

INTRODUCTION

IMPORTANT: Please read this entire owner's manual and follow all directions as written.

This symbol alerts you to important operating instructions or to potentially hazardous situations. Please read these items carefully.

Models

- **SA308—Basic**
- **SA310—Basic**
- **SA318—General Purpose**
- **SA320—General Purpose**
—Alarm-Pause® feature silences nuisance alarms
—Recommended for kitchen area, suitable for all rooms
- **SA500—Multi-location**
- **SA900—Multi-location with Long Life Lithium Battery**

IMPORTANT INFORMATION ABOUT YOUR SMOKE ALARM

- Install alarms outside of every bedroom area and on every floor of your home. Please refer to Section 3 "Where to Locate Smoke Alarms" for details.
- Install the alarm as close as possible to the center of the ceiling.
- Your Smoke Alarm is packaged with battery/batteries disconnected. Connect them before mounting the unit. Ensure proper polarity of batteries. Alarm may be damaged if batteries are reversed.
- Replace batteries if the smoke alarm beeps approximately once every 45 seconds (low battery warning).
- Test the alarm weekly by pressing and holding the cover/test button for up to 20 seconds until the alarm sounds.
- Smoke alarms have a limited life service. **See the replacement year printed on the side of the alarm.**
- Models described in this manual are designed for single family residences, including homes and apartments, rather than commercial or industrial use.

Smoke Alarm Safety Features

- **Alarm Signal** – loud pulsating sound.
- **Operating Light (LED)** – Light flashes approximately every 45 seconds to let you know that the unit is powered.
- **Low Battery Warning Beep** – Approximately every 45 seconds for up to 30 days to alert you when the battery needs replacing.
- **Battery Removal Indicator** – Cover resists closing if battery is removed.
- **Dual-Ionization Chambers** – Advanced design responds to visible or invisible particles of combustion (smoke) to sense fires in their earliest stages. Compensates for changes in humidity and temperature to virtually eliminate "nuisance" alarms caused by normal atmospheric changes in the home.

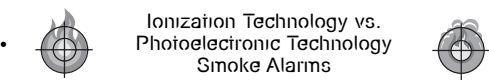
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1. CAPABILITIES AND LIMITATIONS OF SMOKE ALARMS

American Sensors smoke alarms are designed to provide early warning of fire and smoke at reasonable cost. Early warning can mean the difference between a safe escape and no escape at all. While smoke alarms can provide invaluable protection for you and your family, they do have limitations.

- **Smoke alarms cannot work without power.** Battery operated alarms will not work without proper batteries, with dead batteries or if batteries are not properly installed. AC powered alarms will not work if their AC power supply is cut off by an electrical fire, an open fuse, a circuit breaker or any other reason.
- If you are concerned about the reliability of either batteries or your AC power supply for any of the above reasons, you should install in your home both AC and battery powered smoke alarms for added security.
- **Smoke alarms are incapable of sounding the alarm until smoke reaches the sensing chamber.** Anything preventing smoke from reaching the alarm may delay or prevent an alarm. A smoke alarm cannot detect fire in the walls, chimney or roof unless and until a significant amount of smoke reaches the alarm. A closed door may prevent smoke from reaching an alarm on the other side of the door. A smoke alarm may not sense a fire on another floor of a home. For example, a basement smoke alarm may not detect a fire which started on the first or second floor.
- **Smoke alarms may not be heard.** The loudness of the horn in your alarm meets current standards. However, the sound may be blocked by distance, closed doors, or ambient noise such as traffic or a stereo. Smoke alarms may not be heard by persons who are hard of hearing. For these reasons, a **smoke alarm should be installed in every room or at least on every level of your home.** American Sensors recommends that hardwired AC powered smoke alarms be interconnected, so that one alarm will trigger all other alarms to sound their alarms.
- **Smoke alarms are not fool-proof.** Smoke alarms may not always sense every kind of fire. They cannot be expected to sense fires caused by carelessness or by safety hazards. They may not give early warning of fast growing fires caused by smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, natural causes such as lightning, children playing with matches, or arson.
- **Smoke alarms are not substitutes for property, disability, life or other insurance of any kind.** Home owners and renters should continue to insure their lives and property. Consult your insurance agent.
- **Smoke alarms have limited lives.** Your smoke alarm should be replaced if it is 10 years old. One or more of the many components could fail at any time. Therefore, test your smoke alarm weekly. Clean and take care of it as described in this manual. Repair or replace the smoke alarm when it fails to test properly.



There are two different types of smoke alarm technology currently in general use: ionization and photoelectric. While both types of technology are suitable for general residential use, an ionization alarm will normally respond faster to fast flaming fires, while a photo-electronic alarm may be more sensitive to detecting slow smoldering fires. Because home fires develop in different ways and are often unpredictable in their growth, it is impossible to predict which type of alarm will provide the earliest warning. For best home protection install at least one photoelectric and one ionization smoke alarm on each level of your home. Models SA308, SA310, SA318, SA320, SA500 and SA900 are ionization type smoke alarms.

A photoelectric smoke alarm senses smoke using an electronic photo receptor to sense the scattering of light by smoke particles.

2. SAFETY TIPS

- Properly installed and maintained smoke alarms are an essential part of a good home fire safety program. **Your fire safety program should also include a review of fire hazards and the elimination of dangerous conditions** whenever possible. Consider the following tips:
- Use smoking materials properly. Never smoke in bed.
 - Keep matches and cigarette lighters away from children.
 - Store flammable materials in proper containers. Never use them near an open flame or sparks.
 - Keep electrical appliances in good condition. Do not overload electrical circuits.
 - Keep stoves, fireplaces, chimneys, and barbecue grills grease free. Make sure they are properly installed and away from any combustible materials.
 - Keep portable heaters and open flames such as candles away from combustible material.
 - Do not allow rubbish to accumulate.
 - Keep a supply of extra batteries on hand for your battery powered smoke alarms.
 - Do not stand too close to the alarm when the unit is in alarm as the loud horn could damage your hearing.

WARNING: Never disconnect the battery or the AC power on any type of smoke alarm to silence a nuisance alarm.

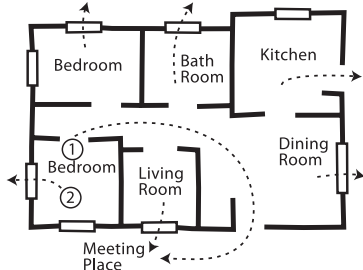
Clear the area of smoke by opening doors or windows or fanning the smoke away. Press the cover/test button on models SA318, SA320, SA500 and SA900 to activate the Alarm-Pause® feature.

Most important, when fire strikes, a prepared and practiced escape plan can make the difference between life and death. Develop an escape plan and practice it with the entire family, including small children.

- Ensure all family members are familiarized with the alarm signal.
- Prepare an escape plan. Draw a Floor Plan of Your Home and determine two exits from each room. There should be a way to get out of each bedroom without opening the door.
- Have Fire Drills Often. Practice your Escape and BE PREPARED.
- Decide on a meeting place at a safe distance from your home.

ESCAPE PLAN IN CASE OF FIRE

- Don't waste time collecting possessions after a fire starts.
- Arouse all occupants and leave the building. Your most valuable possession is your life.
- Doors can mean escape or death. Never open doors without first checking for heat. Test them with your hands, if they feel warm, fire may be walled up behind them – leave closed and find another escape route.
- Call the fire department from OUTSIDE the building.
- If trapped inside, stay close to the floor, cover mouth with cloth, conserve breath as you crawl to safety.
- Keep all doors and windows closed except for escape purposes.
- NEVER re-enter a burning building.
- Keep your family in a pre-arranged meeting place after your escape.

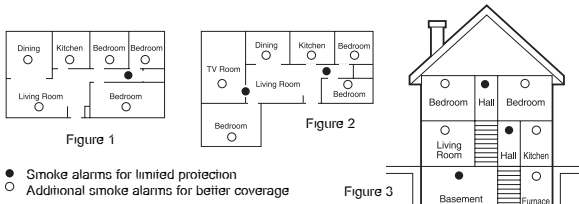


Your local fire department may be able to offer you additional ideas for safety and escape plans in the home.

3a. WHERE TO LOCATE SMOKE ALARMS

- As a minimum, smoke alarms should be located between sleeping areas and potential sources of fire such as a kitchen, heated garage or basement. In single story homes with one sleeping area, an alarm should be installed in the hallway outside the bedrooms (see Figure 1). In single story homes with two separate sleeping areas, a minimum of two alarms are required, one outside each sleeping area (see Figure 2). In multi-level or split-level homes, as a minimum, an alarm should be installed outside each sleeping area, in the basement and at every level of the home (see Figure 3).
- In every room of your home (except the bathroom); Research indicates that substantial increases in warning time can be obtained with each properly installed, additional alarm.
- In bedrooms: In anticipation of fires originating within these rooms, caused by faulty wiring, lamps, appliances, smoking or other hazards.
- In hallways: At a distance no greater than 13 feet (4 meters) from the farthest wall and no greater than 26 feet (8 meters) from the next alarm.
- In the center of a room or hallway: As it is impossible to predict the source of a fire. If it is necessary to place the alarm on a wall, always locate the top of the smoke alarm 4–8 inches (10–15 cm) from the ceiling.
- As needed: To compensate for closed doors and other obstacles that may interfere with the path of smoke to an alarm. They may also prevent occupants on one side of a closed door from hearing an alarm on the other side of the door.

- Do not install it directly over a stove, toaster or dishwasher.



These diagrams show smoke alarm locations as recommended above in 3a.

- **Models SA308/SA310—Basic Models**—can be located in any area of the home.
- **Models SA318/SA320/SA500/SA900—General Purpose Models**—can be located in any area of the home. Its Alarm-Pause® feature makes it ideal in the kitchen area to silence nuisance alarms.

READ "CAPABILITIES AND LIMITATIONS OF SMOKE ALARMS" in Section 1 of this manual.

Your local fire department or insurance company may be able to give you further advice on the best smoke alarm locations in your home. Call them and ask.

3b. WHERE TO LOCATE SMOKE ALARMS IN MOBILE HOMES

In mobile homes built after 1978 locate the smoke alarm as described above.

Older mobile homes may have little or no insulation compared to the ones built post 1978. These uninsulated exteriors can disrupt airflow around the smoke alarm in hotter or colder weather. **Locate the alarm only on interior walls 4" to 6" (10 to 15 cm) from ceiling**. If you own an older mobile home, 2. If you notice the exterior walls and/or ceiling are noticeably cold or warm 3. If you are uncertain about the quality of insulation.

Regardless of the age of the mobile home, locate alarms throughout to ensure maximum protection. Follow the location instructions in this manual.

4. NFPA RECOMMENDATIONS

For your information, the National Fire Protection Association's Standard 72 reads as follows:

2-2.1.1.1 Smoke alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit, including basements and excluding crawl spaces and unfinished attics. In new construction a smoke alarm also shall be installed in each sleeping room.

A-2.5.2.1 Smoke Detection – Are More Smoke Alarms Desirable? The required number of smoke alarms might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke alarms. For this reason, it is recommended that the householder consider the use of additional smoke alarms for those areas for increased protection. The additional areas include the basement, bedrooms, dining room, furnace room, utility room, and hallways not protected by the required smoke alarms. The installation of smoke alarms in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

5. LOCATIONS TO AVOID

Avoid locations where smoke may not reach the alarm in time to provide early warning, or where the alarm may not be effective.

DO NOT PLACE SMOKE ALARMS:

- **In turbulent air** from fans, doors, windows, etc. The rapid air movement may prevent combustion particles from entering the alarm.
- **In dead air spaces** such as at the peak of an "A" frame ceiling. "Dead air" at the top may prevent smoke from reaching the alarm in time to provide early warning. In rooms with simple sloped, peaked or gabled ceilings, install smoke alarms on the ceiling 3 feet (90 cm) from the highest point of the ceiling. Note: For complex ceiling structures, consult a safety expert for the number of alarms required and the best locations.
- **In very hot or cold areas** where the temperature exceeds 100°F (37.8°C) or falls below 40°F (4.4°C).
- Less than 6 inches (15 cm) from the wall when mounted on the ceiling.
- Nuisance alarms could result when smoke alarms are located where interference may occur with the sensing chamber. **To avoid nuisance alarms, DO NOT place smoke alarms:**
- **In high humidity areas** such as bathrooms and attics. Place smoke alarms at least 10 feet (3 meters) away from bathrooms.
- In insect-infested areas.
- **In poorly ventilated kitchens or garages.**
- **In very dusty and dirty areas.**
- **Near fluorescent lights.** Place smoke alarms at least 5 feet (1.5 meters) from fluorescent lights.
- **WARNING:** Do not connect this smoke alarm to any other alarm or auxiliary device. Connecting the alarm to any other device may be detrimental to its proper operation.

6. INSTALLATION AND TESTING

A. Testing Before Installation

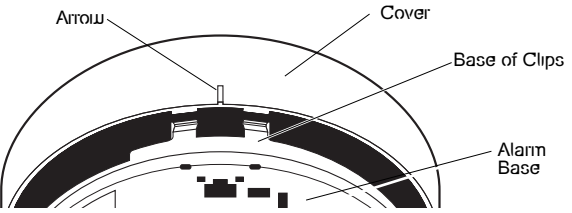
- **Connect battery.** Storage in low humidity, and certain transportation conditions, may cause electrostatic charges to build-up in the alarm system housing. Although harmless, these charges may increase the length of time during which the horn sounds upon battery insertion or test button operation. The condition may be cleared by gently wiping the outside of the plastic cover with a clean, damp cloth.
- **Check the operating light.** It should flash approximately every 45 seconds.
- **MODELS SA308/SA310:** Press and hold the cover/test button until alarm sounds. Note: It may be necessary to press the cover for up to 20 seconds for alarm to sound. An alarm is indicated by a loud continuous pattern sound. Alarm may continue to sound for up to 10 seconds after cover is released.
- **MODELS SA318/SA320/SA500/SA900, Alarm-Pause® Models:** Press the cover for a minimum of 5 seconds, until the horn sounds, then release. The horn will stop sounding. The alarm will be in Alarm-Pause® mode. In this mode, the alarm should be silenced for approximately 8 to 10 minutes unless there is a very heavy build-up approaching 4 per cent.

foot obscuration. In Alarm-Pause® mode, the LED will flash once every 10 seconds to indicate that the Alarm-Pause® feature is on. After approx. 10 minutes, the alarm will beep twice to indicate the alarm sensitivity has returned to normal.

IF THERE IS ANY QUESTION AS TO THE CAUSE OF AN ALARM, ALWAYS ASSUME THAT IT IS DUE TO AN ACTUAL FIRE AND FOLLOW YOUR FIRE EMERGENCY PLANS. Do not assume it is a nuisance or false alarm. Valuable time for escape could be lost.

Installation

- Obtain a screwdriver and a drill with 3/16" (5 mm) bit.
- Find the arrow along the side of the cover. Located under are 2 clips. To open the smoke alarm, press down on the base of clips while lifting the cover at the same time. Handle the unit with care to avoid damage.



- **IF MOUNTING SMOKE ALARM ON WALL** – Place alarm on wall so that the hinge for the cover faces the floor, and the arrow indicating where to open, faces the ceiling. This mounting position ensures that the cover hangs open as a visual reminder that the battery is missing. This position also provides good visibility of screw holes for easy installation.
- Mark holes through the alarm base, then remove the alarm. Drill two 3/16" (5 mm) holes to line up with mounting holes in the alarm base. Keep smoke alarm out of reach from plaster dust while drilling.
- Insert the plastic anchors. Screw alarm base onto ceiling support.
- Properly install batteries.
- Close cover and test as recommended in this section.

Note: For a more complete discussion of installation and location requirements refer to: CAN/ULC-S553-M86 "Standard for the Installation of Smoke Alarms" (available from Underwriters Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario M1R 3A9).

B. Testing After Installation

- Press the cover/test button for a minimum of 5 seconds, until the horn sounds, then release. The horn will stop sounding.
- **MODELS SA318/SA320/SA500/SA900 – Alarm-Pause®:** Perform as above. The alarm should be silenced as described in Part A of Section 6. **REMEMBER – RELEASING THE COVER AUTOMATICALLY ACTIVATES THE ALARM-PAUSE® FEATURE FOR APPROXIMATELY 10 MINUTES.**
- At least once a week, press the test button/cover until the alarm sounds, then release.

7. BATTERY REPLACEMENT

MODELS SA308/SA310/SA318/SA320: The Eveready 216, 522, 1222, Duracell MN1604, MX1604 and Gold Peak1604P/S/A are the only acceptable batteries for use in this smoke alarm. The battery will power the smoke alarm for at least one year under normal use. When the battery reaches the end of its normal life, a low battery warning (intermittent beeping) will indicate the need for battery replacement for up to 30 days.

MODEL SA500: Your smoke alarm uses one 9 Volt battery. The Duracell MN1604, MX1604 or Eveready 522 and GP1604A are the only acceptable batteries for use in this smoke alarm.

MODEL SA900: Your smoke alarm uses one 9 Volt Lithium battery. The Ultralife USVL-J powercell is the only acceptable battery for use in this smoke detector when the battery needs to be replaced.

Replacement batteries are available at most retail outlets.

WARNING: Use of non-recommended batteries may be detrimental to the proper functioning of the alarm.

REPLACEMENT OF SMOKE ALARMS AFTER 10 YEARS OF SERVICE

Smoke alarms contain electronic parts that may fail and components that can deteriorate over time. Therefore, smoke alarms have a limited service life. **See the replacement year printed on the side of the alarm.**

8. MAINTENANCE & TROUBLESHOOTING

VACUUM EVERY SIX MONTHS
Your Smoke Alarm should be cleaned every six months to help keep it working efficiently. Open cover and gently vacuum interior of alarm. Keep vacuum nozzle from touching unit.

Do not paint the unit.
TEST WEEKLY BY PRESSING TEST BUTTON
PROBLEMS MAY BE INDICATED BY THE FOLLOWING:

- The alarm does not sound upon pressing the test button/cover.
- The operating light remains steadily on or off (i.e. does not flash once every 45 seconds, when the unit is not in alarm).
- The alarm "beeps" once every 45 seconds (Low Battery Warning).

TRY THE FOLLOWING:

- Inspect for obvious damage.
- Gently vacuum as recommended above.
- Check that unit contains recommended battery type.
- Check that batteries are properly connected.
- Replace battery.

If these procedures do not correct the problem, do NOT attempt repairs. If the smoke alarm is within warranty period and terms, indicate the nature of the problem and return the unit with proof of purchase to the point of purchase, distributor or manufacturer. See below for instructions. Units beyond warranty cannot be economically repaired.

FALSE ALARMS:
Abnormal air conditions may cause the highly sensitive smoke alarm to give a "false" alarm. If no fire is apparent, ventilate the room and/or blow fresh air into the unit until the alarm stops. Once cleared, the smoke alarm will automatically reset.
DO NOT DISCONNECT THE BATTERY.
Dust can lead to excess sensitivity. Vacuum as recommended above.

Models SA318, SA320, SA500 and SA900: Press the cover to activate Alarm-Pause® feature.

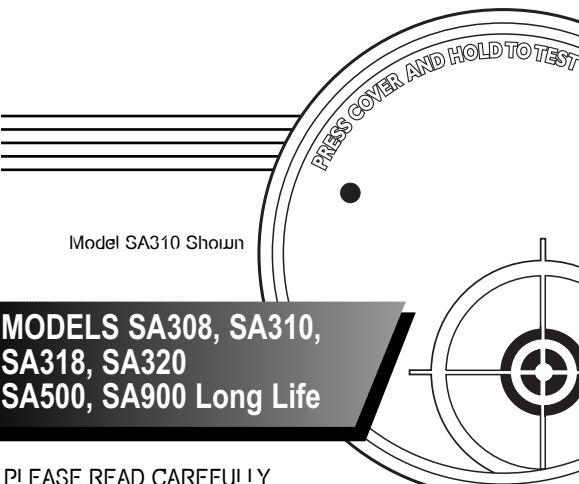
Smoke alarms contain electronic parts that may fail and components that can deteriorate over time. Therefore, smoke alarms have a limited service life. In order to prolong the service life and to provide optimal performance, smoke alarms should be tested and cleaned periodically. It is strongly recommended that smoke alarms be replaced within 10 years of original installation.

9. 10 YEAR LIMITED WARRANTY

Your American Sensors SA308, SA310, SA318, SA320, SA358, SA500 Smoke Alarms, excluding the battery, and the SA900 including the powercell USVL-J, are warranted for ten years from date of purchase against defects in material and workmanship. Units returned to Dicon Global Inc. with proof of purchase date during this period as a result of such defects will be repaired, or replaced at Dicon Global Inc.'s option. This warranty only covers defects in material or workmanship in normal residential use and does not cover the battery, nor does this warranty cover damage resulting from negligent handling, misuse, or lack of reasonable care. This warranty is in lieu of any other warranty either expressed or implied. DICON GLOBAL INC. SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE, OR ANY SPECIAL INCIDENTAL, CONTINGENT OR CONSEQUENTIAL DAMAGE OF ANY KIND RESULTING FROM A FIRE. THE EXCLUSIVE REMEDY FOR BREACH OF THE LIMITED WARRANTY CONTAINED HEREIN IS THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT AT DICON GLOBAL INC.'S OPTION. IN NO CASE SHALL DICON GLOBAL INC.'S LIABILITY UNDER ANY OTHER REMEDY PRESCRIBED BY LAW EXCEED THE PURCHASE PRICE. YOUR SMOKE ALARM IS NOT A SUBSTITUTE FOR PROPERTY, DISABILITY, LIFE OR OTHER INSURANCE OF ANY KIND. APPROPRIATE COVERAGE IS YOUR RESPONSIBILITY. CONSULT YOUR INSURANCE AGENT.

This warranty gives you specific legal rights and you may also have other rights which may vary from State to State. Return to point of purchase for servicing. Or, for repair or replacement within the warranty period, return this product (or send it postage prepaid) along with proof of purchase date to Dicon Global Inc. Please enclose a note stating the nature of the difficulty. Prior to sending, please call our toll free 1-800 line (1-800-387-4219) to establish a Returned Goods Authorization ("RGA") number and the latest instructions to serve you promptly. Please mark this number on the exterior of your package. Note: Date Code located on back of smoke alarm.

Dicon Global Inc.
20 Steelcase Road West, Unit 3
Markham, Ontario Canada
L3R 1B21-800-387-4219
www.diconglobal.com



MODELS SA308, SA310, SA318, SA320 SA500, SA900 Long Life

PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE.
This manual contains important information. A copy of this manual must be left with the end user.

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