Test/Silence button. The LED will flash twice, acknowledging that the low battery silence feature has been activated.

After 8 hours, the low battery "chirp" will resume. Replace the batteries as soon as possible; this unit will not operate without battery power!

To deactivate this feature: Press the Test/Silence button again. The unit will go into Test Mode and the low battery warning will resume (LED flashes and unit sounds "chirp" once a minute).

If you cannot silence the low battery warning, replace the batteries immediately.

## TESTING &amp; MAINTENANCE

## WEEKLY TESTING

## WARNING!

- Test the CO Alarm once a week. If the CO Alarm ever fails to test correctly, have it replaced immediately! If the CO Alarm is not working properly, it cannot alert you to a problem.
- DO NOT stand close to the Alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When testing, step away when horn starts sounding.

Push and hold the Test/Silence button on the cover until the LED flashes. The alarm horn will sound 4 beeps, a pause, then 4 beeps. The ALARM (RED) light will flash.

The alarm sequence should last 5-6 seconds. If it does not alarm, make sure fresh batteries are correctly installed, and test it again. If the unit still does not alarm, replace it immediately.

## If the alarm does not test properly:

- Make sure that fresh batteries are installed correctly.
- Be sure the Alarm is clean and dust-free.
- Install fresh AA batteries\* and test the Alarm again.

## WARNING!

- DO NOT try fixing the Alarm yourself – this will void your warranty! If the CO Alarm is still not operating properly, and it is still under warranty, please see "How to Obtain Warranty Service" in the Limited Warranty. Install a new CO Alarm immediately.

- The Test/Silence button is the only proper way to test the CO Alarm. NEVER use vehicle exhaust! Exhaust may cause permanent damage and voids your warranty.

\*For a list of acceptable replacement batteries, see "Regular Maintenance."

## REGULAR MAINTENANCE

## To keep the CO Alarm in good working order:

- Test it every week using the Test/Silence button.
- Vacuum the CO Alarm cover once a month, using the soft brush attachment. Never use water, cleaners, or solvents, since these may damage the unit. Test the CO Alarm again after vacuuming.
- Replace the batteries when the CO Alarm "chirps" about every minute (the low battery warning).

The low battery warning should last for 30 days, but you should replace the battery immediately to continue your protection.

## Choosing a replacement battery:

This CO Alarm requires two standard AA batteries. The following batteries are acceptable as replacements: Energizer E91. These replacement batteries are commonly available at local retail stores.

## IMPORTANT!

Use only the replacement batteries listed. The unit may not operate properly with other batteries. Never use rechargeable batteries since they may not provide a constant charge.

## CAUTION!

DO NOT spray cleaning chemicals or insect sprays directly on or near the CO Alarm. DO NOT paint over the CO Alarm. Doing so may cause permanent damage.

## IMPORTANT!

Household cleaners, aerosol chemicals, and other contaminants can affect the sensor. When using any of these materials near the CO Alarm, make sure the room is well ventilated.

## WHAT YOU NEED TO KNOW ABOUT CO

## WHAT IS CO?

CO is an invisible, odorless, tasteless gas produced when fossil fuels do not burn completely, or are exposed to heat (usually fire). Electrical appliances typically do not produce CO.

These fuels include: Wood, coal, charcoal, oil, natural gas, gasoline, kerosene, and propane.

Common appliances are often sources of CO. If they are not properly maintained, are improperly ventilated, or malfunction, CO levels can rise quickly. CO is a real danger now that homes are more energy efficient. "Air-tight" homes with added insulation, sealed windows, and other weatherproofing can "trap" CO inside.

## SYMPTOMS OF CO POISONING

These symptoms are related to CO POISONING and should be discussed with ALL household members.

## Mild Exposure:

Slight headache, nausea, vomiting, fatigue ("flu-like" symptoms).

## Medium Exposure:

Throbbing headache, drowsiness, confusion, fast heart rate.

## Extreme Exposure:

Convulsions, unconsciousness, heart and lung failure. Exposure to carbon monoxide can cause brain damage or death.

## WARNING!

Some individuals are more sensitive to CO than others, including people with cardiac or respiratory problems, infants, unborn babies, pregnant mothers, or elderly people can be more quickly and severely affected by CO. These people should consult their doctors for advice on taking additional precautions.

## FINDING THE SOURCE OF CO AFTER AN ALARM

Carbon monoxide is an odorless, invisible gas, which often makes it difficult to locate the source of CO after an alarm. These are a few of the factors that can make it difficult to locate sources of CO:

- House well ventilated before the investigator arrives.
- Problem caused by "backdrafting"
- Transient CO problem caused by special circumstances.

Because CO may dissipate by the time an investigator arrives, it may be difficult to locate the source of CO. BRK Brands, Inc. shall not be obligated to pay for any carbon monoxide investigation or service call.

## HOW CAN I PROTECT MY FAMILY?

A CO Alarm is an excellent means of protection. It monitors the air and sounds a loud alarm before carbon monoxide levels become threatening for average, healthy adults.

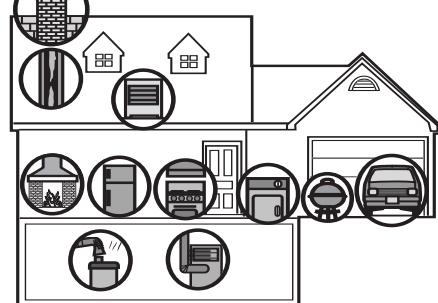
A CO Alarm is not a substitute for proper maintenance of home appliances.

To help prevent CO problems and reduce the risk of CO poisoning:

- Clean chimneys and flues yearly. Keep them free of debris, leaves, and nests for proper air flow. Also, have a professional check for rust and corrosion, cracks, or separations. These conditions can prevent proper air movement and cause backdrafting. Never "cap" or cover a chimney in any way that would block air flow.
- Test and maintain all fuel-burning equipment annually. Many local gas or oil companies and HVAC companies offer appliance inspections for a nominal fee.
- Make regular visual inspections of all fuel-burning appliances. Check appliances for excessive rust and scaling. Also check the flame on the burner and pilot lights. The flame should be blue. A yellow flame means fuel is not being burned completely and CO may be present. Keep the blower door on the furnace closed. Use vents or fans when they are available on all fuel-burning appliances. Make sure appliances are vented to the outside. Do not grill or barbecue indoors, or in garages or on screen porches.
- Check for exhaust backflow from CO sources. Check the draft hood on an operating furnace for a backdraft. Look for cracks on furnace heat exchangers.
- Check the house or garage on the other side of shared wall.
- Keep windows and doors open slightly. If you suspect that CO is escaping into your home, open a window or a door. Opening windows and doors can significantly decrease CO levels.

In addition, familiarize yourself with all enclosed materials. Read this manual in its entirety, and make sure you understand what to do if your CO Alarm sounds.

## POTENTIAL SOURCES OF CO IN THE HOME



Fuel-burning appliances like: portable heater, gas or wood burning fireplace, gas kitchen range or cooktop, gas clothes dryer.

Damaged or insufficient venting: corroded or disconnected water heater vent pipe, leaking chimney pipe or flue, or cracked heat exchanger, blocked or clogged chimney opening.

Improper use of appliance/device: operating a barbecue grill or vehicle in an enclosed area (like a garage or screened porch).

Transient CO Problems: "transient" or on-again-off-again CO problems can be caused by outdoor conditions and other special circumstances.

## UNDERWRITERS LABORATORIES INC. UL2034

## WHAT LEVELS OF CO CAUSE AN ALARM?

Underwriters Laboratories Inc. Standard UL2034 requires residential CO Alarms to sound when exposed to levels of CO and exposure times as described below. 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.
  - Approximately 10% COHb exposure at levels of 10% to 95% Relative Humidity (RH).
- The unit is designed not to alarm when exposed to a constant level of 30 ppm for 30 days.

## IMPORTANT!

CO Alarms are designed to alarm before there is an immediate life threat. Since you cannot see or smell CO, never assume it's not present.

- An exposure to 100 ppm of CO for 20 minutes may not affect average, healthy adults, but after 4 hours the same level may cause headaches.
- An exposure to 400 ppm of CO may cause headaches in average, healthy adults after 35 minutes, but can cause death after 2 hours.

## IMPORTANT!

This CO Alarm measures exposure to CO over time. It alarms if CO levels are extremely high in a short period of time, or if CO levels reach a certain minimum over a long period of time. The CO Alarm generally sounds an alarm before the onset of symptoms in average, healthy adults.

## GENERAL LIMITATIONS OF CO ALARMS

This CO Alarm is intended for residential use. It is not intended for use in industrial applications where Occupational Safety and Health Administration (OSHA) requirements for carbon monoxide detectors must be met.

CO alarms may not waken all individuals. If children or others do not readily waken to the sound of the CO alarm, or if there are infants or family members with mobility limitations, make sure that someone is assigned to assist them in the event of an emergency.

CO Alarms will not work without power. This alarm requires two standard AA batteries to operate.

CO Alarms for Solar or Wind Energy users and battery backup power systems: AC powered CO Alarms should only be operated with true or pure sine wave inverters. Operating this Alarm with most battery-powered UPS (uninterruptible power supply) products or square wave or "quasi sine wave" inverters will damage the Alarm. If you are not sure about your inverter or UPS type, please consult with the manufacturer to verify.

This CO Alarm will not sense carbon monoxide that does not reach the sensor. This CO Alarm will only sense CO at the sensor. CO may be present in other areas. Doors or other obstructions may affect the rate at which CO reaches the CO Alarm. For this reason, if bedroom doors are usually closed at night, we recommend you install a CO Alarm in each bedroom and in the hallway between them.

CO Alarms may not sense CO on another level of the home. For example, a CO Alarm on the second level, near the bedrooms, may not sense CO in the basement. For this reason, one CO Alarm may not give adequate warning. Complete coverage is recommended. Place CO Alarms on each level of the home.

## TROUBLESHOOTING GUIDE

PROBLEM...	THIS MEANS...	YOU SHOULD...
The light continues to flash (RED) and the horn "chirps" once every minute.	Low battery warning.	Install 2 new AA batteries*.
The light flashes (RED) and the horn sounds 3 quick "chirps" every minute.	MALFUNCTION SIGNAL. CO Alarm needs to be replaced.	CO Alarms under warranty should be returned to manufacturer for replacement. See "Limited Warranty" for details.
CO Alarm goes back into alarm 4 minutes after you press the Test/Silence button.	CO levels indicate a potentially dangerous situation.	IF YOU ARE FEELING SYMPTOMS OF CO POISONING, EVACUATE your home and call your emergency services or the Fire Department. If not, press the Test/Silence button again and keep ventilating your home.
CO Alarm sounds frequently even though no high levels of CO are revealed in an investigation.	The CO Alarm may be improperly located. Refer to "Where to Install CO Alarms."	Relocate your alarm. If frequent alarms continue, have home checked for potential CO problems