

**A. INTRODUCING the American Sensors Carbon Monoxide Alarm**

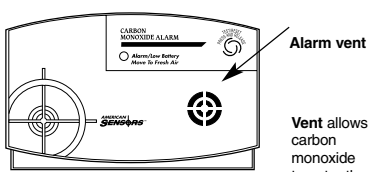
The American Sensors Carbon Monoxide Alarm is an effective product for detecting any build-up of carbon monoxide in your home. North American Detectors Inc., manufacturers of carbon monoxide alarms, has been developing products for detecting gases since 1985.

- Your new alarm:
- Is easy to install
  - Monitors for carbon monoxide continuously
  - Sounds a loud alarm (85 dB) when it detects a hazardous build-up of carbon monoxide
  - Is battery powered and will operate during a power failure (9V Alkaline battery included)
  - Has a hazard level, or full alarm
  - Has a Test/Reset button so that you can test or reset the alarm
  - Tests the electronics continuously
  - Has a five-year comprehensive warranty (battery excluded)

**B. What is carbon monoxide and why should you be concerned?**

Carbon monoxide is a dangerous, poisonous gas. It is often referred to as the Silent Killer because it has no odor or taste and it can't be seen. The presence of carbon monoxide inhibits the blood's capacity to transport oxygen throughout the body, which can eventually lead to brain damage. In any enclosed space (home, office, recreational vehicle or boat) even a small accumulation of carbon monoxide can be dangerous.

CO1100G shown here



**C. What are the potential sources of carbon monoxide?**

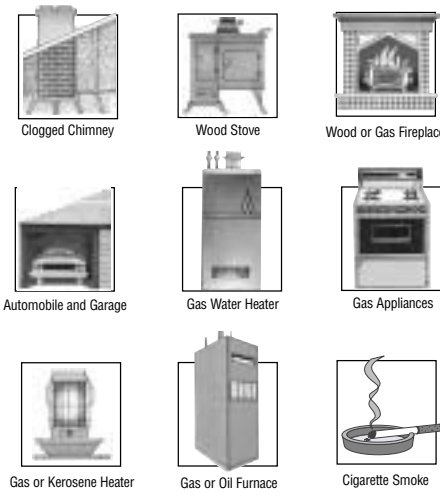
Although many products of combustion can cause discomfort and adverse health effects, it is carbon monoxide (CO) that presents the greatest threat to life.

CO is produced by the incomplete combustion of fuels such as natural gas, propane, heating oil, kerosene, coal, charcoal, gasoline or wood. The incomplete combustion of fuel can occur in any device that depends on burning for energy or heat such as furnaces, boilers, room heaters, hot water heaters, stoves or grills and in any gasoline-powered vehicle or engine (e.g., generator set or lawnmower). Tobacco smoke also adds CO to the air you breathe.

When properly installed and maintained, your natural gas furnace and hot water heater do not pollute your air space with carbon monoxide. Natural gas is known as a "clean burning" fuel because under correct operating conditions the combustion products are water vapor and carbon dioxide, which are not toxic. (Carbon dioxide (CO<sub>2</sub>) is also present in the air we exhale and is necessary for plant life.) The products of combustion are vented from furnaces and water heaters to the outside by means of a flue duct or chimney. Correct operation of fuel-burning equipment requires two key conditions. There must be:

- An adequate supply of air for complete combustion.
  - Proper venting of the products of combustion from the furnace through the chimney, vent or duct to the outside.
- Typical Carbon Monoxide Problems**
1. Equipment problems, due to defects, poor maintenance, damaged or cracked heat exchangers.
  2. Collapsed or blocked chimneys or flues, dislodged, disconnected or damaged vents.
  3. Downdraft in chimneys or flues; this can also be caused by very long or circuitous flue runs, improper location of flue exhaust or wind conditions.
  4. Improper installation or operation of equipment, chimneys or vents.
  5. Air tightness of house envelope results in a lack of air for the combustion process.
  6. Inadequate exhaust of space heaters or appliances.
  7. Exhaust ventilation/fireplace competing for air supply.

**D. Potential sources of carbon monoxide in your home:**



**E. What are the possible symptoms of carbon monoxide poisoning?**

Carbon monoxide (CO) is odorless, colorless, tasteless and very toxic. When inhaled, it produces an effect known as chemical asphyxiation. Injury is due to the combining of CO with the available hemoglobin in the blood, which lowers the oxygen-carrying capacity of the blood. In the presence of carbon monoxide, the body is quickly affected by oxygen starvation.

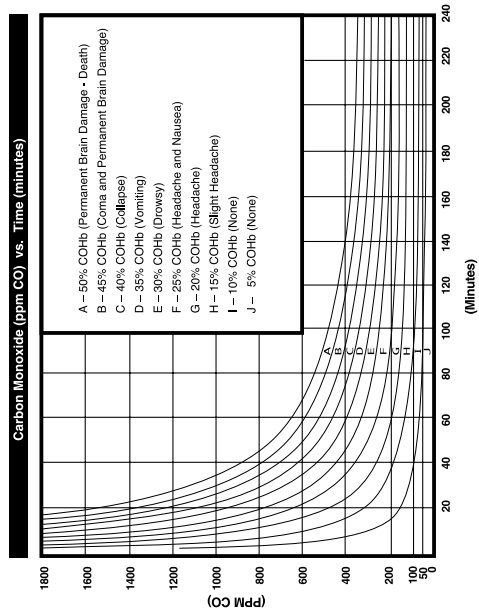
The following symptoms are related to carbon monoxide poisoning and should be discussed with all members of the household so that you know what to look for:

- Extreme Exposure (A-C):** Unconsciousness, convulsions, cardio-respiratory failure, death
- Medium Exposure (D-G):** Severe throbbing headache, drowsiness, confusion, vomiting, fast heart rate
- Mild Exposure (H-J):** Slight headache, nausea, fatigue (often described as "flu-like" symptoms)

Many cases of reported CARBON MONOXIDE POISONING indicate that while the victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Young children and household pets may be the first affected. Exposure during sleep is particularly dangerous because the victim usually does not awaken.

The amount of carbon monoxide in the air is measured as ppm (parts per million). The graph below shows the important relationship between carbon monoxide in the air, exposure time and health effects.

For most people, mild symptoms generally will be felt after several hours of exposure to 100 ppm of carbon monoxide. Higher levels will lead to more severe symptoms or death.



**F. Where should you install the alarm?**

Since carbon monoxide moves freely in the air, the suggested location is in or as near as possible to sleeping areas of the home. The human body is most vulnerable to the effects of carbon monoxide during sleeping hours. For maximum protection, a carbon monoxide alarm should be located outside primary sleeping areas or on each level of your home. In the figure below are suggested locations in the home. The electronic sensor detects carbon monoxide, measures the concentration and sounds a loud alarm before a potentially harmful level is reached.



Carbon Monoxide is approximately the same weight as air. Select a location as described above. The alarm will protect you whether it is located near the floor or high on the wall or ceiling.

Some locations may interfere with the proper operation of the alarm and may cause false alarms or trouble signals.

- Do not place the alarm in the following areas:
- Where the temperature may drop below 40°F (4.4°C) or exceed 100°F (37.8°C).
  - Near paint thinner fumes or household cleaning products. Ensure proper ventilation when using these types of chemicals.
  - Within 5 feet (1.5 m) of any cooking appliances.
  - In exhaust streams from gas engines, vents, flues or chimneys.
  - Do not place in close proximity to an automobile exhaust pipe; this will damage the alarm.

**Warning:** Model CO1100G is not UL listed for use in marine or recreational vehicles.

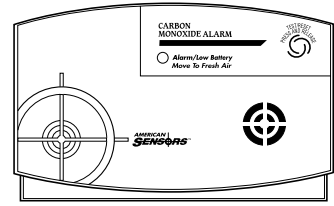
**G. How should you install your alarm?**

Your American Sensors Carbon Monoxide Alarm is easy to install to protect you and your family in your home, cottage, cabin and office. To work properly, the alarm must not be blocked by furniture or draperies.

To provide maximum protection please allow up to 72 hours for your alarm to fully initialize. It will, however, immediately warn you of dangerous CO levels if they are present in your home.

**Important:** Not suitable as a smoke alarm, or to detect other gases. This device is not suitable for installation in a hazardous location, as defined in the National Electrical Code.

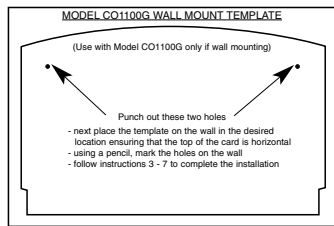
**Important:** Before installing or locating the CO1100G, connect the battery as per Section L.



This unit may be used as a table top or desk top model. Simply place the unit on its base in a location suggested in Section F.

Alternatively, to mount this model on a wall follow these steps:

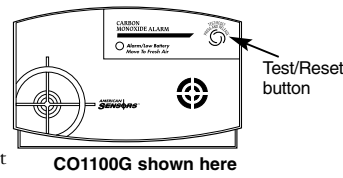
1. Select a location as per Section F.
2. Locate the paper CO1100G WALL MOUNT TEMPLATE included with this manual. Make 2 small holes in the template where indicated. Place it on the wall in the desired location and using a pencil, mark the two required holes as indicated. Template look like diagram below.



3. Using a 5 mm (3/16") drill bit, drill holes in the two spots you have marked (keep the alarm away from the dust while this is being done).
4. Insert the anchors provided into these 2 holes and then insert and tighten the screws provided until the head is about 6 mm (1/4") from the wall.
5. Slide the alarm onto the screws so that the unit's key hole slots are securely fitting on the screws.
6. Test the alarm by pushing the Test/Reset button as per Section H.
7. To remove the unit, gently slide the unit upwards until it comes free from the mounting screws and ease the alarm off the wall.

**H. How can you Test/Reset the alarm?**

Test alarm immediately following installation and weekly for proper operation by pushing the test button until a short beep is heard (approximately three seconds). Release the button. The alarm will then test itself for proper operation. The test is identified by 4 red LED flashes then 4 beeps with the red LED on repeated twice. The unit then resumes normal operation. To reset after an alarm press the Test/Reset button to silence or reset the unit for up to 5 minutes. Follow the instructions in Section M, which tell you what to do after an alarm. The American Sensors Carbon Monoxide Alarm is designed to do a continuous self-diagnostic check of its micro-processing circuitry when in use.

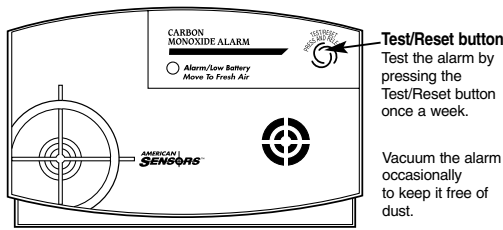


A malfunctioning unit is indicated by a periodic beep about every 45 seconds. If this occurs reset the unit. If it continues to occur replace the battery with a fresh recommended battery and reset the unit. If the unit again beeps intermittently, do not use this unit. If you have any questions regarding your alarm, please call:

**1-800-387-4219**

**I. How can you maintain your alarm?**

An alarm is useful only if it works. The following illustration explains proper maintenance:



**J. Cleaning Your Alarm**

To clean your alarm, remove it from the mounting bracket as outlined at the end of section G.

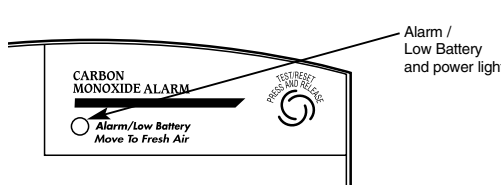
You can clean the interior of your alarm by using your vacuum cleaner hose and vacuuming through the openings around the perimeter of the unit.

The outside can be wiped with a damp cloth.

After cleaning, reinstall your alarm. Test your alarm by using the test/reset button

Test alarm weekly for proper operation by pushing the test button until a short beep is heard (approximately three seconds). Release the button. The alarm will then test itself for proper operation. At completion of the self test the unit resumes normal operation.

**K. What does the light indicate?**



- Red** - Flashes every 30 seconds to indicate unit is powered
- Unit is in alarm. The alarm is a repeating pattern of 4 beeps with the red LED on followed by a 5 sec. pause.

**L. How do you change the alarm's battery?**

Under normal conditions your battery should last about one year. Test the unit weekly by pushing the Test/Reset button. It is a good practice to test or change the battery when you change your smoke alarm battery.

The alarm has a low battery warning to warn you that the battery is running low. This is a beep approximately every 45 seconds. This low battery warning will continue for at least 7 days. Replace your battery immediately if this occurs to ensure ongoing maximum protection.

**Battery Replacement**  
Approved Battery - 9V Alkaline required  
Duracell MN1604/MX1604 (available at most general retail stores)

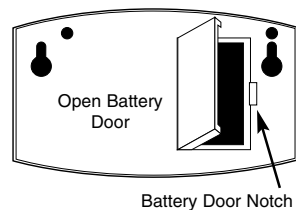
**WARNING**

- Use recommended battery only.
- Use of different battery may have a detrimental effect on the alarms operation.
- Constant exposures to high or low temperatures or high humidity may reduce the battery life.
- These carbon monoxide alarms will not operate with dead or missing battery or if their battery door is open or not closed completely.
- Do not remove the battery to use in any toys, remote controls or other household devices.
- Do not try to open the alarm except for the battery door. Opening the main housing of the alarm may damage the unit and will void the warranty.

**Important:** Before installing the alarm for the first time, connect the battery as specified in this section.

**Battery Replacement Instructions**

1. If the alarm is wall mounted remove it from the wall by gently sliding it upwards to lift it off the key hole slots.
2. Open the battery door at the battery door notch.
3. Replace battery with fresh recommended battery. The unit will beep once upon battery connection.
4. Test the unit by pressing the Test/Reset button as per Section H to confirm the unit is powered.
5. Return the alarm to its original location.



**M. What should you do if the ALARM sounds?**

If harmful levels of carbon monoxide are detected, your unit will go into a continuous full alarm. (The alarm is a repeating pattern of 4 red LED flashes with beeps.)

**WARNING**

Actuation of your CO alarm indicates the presence of carbon monoxide (CO) which can KILL YOU. If alarm signal sounds:

1. Operate reset/silence button;
2. Call your emergency services (Telephone # \_\_\_\_\_), [fire department or 911];
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 have 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 technician (Telephone # \_\_\_\_\_) 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.

**What to do after resetting the unit following an alarm?**  
A full continuous alarm within six minutes after reset confirms ongoing presence of harmful levels of carbon monoxide. If this occurs follow instructions 1-3 above.

**What to do after a carbon monoxide problem has been corrected?**

After a carbon monoxide problem has been corrected reset your unit by pushing the Test/Reset button as per the instructions in Section H.

**Warning:** This device will only alarm if carbon monoxide is detected. If not responded to, the presence of carbon monoxide can be fatal. For a list of sources of carbon monoxide, see Sections C and D.

**Caution:** This alarm will only indicate the presence of carbon monoxide at the sensor. Carbon monoxide is present in other areas. This device will detect CO from any source of combustion.

- Typical conditions which can result in CO false alarms:**
- 1) Excessive spillage or reverse venting of fuel burning appliances caused by outdoor ambient conditions, such as:
    - a) Wind direction and/or velocity, including high gusts of wind. Heavy air in the vent pipes (cold/humid air with extended periods between cycles).
    - b) Negative pressure differential resulting from the use of exhaust fans.
    - c) Simultaneous operation of several fuel burning appliances competing for limited internal air.
    - d) Vent pipe connections vibrating loose from clothes dryers, furnaces, or water heaters
    - e) Obstructions in or unconventional vent pipe designs which can amplify the above situations.
  - 2) Extended operation of unvented fuel burning devices (range, oven, fireplace, etc.).
  - 3) Temperature inversions which can trap exhaust gasses near the ground.
  - 4) Car idling in an open or closed attached garage, or near a home.

**N. Technical Information**

Your alarm utilizes a proprietary Electronic Sensing Technology that permits the unit to vary the exposure time before the alarm sounds based on carbon monoxide concentrations.

**Exposure Times**

The carbon monoxide concentrations and time standards for the alarms are as follows:

**The Full Alarm Activates**

- Within 60-240 minutes at exposures of 70 ppm
- Within 10-50 minutes at exposures of 150 ppm
- Within 4-15 minutes at exposures of 400 ppm

Model CO1100G	
Power Supply	9V Alkaline Battery Approved battery: Duracell MN1604/MX1604
Dimensions	6" x 4" x 1.5" CO1100G
Operating Temperature	4.4°C to 37.8°C (40°F to 100°F)
Relative Humidity	30% to 70%
Alarms	85 db at 10 ft
Light	Full Alarm - red Power - 1 red flash every 30 seconds

**Warning:** This product is intended for use in ordinary indoor locations of family living units. It is not designed to measure compliance with Occupational Safety and Health Administration (OSHA) commercial and industrial standards. Individuals with medical problems may consider using warning devices which provide audible and visual signals for carbon monoxide concentrations under 30 ppm.

Carbon monoxide alarm is designed to detect carbon monoxide gas from ANY source of combustion. It is NOT designed to detect smoke, fire or any other gas.

**O. Warranty Information**

**Limited Warranty**

Dicon Global Inc. warrants its product, the Carbon Monoxide Alarm (excluding battery), to be free from defects in material and workmanship under normal use and service for a period of five (5) years from date of purchase. Dicon Global Inc. makes no other express warranty for this Carbon Monoxide Alarm. No agent, representative, dealer or employee of the Company has the authority to increase or alter the obligations or limitations of this warranty. The Company's obligation of this warranty shall be limited to the repair or replacement of any part of the alarm which is found to be defective in materials or workmanship under normal use or service during the five (5) year period commencing with the date of purchase.

**Units may be returned to point of purchase according to retailers exchange / return policy.** Or call 1-800-387-4219, for shipping instructions and a returned goods authorization number, to return to Dicon Global Inc. Returned goods must be shipped prepaid. A cheque for \$5.00 is also required for return postage.

The Company shall not be obligated to repair or replace units which are found to be in need of repair because of damage, unreasonable use, modifications, or alterations occurring after the date of purchase. The duration of any implied warranty, including that of merchantability or fitness for any particular purpose, shall be limited to five (5) years on the alarm commencing with the date of purchase. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from province to province.

**Important:** Not suitable as a smoke or fire alarm, or to detect other gases. This device is not suitable for installation in a hazardous location, as defined in the National Electrical Code.

**P. Tips for the Homeowner**

**Energy Conservation and Indoor Air Quality**  
Two steps that homeowners take to conserve energy may adversely affect indoor air quality.

Since air leakage can account for as much as 40% of heat loss, houses are being made more air tight. Reduced air leakage will contribute to higher concentrations of air contaminants from indoor sources and can cause draft reversal in the furnace or fireplace chimney when the demand for air by fireplaces, furnaces and exhaust fans exceeds the air supplied by leakage area and supply ducts.

**Q. COMMONLY ASKED QUESTIONS**

**Q. What does the alarm sound like?**  
A. The alarm is a repeating pattern of 4 beeps with the red LED on followed by a pause.

**Q. Should I locate the unit in a high or low location?**  
A. Carbon monoxide is virtually the same weight as air and therefore, the alarm protects you in a high or low location.

**Q. Will this unit detect smoke and fire?**  
A. No, a carbon monoxide alarm only detects carbon monoxide. Smoke alarms are still necessary.

**Q. How do I test the unit?**  
A. Push the Test/Reset button. Do not test with car or vehicle exhaust. This method is dangerous to you and the pollutants from car or vehicle exhaust may damage the alarm.

**Q. How do I know when to change the battery?**  
A. The unit will beep approximately every 45 seconds when the battery is low. Battery will last at least one year.

**Q. Is it normal for the light to blink red?**  
A. Yes, the "ALARM/LOW BATTERY" light will briefly blink every 30 seconds to indicate the unit is powered.

Converting from oil to gas, without taking steps to prevent chimney deterioration, will increase the risk of chimney blockage, draft failure and the associated release of combustion products into the house. Qualified contractors and inspection by the gas company are recommended.

**Dirty and Blockage**

Never insulate or try to seal up a draft hood, wind cap or exhaust vent on any gas appliance (furnace, hot water heater, range, dryer or space heater). Keep your equipment area clean. Don't store anything that could restrict air circulation close to equipment.

It is absolutely essential to your safety that panels and grills on the furnace are kept in place and that the fan compartment door is closed when the furnace is operating.

If you have a gas water heater, make sure that combustion air openings at the bottom of the tank and the opening below the draft diverter (on top of the tank next to the flue duct) remain unblocked.

If you have a gas dryer, the exhaust duct must be vented to the outside and have a hood at the end. Check that the exhaust system is not blocked by lint or debris and that the flapper in the hood moves freely.

For all fuel-burning equipment, make sure that vent hoods and pipes are not blocked by insulation, leaves or bird nests.

**Using other equipment that consumes or exhausts household air**  
If you use exhaust fans, a fireplace or other fuel-burning heaters or stoves:

Run exhaust fans for just a minute or two at a time. Prolonged use could remove too much air, and it wastes heat.

Do not run power attic vents during the winter or when your furnace is on.

When your fireplace, coal or wood stove is operating, open a window and close off warm air registers in the room or install a fresh air duct directly to the fireplace or stove so that it won't steal air from your furnace.

**Confining or enclosing gas-fired equipment**

If you have partitioned off your furnace and water heater, you may need additional ventilation.

**Danger Signs**

Stuffy, stale or smelly air, back drafts and soot from a fireplace or furnace chimney usually means your home needs more air for proper combustion and healthy living. For gas-fired equipment, mostly yellow (rather than clear blue) burner flames, a pilot light that keeps going out, or a smell of gas indicates trouble. Turn off the equipment and contact your gas company emergency service.

**Additional Safety Tips**

Have your fuel-burning equipment checked periodically for safety and efficiency by a qualified service technician.

If you are adding a wood or coal-burning stove to a home, make sure that the stove is properly installed and vented. Check with the Building and Inspections Department of your local municipality or consult a heating contractor before installation. If you have already installed a wood or coal stove without a building permit or inspection, consult your local municipal building authority. Some "do-it-yourselfers" have unknowingly created dangerous conditions. Once you file for a permit, a qualified inspector will check your installation and explain how to rectify any mistakes.

Do not expose yourself to carbon monoxide through carelessness. Never operate a gasoline-powered engine in a confined or enclosed space such as a garage or tool shed. Never use a kerosene stove or charcoal grill in a confined space such as a closed garage or recreational van.

On masonry chimneys inspect the clean-out regularly to ensure that the chimney is free and clear of debris.

Regardless of the fuel your furnace, fireplace or stove uses, your chimney should be inspected from time to time by a competent chimney contractor.

Never try to add a "heat reclaimer" or "automatic flue damper" to your gas furnace or water heater. Gas installation safety codes prohibit use of these devices as an add-on to an existing furnace because of the risks of incorrect installation and mechanical failure.

When using paints, household cleaning supplies or similar materials, be sure that you're using them in a well ventilated area.

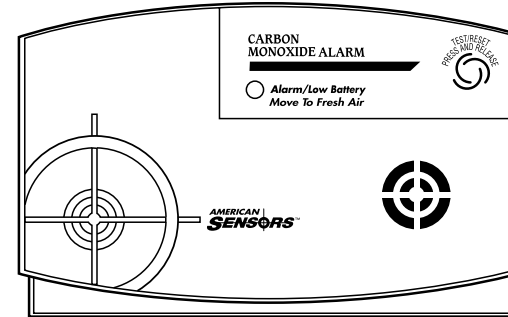
Following sensible maintenance and safety procedures in the home will give you fuel savings without endangering your health.

American Sensors is a leader in the development and manufacture of Carbon Monoxide, Natural Gas, Propane Gas and Smoke Alarms. Through the distribution of indoor air quality management products, American Sensors is committed to the establishment and maintenance of a safe and healthy home and work environment.

**1 (800) 387-4219**



**Dicon Global Inc.**  
20 Steelcase Road West, Unit 3  
Markham, Ontario,  
Canada L3R 1B2



**Owner's Manual**  
Battery Powered Model

CO1100G-Table Top, Travel or Wall Mount Rectangular