

FirstAlert USER'S MANUAL

COMBINATION CARBON MONOXIDE & SMOKE ALARM WITH VOICE & LOCATION

Features:

- Separate sensors to detect smoke and CO; the two alarm systems work independently
- Voice with programmable location
- Separate audible and visual signals to indicate alarm levels of smoke or CO
- Powered by two "AA" batteries
- Slide access drawer for easy battery replacement

IMPORTANT! PLEASE READ CAREFULLY AND SAVE. This user's manual contains important information about your combination Carbon Monoxide & Smoke Alarm's operation. If you are installing this Alarm for use by others, you must leave this manual— or a copy of it— with the end user.

CONFORMS TO
UL STD 217
AND
UL STD 2034
Model PC300V
M08-0408-002 Q 1/11/12 Printed in Mexico

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Consumer Affairs: (800) 323-9005 • www.firstalert.com

All FirstAlert Smoke Alarms conform to regulatory requirements, including UL and are designed to detect particles of combustible smoke particles of varying number and size are produced in all fires. Ionization technology is generally more sensitive than photoelectric technology at detecting small particles, which tend to be produced rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket, or a grease fire in the kitchen. Photoelectric technology is generally more sensitive than ionization technology at detecting large particles, which tend to be produced in greater amounts by smoldering fires, which may smolder for hours before bursting into flames through the ceiling. This Smoke Alarm is designed for maximum protection, use both types of Smoke Alarms on each level and in every bedroom of your home.

INTRODUCTION

FIRE SAFETY TIPS
Follow safety rules and prevent hazardous situations: 1) Use smoking materials properly. Never smoke in bed, 2) Keep matches or lighters away from kids, 3) Store flammable materials in proper containers, 4) Keep electrical appliances in good condition and don't overload electrical circuits, 5) Keep stoves, barbecue grills, fireplaces and chimneys grease- and debris-free, 6) Don't leave anything cooking on the stove unattended, 7) Keep portable heaters and open flames, like candles, away from flammable materials, 8) Don't let rubbish accumulate. Keep plants clean, and test them weekly. Replace alarms immediately if they are not working properly. Test Smoke Alarms that do not work cannot alert you to a fire. Keep at least one working fire extinguisher on every floor, and an additional one in the kitchen. Have fire escape ladders or other reliable means of escape from an upper floor in case stairs are blocked.

BASIC SAFETY INFORMATION

IMPORTANT! Read Warnings, and Cautions alert you to important operating instructions or to potentially hazardous situations. Pay special attention to these items.
• This Smoke/CO Alarm is approved for use in single-family residences. It is NOT designed for marine or RV use.

CAUTION!

This combination Smoke/Carbon Monoxide Alarm has two separate alarms. The CO Alarm is not designed to detect fire or any other gas. It will only indicate the presence of carbon monoxide gas which may be present in other areas. The Smoke Alarm will only indicate the presence of smoke that reaches the sensor. The Smoke Alarm is not designed to sense gas, heat or flames.

WARNING!

- This Smoke/CO Alarm cannot operate without working batteries. Removing the batteries for any reason, or failing to replace the batteries at the end of their service life, removes your protection.
- NEVER ignore any alarm. See "If Your Smoke/CO Alarm Sounds" for more information on how to respond to an alarm. Failure to respond can result in injury or death.
- The Silence Features are for your convenience only and will not correct a problem with the Alarm. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.
- Test this Smoke/CO Alarm once a week. If the Alarm ever fails to test correctly, have monoxide gas may be present in other areas. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.
- This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure CO levels in commercial or industrial settings. Individuals with medical conditions that may make them more sensitive to carbon monoxide should consider using medical monitoring devices that 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.

STEP BY STEP GUIDE TO PROGRAMMING THIS ALARM

For First Time and When Changing Batteries

- | Action: | Alarm Will Say: |
|--|--|
| 1. Insert batteries (2, AA batteries). | "Welcome, First Alert Carbon Monoxide and Smoke Alarm."
"No location programmed" if first time or "Location, example: 'Kitchen'" when changing batteries. |
| 2. Press & Hold Test Button if you would like to program the location or change the location of the Alarm (release button after Alarm responds). | "To save location, press and hold test button after location is heard." Alarm will speak list of locations (see below). |
| 3. After you hear the location of where you are placing the Alarm, Press & Hold the Test Button. | "Location, example: 'Kitchen' location saved."
If no location is chosen: "No location saved." |
- Your Alarm has now been programmed for the location of your choice.
- Available locations: Basement, Hallway, Office, Child's Bedroom, Dining Room, Living Room, Utility Room, Family Room, Master Bedroom, Guest Bedroom, No Location

WHAT YOU WILL SEE AND HEAR WITH THIS ALARM

- Under Normal Operations**
Voice: Silent
Power LED: Flashes Green once a minute
Horn: Silent
- When You Test the Alarm**
Voice: "Testing," "Warning, evacuate carbon monoxide in [Location, example: 'Kitchen'], Evacuate."
Horn: 3 beeps, pause, 3 beeps, voice
Power LED: Flashes Red, followed by:
Voice: "Warning, evacuate carbon monoxide in [Location, example: 'Kitchen'], Evacuate."
Horn: 4 beeps, pause, 4 beeps, voice
LED: Flashes Red
- If Battery Becomes Low**
Voice: "Replace battery in [Location, example 'Kitchen']" Repeated every 5 hours
Horn: chirps once a minute
Power LED: Flashes Green approximately once a minute

WHAT YOU WILL SEE AND HEAR WITH THIS ALARM, Continued

If Alarm is Not Operating Properly
Voice: "Detector error in [Location, example 'Kitchen'], please see manual." Repeated every 5 hours
Horn: 3 chirps every minute
LED: Three Green flashes approximately once a minute

Alarm has reached its End of Life
Voice: "Detector error in [Location, example 'Basement'], please see manual." Repeated every 5 hours
Horn: 5 chirps every minute
LED: Five Green flashes approximately once a minute

Alarm Levels of CO are Detected
Voice: "Warning, evacuate carbon monoxide in [Location, example: 'Kitchen'], Evacuate."
Horn: 4 beeps, pause, 4 beeps, voice
LED: Flashes Red

NOTE: If unit goes into CO alarm, the regular 4-beeps-brief-pause cycle will repeat for four minutes. After four minutes, the pause will increase to one minute.

Smoke is Detected
Voice: "Warning, evacuate smoke in [Location, example: 'Kitchen'], Evacuate."
Horn: 3 beeps, pause, 3 beeps, voice
LED: Flashes Red

Smoke Alarm is Silenced
Voice: Silent
Horn: Off
LED: Flashes Red

CO Alarm is Silenced
Voice: Silent
Horn: Off
LED: Flashes Red

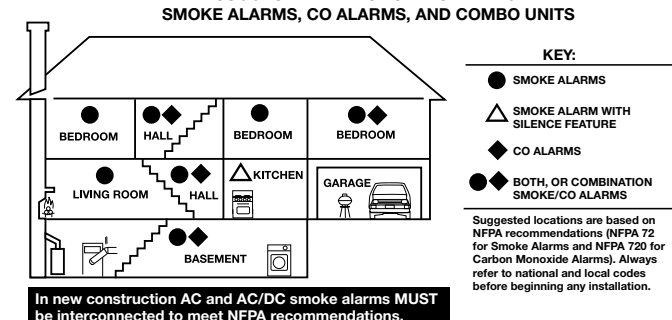
INSTALLATION

WHERE TO INSTALL THIS ALARM

Minimum coverage for Smoke Alarms. As recommended by the National Fire Protection Association (NFPA), one Smoke Alarm on every floor, every sleeping area, and in every bedroom. (See "Regulatory Information For Smoke Alarms" for details on the NFPA recommendations.)
For 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.
NOTE: For added protection, install an additional Smoke/CO Alarm at least 15 feet (4.6 meters) away from the furnace or fuel-burning heat source where there are portable homes or in proper containers; 4) Keep electrical appliances in good condition and don't overload electrical circuits; 5) Keep stoves, barbecue grills, fireplaces and chimneys grease- and debris-free; 6) Don't leave anything cooking on the stove unattended; 7) Keep portable heaters and open flames, like candles, away from flammable materials; 8) Don't let rubbish accumulate. Keep plants clean, and test them weekly. Replace alarms immediately if they are not working properly. Test Smoke Alarms that do not work cannot alert you to a fire. Keep at least one working fire extinguisher on every floor, and an additional one in the kitchen. Have fire escape ladders or other reliable means of escape from an upper floor in case stairs are blocked.

Recommended Placement

- SUGGESTED AREAS FOR INSTALLING SMOKE ALARMS, CO ALARMS, AND COMBO UNITS**
- On every level of your home, including finished attics and basements.
 - Inside every bedroom, especially if people sleep with the door partly or completely closed.
 - In the hall near every sleeping area. If your home has multiple sleeping areas, install a unit in each. If a hall is more than 40 feet (12 meters) long, install a unit at each end.
 - At the top of first-to-second floor stairs.
 - At the bottom of the basement stairs.
 - For additional coverage, install Alarms in all rooms, halls, and storage areas. Normal temperatures normally remain between 40° F and 100° F (4° C and 37.8° C).



- When installing on the wall, the top edge of Smoke Alarms should be located between 4 inches (102 mm) and 12 inches (305 mm) from the wall/ceiling line.
- When installing on the ceiling, place the alarm close to the center as possible.
- In either case, install at least 4 inches (102 mm) from where the wall or ceiling meet. See "Avoiding Dead Air Spaces" for more information.
- NOTE:** For any location, make sure no door or other obstruction could block carbon monoxide or smoke from reaching the Alarm.

Installing Smoke/CO Alarms in Mobile Homes
For minimum security install one Smoke/CO Alarm as close to each sleeping area as possible. For more security, put one unit in each room. Many older mobile homes (especially those built prior to 1978) have little or no insulation. If your mobile home is not well insulated, or if you are unsure of the amount of insulation, it is important to install units on inside walls only.

WHERE THIS ALARM ALARM SHOULD NOT BE INSTALLED

- Do NOT locate this Smoke/CO Alarm:
 - In garages, furnace rooms, crawl spaces and unfinished attics. Avoid extremely dusty, dirty or greasy areas.
 - Where combustion particles are produced. Combustion particles form when something burns. Areas to avoid include poorly ventilated kitchens, garages, and furnace rooms. Keep units at least 20 feet (6 meters) from the source of heat for combustion particles (space heater, water heater, space heater) if possible. In areas where a 20-foot (6 meter) distance is not possible—in modular, mobile, or smaller homes, for example—it is recommended the Smoke Alarm be placed as far from these fuel-burning sources as possible. The placement recommendations are intended to keep these Alarms at a reasonable distance from a fuel-burning source, and thus reduce "unwanted" alarms. Unwanted alarms can occur if a Smoke Alarm is placed directly next to a fuel-burning source. Ventilate these areas as much as possible.
 - Within 5 feet (1.5 meters) of any cooking appliances. In air streams near kitchens. Air currents can draw cooking smoke into the smoke sensor and cause unwanted alarms.
 - In extremely humid areas. This Alarm should be at least 10 feet (3 meters) from a shower, sauna, humidifier, vaporizer, dishwasher, laundry room, utility room, or other source of high humidity.
 - In direct sunlight.
 - In turbulent air, like near ceiling fans or open windows. Blowing air may prevent CO or smoke from reaching the sensors.
 - In areas where temperature is colder than 40° F (4.4°C) or hotter than 100° F (37.8°C). These areas include unconditioned crawl spaces, unfinished attics, uninsulated or poorly insulated ceilings, porches, and garages.
 - In insect infested areas. Insects can clog the openings to the sensing chamber.
 - Less than 12 inches (305 mm) away from fluorescent lights. Electrical "buzz" can interfere with the Alarm's operation. 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'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. Write down the number of a qualified appliance technician here.

AVOIDING DEAD AIR SPACES

"Dead air" spaces may prevent smoke from reaching the Smoke/CO Alarm. To avoid dead air spaces, follow installation recommendations below.

On ceilings, install Smoke/CO Alarms as close to the center of the ceiling as possible. If this is not possible, install the Smoke/CO Alarm at least 4 inches (102 mm) from the wall or corner.

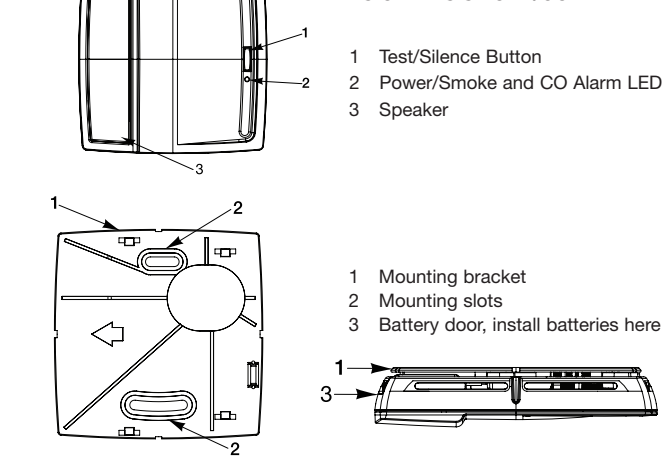
For wall mounting (if allowed by building codes), the top edge of Smoke/CO Alarms should be placed between 4 inches (102 mm) and 12 inches (305 mm) from the wall/ceiling line, below typical "dead air" spaces.

On a peaked, gabled, or cathedral ceiling, install first Smoke/CO Alarm centrally on the peak of the peak of the peak of the peak. Additional Smoke/CO Alarms may be required depending on the length, angle, etc. of the ceiling's slope. Refer to NFPA 72 for details on requirements for sloped or peaked ceilings.

HOW TO INSTALL THIS ALARM

IMPORTANT! This combination Smoke/CO Alarm was designed to be mounted on the ceiling or wall. It is not a tabletop device. You must install this device on the ceiling or wall as outlined below. Read "Where To Install This Alarm" before starting.

PARTS OF THIS SMOKE/CO ALARM



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

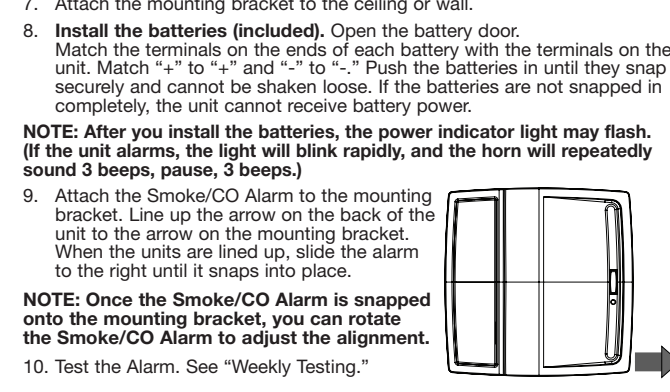
CAUTION!

- Do not install this unit over an electrical junction box. Air currents around junction boxes can prevent smoke from reaching the sensing chamber and prevent the unit from working. Only GFCI powered units are intended for installation over junction boxes.

NOTE: Be sure to mount the product in the orientation specified in the next steps as this provides the most stability for mounting the product to the wall or ceiling.

FOLLOW THESE SIMPLE STEPS:

- Turn alarm upside down so the circular shape is located in the upper left corner of the alarm.
- Slide mounting bracket to the left and lift to separate it from the base.
- Hold the mounting bracket against the ceiling (or wall) so the arrow located on the mounting plate is pointing to the left. (The circular shape will now be in right-riper-hand corner). Trace around the inside of the mounting slots.
- Put the unit where it won't get covered with dust when you drill the mounting holes.
- Using a 3/16" (5 mm) drill bit, drill a hole through the center of the oval outlines you traced in the ceiling or wall.
- Insert the plastic screw anchors (in the plastic bag with screws) into the holes. Tap the screw anchors gently with a hammer, if necessary, until they are flush with the ceiling or wall.
- Attach the mounting bracket to the ceiling or wall.
- Install the batteries (included). Open the battery door. Match the terminals on the ends of each battery with the terminals on the unit. Match "+" to "+" and "-" to "-". Push the batteries in until they snap securely and cannot be shaken loose. If the batteries are not snapped in properly, the unit cannot receive battery power.
- After you install the batteries, the power indicator light may flash. (If the unit alarms, the light will blink rapidly, and the horn will repeatedly sound 3 beeps, pause, 3 beeps.)
- Attach the Smoke/CO Alarm to the mounting bracket. Line up the arrow on the back of the unit to the arrow on the mounting bracket. When the units are lined up, slide the alarm to the right until it snaps into place.
- Once the Smoke/CO Alarm is snapped onto the mounting bracket, you can rotate the Smoke/CO Alarm to adjust the alignment.
- Test the Alarm. See "Weekly Testing."



IF THE SMOKE ALARM SOUNDS RESPONDING TO AN ALARM

- WARNING!** If you hear an alarm and you are not testing the unit, it is warning you of a potentially dangerous situation that requires your immediate attention. NEVER ignore any alarm. Ignoring the alarm may result in injury or death.
- Never remove the batteries from a battery operated Smoke/CO Alarm to stop an unwanted alarm (caused by cooking smoke, etc.). Removing batteries disables the alarm so it cannot sense smoke, and removes your protection. Instead, open a window and let the smoke away from the unit. The alarm will reset automatically.
- The unit alarms get everyone out of the house immediately.

WHAT TO DO IN CASE OF FIRE

- Don't panic; stay calm. Follow your family escape plan.
- Get out of the house as quickly as possible. Don't stop to get dressed or collect anything.
- Feel doors with the back of your hand before opening them. If a door is cool, open it slowly. Don't open a hot door. Keep doors and windows closed, unless you must escape through them.
- Cover your nose and mouth with a cloth (preferably damp). Take short, shallow breaths.
- Meet at your planned meeting place outside your home.
- Call the Fire Department as soon as possible. Get out safely.
- Call the Fire Department as soon as possible outside. Give your address, then your name.
- Never go back inside a burning building for any reason.
- Contact your Fire Department for ideas on making your home safer.

WARNING! Alarms have various limitations. See "General Limitations of Smoke/CO Alarms" for details.

USING THE SILENCE FEATURES

WARNING! Never remove the batteries to quiet an unwanted alarm. Removing the batteries disables the alarm and removes your protection. The Silence Feature is intended to temporarily silence the horn while you identify and correct the problem. Do not use the Silence Feature in emergency situations. It will not correct a CO problem or extinguish a fire.

The Silence Feature can temporarily quiet an unwanted alarm for several minutes. You can silence the alarm by pressing the Test/Silence button on the alarm cover for at least 3-5 seconds.

After the Test/Silence button is released, the Red LED blinks during the silence mode.

When the Smoke Alarm is Silenced	When the CO Alarm is Silenced
The Smoke Alarm will remain silent for up to 15 minutes, then return to normal operation. If the smoke has not cleared or continues to increase the device will go back into alarm.	The CO alarm will remain silent for up to 4 minutes. After 4 minutes, if CO levels remain potentially dangerous the horn will start sounding again.

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 on the alarm cover. Once the battery warning "chirp" silence feature is activated, the unit continues to flash the Green light once a minute for 8 hours. After 8 hours, the low battery "chirp" will resume. Replace the batteries as soon as possible; this unit will not operate without 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).

SILENCING THE END OF LIFE SIGNAL

This silence feature can temporarily quiet the End of Life warning "chirp" for up to 2 days. You can silence the End of Life warning "chirp" by pressing the Test/Silence button. The horn will chirp, acknowledging that the End of Life feature has been activated and cannot be backdrifted. Never "cap" or cover a chimney in any way that would block air flow.

After approximately 2 days, the End of Life "chirp" will resume.

WEEKLY TESTING

WARNING! NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to your unit or your home. The built-in test switch accurately tests the unit's operation as required. Once the test batteries are exhausted, the test switch will stop working. Exhaust may cause permanent damage and voids your warranty.

- DO NOT stand close to the Alarm when the horn is sounding. Exposure at close range may be harmful to your hearing. When finished, move away when horn starts sounding.

CAUTION!

It is important to test this unit every week to make sure it is working properly. Using the test button is the recommended way to test this Smoke/CO Alarm.

You can test this Smoke/CO Alarm by pressing and holding the Test/Silence button on the Alarm cover until Alarm Voice says "Testing" (typically 3-5 seconds).

During testing, you will see and hear the following sequence:

- The Alarm Voice will say "Testing." The Horn will sound 3 beeps, pause, 3 beeps. The Alarm Voice will say "Warning, evacuate carbon monoxide in [Location, example: 'Kitchen'], Evacuate."
Horn: 4 beeps, pause, 4 beeps, voice
LED: Flashes Red
- Next the Horn will sound 4 beeps, pause, 4 beeps. The Alarm Voice will say "Warning, evacuate carbon monoxide in [Location, example: 'Kitchen'], Evacuate." The LED flashes Red.

If the unit does not alarm, make sure the batteries are correctly installed, and test again. If the unit still does not alarm, replace it immediately.

REGULAR MAINTENANCE

This unit has been designed to be as maintenance-free as possible, but there are a few simple things you must do to keep it working properly.

- Test at least once a week.
- Clean the Smoke/CO Alarm at least once a month; gently vacuum the outside of the Smoke/CO Alarm using your household vacuum's soft brush attachment. A can of clean compressed air (sold at computer or office supply stores) may also be used. Follow manufacturer's instructions for use. Test the Smoke/CO Alarm. Never use water, cleaners or solvents since they may damage the unit.

WARNING! Actuation of your CO Alarm indicates the presence of carbon monoxide which may be present in other areas. Always check your home for a potential problem after any alarm. Failure to do so can result in injury or death.

IF THE CO ALARM SIGNAL SOUNDS:

- Press the Test/Silence button.
- Call your emergency services, fire department or 911. Write down the number of your local emergency service here.

Choosing a replacement battery:

Your Smoke/CO Alarm requires two standard AA alkaline batteries. The following brands are acceptable. Batteries are not limited to exhaust from internal-combustion engines, abnormal operation of fuel-fired appliances, and interconnect CO Alarms are intended to alarm at carbon monoxide levels below those that could cause a loss of consciousness. The data range of Carbon Monoxide exposure." This CO Alarm monitors the air at the Alarm, and is designed to alarm before the alarm becomes a medical emergency. You are urged to use the alarm as a warning to leave the house and correct the problem. This is only possible if gases are located, installed, and maintained as described in this manual.

WARNING! Always use the exact batteries specified by this User's Manual. DO NOT use rechargeable batteries. Clean the battery contacts and replace the batteries immediately after installation. Install batteries correctly with regard to polarity (+ and -).

Please dispose of or recycle used batteries properly, following any local regulations. Consult your local waste management authority for recycling instructions, or contact the manufacturer's recycling facility in your area. DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

WARNING!

Keep battery out of reach of children. In the event a battery is swallowed, immediately contact your poison control center, your physician, or the National Battery Ingestion hotline at 202-625-3333 as serious injury may occur.

IMPORTANT!

Actual battery service life depends on the Smoke/CO Alarm and the environment in which it is installed. All the batteries specified above are acceptable replacement batteries for this unit. Regardless of the manufacturer's suggested life cycle, you MUST replace the battery immediately once the unit starts "chirping" (the "low battery warning").

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, propane, and kerosene. 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 similar to those of 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, death.

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. Why is this important? Because you need to be warned of a potential CO problem while you can still react in time. In many instances of CO exposure, victims may be aware that they are not feeling well, but become disoriented and can no longer react well enough to exit the building or get help. Also, young children and old pets may be the first to be affected by CO. The average healthy adult might not feel any symptoms when the CO Alarm sounds. However, people with cardiac or respiratory problems, infants, unborn babies, pregnant mothers, or elderly people can be more quickly and severely affected by CO. If you experience even mild symptoms of CO poisoning, consult your doctor immediately!

FINDING THE SOURCE OF CO AFTER AN ALARM

Carbon monoxide is an odorless, invisible gas, which often makes it difficult to locate the sourcing of CO. There 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 problems 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.

POTENTIAL SOURCES OF CO IN THE HOME

- Fuel-burning appliances like:**
• Gas or oil heater, gas or wood-burning fireplace, gas kitchen range or cooktop, gas clothes dryer.
• Gas or oil furnace or boiler with extended periods (between cycles).
• Corroded or disconnected water heater vent pipe, leaking chimney pipe or flue, or cracked heat exchanger, blocked or clogged chimney.
• 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.

The following conditions can result in transient CO situations:

- Excessive spillage or reverse venting of fuel appliances caused by outdoor conditions such as:
 - Wind direction and/or velocity, including high, gusty winds. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
 - Negative pressure differential resulting from the use of exhaust fans.
 - Several appliances running at the same time competing for limited fresh 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 vented fuel burning devices (range, oven, fireplace).
- Temperature inversions, which can trap exhaust close to the ground.
- Car idling in an open or closed attached garage, or near a home. These conditions are dangerous because they can trap exhaust in your home. Smoke and carbon monoxide can come and go, they are also hard to recreate during CO investigations.

HOW CAN I PROTECT MY FAMILY FROM CO POISONING?

A CO Alarm is not a means of protection. It monitors the air and sounds a low 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 purpose Smoke Alarms 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 soot and ash. If the wrong type of fuel is burned and pilot lights. The flame should be blue. A yellow flame means fuel is not being burned completely and CO may be present. If you see the blower on the furnace or boiler, the vents or flues when they are available on 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 fan 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 seeping into your home, open a window or a door. Opening windows or doors can help reduce the CO level. If the wrong type of batteries are used, or if the batteries are not installed correctly, AC units cannot work if the AC power is cut off for any reason (open fuse or circuit breaker, failure along a power line or at a power station, electrical fire that burns the electrical wires, etc.). If you are concerned about the limitations of battery or AC power, install both types of units.

This Smoke/CO Alarm will not sense smoke or CO that does not reach the sensors. It will only sense smoke or CO that is present in the room. Doors or other obstructions may affect the rate at which CO or smoke reaches the sensors. If bedroom doors are usually closed at night, we recommend you install an alarm device (Combination CO and Smoke Alarm, or separate CO Alarms and Smoke Alarms) in each bedroom and in the hallway between them.

This Smoke/CO Alarm may not sense smoke or CO on another level of the home. Example: This alarm device, installed on the second floor, may not sense smoke or CO in the basement. For this reason, one alarm device may not give

REGULATORY INFORMATION FOR SMOKE/CO ALARMS

REGULATORY INFORMATION FOR SMOKE/CO ALARMS
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
• 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% CO 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 1 hour, especially in an average healthy adult, 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.

Standards: Underwriters Laboratories Inc. Single and Multiple Station carbon monoxide alarms UL2034.

According to Underwriters Laboratories Inc. UL2034, Section 1-1.2: "Carbon monoxide alarms covered by these requirements are intended to respond to the presence of carbon monoxide from sources such as, but not limited to, exhaust from internal-combustion engines, abnormal operation of fuel-fired appliances, and interconnect CO Alarms are intended to alarm at carbon monoxide levels below those that could cause a loss of consciousness. The data range of Carbon Monoxide exposure." This CO Alarm monitors the air at the Alarm, and is designed to alarm before the alarm becomes a medical emergency. You are urged to use the alarm as a warning to leave the house and correct the problem. This is only possible if gases are located, installed, and maintained as described in this manual.

Gas Detection at Typical Temperature and Humidity Ranges: The CO Alarm is designed to detect CO levels below those that could cause a loss of consciousness. The data range of Carbon Monoxide exposure is: Methane (500 ppm), Butane (300 ppm), Heptane (500 ppm), Ethyl Acetate (200 ppm), Isopropyl Alcohol (200 ppm) and Carbon Dioxide (5000 ppm). Values measure gas concentrations in parts per million.

Audible Alarm: 85 dB minimum at 10 feet (3 meters).

REGULATORY INFORMATION FOR SMOKE ALARMS

RECOMMENDED LOCATIONS FOR SMOKE ALARMS
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
• If the alarm is exposed to 400 ppm of CO, IT MUST ALARM BETWEEN 4 and 15 MINUTES

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