CARBON MONOXIDE DETECTION

There are three basic types of CO detection devices: Gel Cell, Electro-chemical, and Semiconductor.

Gel cell

Uses a sensing process in which a chemically treated filter changes color when exposed to CO. The color, which is read by a photoelectric eye, changes at the same rate as hemoglobin in human blood, getting darker as it absorbs higher levels. When a light sensor in the detector recognizes the color change, the alarm goes off.

Electro-chemical

Uses a chemical reaction that generates a current. The current flows through a circuit at a rate proportional to CO levels in the air. A microprocessor in the detector measures the CO concentration in the air, based on the current in the circuit.

Semiconductor

Uses metal oxide as a semiconductor, which changes its level of conductivity when exposed to CO. An electronic circuit senses the change in current through the semiconductor and sets off the alarm.

Which Type of Detector is Better?
All three types of detectors will assist in the detection of carbon monoxide.

How are CO Alarms Powered and Installed?
CO Alarms can be powered in three ways – battery, plug-in, or hardwired.

Battery Operated
➢ Are the easiest and cheapest to install. These alarms use adhesives, fasteners, and screws to mount to walls or ceilings.

➢ Can be moved and/or replaced in any location.

➢ Batteries need to be present and replaced at least once a year, or as needed, in order to continue operation of the alarm.

Plug-In
➢ Can be directly plugged in to a standard 120-volt electrical outlet.

➢ Usually located in an easy to see and reach area, which can provide easy access for testing and resetting, but also allows for easy tampering.

➢ Requires no annual battery replacement.

Hardwire
➢ Can be wired permanently into an AC power supply.

➢ Installation can be complicated and/or expensive. They often need to be installed by a licensed electrician.

➢ Location is less flexible.

➢ Provides a more reliable power source. However, in the event of a power failure, these alarms will become inoperable and require a battery back up.

➢ Multiple alarms can be interconnected so that every alarm sounds regardless of the location to the CO leak.

Which Power Source is Better?
Either power source is acceptable. However, hardwired are recommended, as they are less prone to be tampered with or have their power source disconnected or removed.

Buying CO Alarms
➢ The type of detector and brand you choose will be the one that meets your individual needs.

➢ Despite brand or type, ensure your CO alarm has been approved and labeled by an independent testing laboratory such as Underwriters Laboratories of Canada (ULC), Underwriters Laboratories (UL) or the Canadian Standards Association (CSA).

➢ Choose an alarm that features a test button.

➢ Consider a battery back-up power source for alarms powered by household electricity.

➢ Ensure your CO Alarm is equipped with an audible warning alarm.

Location and Placement of CO Alarms
➢ Install at least one CO alarm on every level of your home, including the basement (but not in unfinished attics).

➢ Locate a CO alarm outside of each bedroom or sleeping area in your home, and keep bedroom doors closed while you sleep.

➢ Follow the manufacturer's directions for location instructions. Manufacturers of CO alarms must ensure that their installation requirements meet CSA standards.

➢ If a CO alarm is to be mounted on a ceiling, it should be installed away from any existing smoke alarms in order to

allow for differentiation between a CO alarm and a smoke alarm in an emergency.

➢ On floors without bedrooms, install the alarm in or near each living area such as dens, living rooms or family rooms.

➢ Locate CO alarms about 5 feet away from fuel burning appliances such as furnaces, or fireplaces. Under normal conditions these will emit low levels of CO that will quickly dissipate and thus are not dangerous.

➢ Locate CO alarms about 5 feet away from areas where household gases or vapors may be present. Gases and chemicals can damage the sensing device in your alarm.

➢ Do not install an alarm near a window or air register where drafts can reduce the alarm operation and sensitivity.

Testing

➢ Test your CO alarm at least once a month. Follow manufacturers instructions for proper testing procedures.

➢ Ensure you test both the circuitry and the sensor inside the alarm.

What to do When the Alarm Sounds

➢ Know who to call. Contact your local fire department's non-emergency telephone number to find out what number to call if the CO alarm sounds. Post that number by the telephone and ensure everyone in the household knows where it is located.

➢ If no one in the household has CO symptoms

(headache, dizziness, nausea, fatigue), consumers should push the test/reset button to silence it, turn-off fuel burning appliances, and immediately ventilate their home by opening windows and outside doors.

➢ A qualified technician should be called immediately to inspect for sources of CO.

➢ If anyone is experiencing CO symptoms, immediately evacuate the home and call your local emergency service (9-1-1). Do not re-enter your home until a qualified technician has corrected the problem.

➢ Ventilation may dissipate CO build-up and prevent determination of the problem. Although your problem may appear to be temporarily solved, it is crucial that the source of the CO is determined and appropriate repairs made.

➢ • Make sure everyone in your home can hear and recognize the sound of the alarm and knows how to react immediately.

➢ • Plan regular fire drills (twice a year is best) to ensure that everyone knows exactly what to do when the CO alarm sounds. Ensure two ways out of every room and establish a meeting place outside the home.

Avoiding False Alarms

Unfortunately, CO alarms are electronic devices and, like any other electronic device, they may fail.

The following may cause nuisance alarms:
➢ Improper location. Installing an alarm next to fuel burning appliances, or gases and vapors from chemicals,

cleaning products or cigarette smoke can activate a false alarm. Keep all CO alarms at least 5 feet away from these items.

➢ Wear and tear. A CO alarm may wear out, regardless of type or quality. Follow manufacturer instructions for replacement schedules.

➢ Poor maintenance. False alarms can be heightened in dirty or greasy environments. Dirt will often collect in the alarm, making it dirty and more sensitive to activation.

NEVER IGNORE AN ALARM.

Even if you suspect false activation of your CO alarm, follow the steps above and contact a qualified technician to investigate the cause.