SMOKE ALARM LIMITATIONS AND FUNCTIONS

There are three basic smoke alarm types: Universal Smoke Sensing Technology®, Ionization and Photoelectric Universal Smoke Sensing Technology® is an ionization alarm containing patented Smart Alarm Technology. Alarms containing Universal Smoke Sensing Technology are effective at detecting fast flaming fires and slow smoldering fires.

Ionization smoke alarms are typically more effective at detecting fast flaming fires—fires which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a wastebasket, or kitchen grease fires.

Photoelectric smoke alarms, on the other hand, are typically more effective at detecting slow smoldering fires—fires which burn for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or books.

Installing alarms containing Universal Smoke Sensing Technology ensures maximum detection of both types of fires from a single alarm.

The enclosed alarm is an Ionization Smoke Alarm.

- SMOKE ALARMS WILL NOT WORK DURING A LOSS OF POWER. SINCE A SMOKE ALARM WILL NOT WORK WITHOUT POWER, having an alarm(s) that works from two completely different power sources, such as an AC direct wire with battery backup smoke alarm, can give you an extra measure of protection in case of an AC power failure or a dead battery. Battery operated alarms cannot work if the batteries are missing, disconnected or dead, if the wrong type of batteries are used or if the batteries are not installed correctly. AC (only) powered alarms cannot work if the AC power is cut off for any reason. If you are concerned about the limitations of the battery or AC power, install both types of alarms.

- USING AN IONIZATION SMOKE ALARM IN A SMOKY AREA, SUCH AS A KITCHEN, OR IN A HIGH HUMIDITY AREA NEAR A SHOWER, CAN CAUSE NUISANCE FALSE ALARMS. IT IS PREFERABLE TO USE PHOTOELECTRIC ALARMS IN THESE AREAS. DO NOT TURN OFF THE AC POWER TO QUIET THE ALARM. A SMOKE ALARM WILL NOT HELP PROTECT YOU IF IT IS NOT POWERED. Properly locate your alarm to avoid nuisance alarms.

- A SMOKE ALARM MAY NOT ALWAYS WARN YOU ABOUT FIRES CAUSED BY CARELESSNESS AND SAFETY HAZARDS LIKE SMOKING IN BED, VIOLENT EXPLOSIONS, ESCAPING GAS, IMPROPER STORAGE OF FLAMMABLE MATERIALS, OVERLOADED ELECTRICAL CIRCUITS, CHILDREN PLAYING WITH MATCHES, NATURAL CAUSES SUCH AS LIGHTNING, OR ARSON. FIRE PREVENTION IS YOUR BEST SAFEGUARD.

- INSTALLING SMOKE ALARMS MAY MAKE YOU ELIGIBLE FOR LOWER INSURANCE RATES, BUT SMOKE ALARMS ARE NOT A SUBSTITUTE FOR INSURANCE. Homeowners and renters alike should continue to insure their lives and properties.

- SMOKE ALARMS CANNOT DETECT FIRES IF THE SMOKE DOES NOT REACH THEM. Smoke from fires may not reach the sensing chamber and set off the alarm. One alarm should be installed inside each bedroom or sleeping area. Do not obstruct airflow around the smoke alarm or place in areas of obstructed airflow.

- BE AWARE OF VARIOUS SITUATIONS AGAINST WHICH THE SMOKE ALARM MAY NOT BE EFFECTIVE. For example: (1) Fires where the victim is intimate with a flaming initiated fire; for example, when a person's clothes catch fire while cooking; (2) Fires where the smoke is prevented from reaching the alarm due to a closed door or other obstruction or (3) Incendiary fires where the fire grows so rapidly that an occupant's egress is blocked even with properly located alarms. SMOKE ALARMS MAY NOT DETECT FIRE ON ANOTHER FLOOR OR AREA OF THE HOME. Recommended minimum protection is at least one smoke alarm in every sleeping area and every bedroom on every level of your home. Interconnected smoke alarms may provide earlier warning than stand-alone smoke alarms since all smoke alarms alarm when one detects smoke.

- SMOKE ALARMS MAY NOT BE HEARD. The alarm horn in this alarm meets or exceeds current standards, but it may not be heard if: (1) the smoke alarm is located outside a closed or partially closed door; (2) residents recently consumed alcohol or drugs; (3) the alarm is drowned out by noise from stereos, TV’s, air conditioners or other appliances; (4) residents are hearing impaired or (5) if residents are sleeping. CURRENT STUDIES HAVE SHOWN SMOKE ALARMS MAY NOT AWAKEN ALL SLEEPING INDIVIDUALS AND THAT IT IS THE RESPONSIBILITY OF INDIVIDUALS IN THE HOUSEHOLD WHO ARE CAPABLE OF ASSISTING OTHERS TO PROVIDE ASSISTANCE TO THOSE WHO MAY NOT BE AWAKENED BY THE ALARM SYSTEM OR TO THOSE WHO MAY BE INCAPABLE OF SAFELY EVACUATING THE AREA UNASSISTED.

- SMOKE ALARMS ARE NOT FOOLPROOF. You must test the smoke alarm weekly to ensure your continued protection. Smoke alarms cannot prevent or extinguish fires.

- SMOKE ALARMS HAVE A LIMITED LIFE. The smoke alarm should be replaced immediately if it is not operating properly. You should always replace a smoke alarm after 10 years.

- SMOKE ALARMS ARE NOT TO BE USED WITH DETECTOR GUARDS UNLESS THE COMBINATION HAS BEEN EVALUATED AND FOUND SUITABLE FOR THAT PURPOSE.
RECOMMENDED LOCATION OF ALARMS

- Locate the first smoke alarm in the immediate area of the bedrooms. Try to protect the escape route as the bedrooms are usually farthest from an exit. If more than one sleeping area exists, locate additional smoke alarms in each sleeping area. If a hall is more than 40 feet (12 meters) long, install a smoke alarm at each end.
- Locate additional smoke alarms to protect any stairway as stairways act like chimneys for smoke and heat.
- Locate at least one smoke alarm on every floor level.
- Locate a smoke alarm in any area where a smoker sleeps or where electrical appliances are operated in sleeping areas.
- Smoke, heat and other combustion products rise to the ceiling and spread horizontally. Mounting the smoke alarm on the ceiling in the center of the room places it closest to all points in the room. Ceiling mounting is preferred in ordinary residential construction. However, in mobile homes, wall mounting on an inside partition is preferred to avoid the thermal barrier that may form at the ceiling.
- When mounting smoke alarm on a wall, if local codes allow, use an inside wall with the top edge of the smoke alarm a maximum of 12" (30.5cm) below the ceiling/wall intersections (See Diagram A).

Existing Homes:
The NFPA requires a smoke alarm on every level and outside each sleeping area in existing construction. An existing household with one level and one sleeping area is required to have one smoke alarm.

New Construction Homes and Manufactured Homes:
The NFPA requires AC-powered, interconnected smoke alarms to be installed inside each bedroom, outside each bedroom area, and on every level of the home. They also require a minimum of two AC-powered, interconnected smoke alarms in any new construction home.

Sloped Ceilings (Peaked Ceilings):
Smoke alarms or smoke detectors mounted on a peaked ceiling shall be located within 36 in. (914 mm) horizontally of the peak, but not closer than 4 in. (102 mm) vertically to the peak.

Sloped Ceilings (Shed Ceilings):
Smoke alarms or smoke detectors mounted on a shed ceiling having a rise greater than 1 ft. in 8 ft. (1 m in 8 m) horizontally shall be located within 36 in. (914 mm) of the high side of the ceiling, but not closer than 4 in. (102 mm) from the adjoining wall surface.

Tray-Shaped Ceilings:
Smoke Alarms or smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 in. (305 mm) vertically down from the highest point.

Mobile Home Installation:
For minimum protection, smoke alarms should be installed in compliance with H.U.D. Manufactured Home Construction Safety Standards, Title 24 CFR, Section 3280.208 and Section 3282. For additional protection, see Single Story Residence smoke alarm requirements/recommendations for Existing Homes and New Construction Homes.

Note: For mobile homes built before 1978, install smoke alarms on inside walls between 4” and 12” from the ceiling (older mobile homes have little or no insulation in the ceiling). This is especially important if the ceiling is unusually hot or cold.

Install a smoke alarm inside each bedroom and in the hallway outside each separate sleeping area.
FALSE ALARMS

The smoke alarm is designed to minimize false alarms. Smoking will not normally set off the alarm unless smoke is blown directly into the smoke alarm. Combustion particles from cooking may set off the alarm if the smoke alarm is located close to the kitchen cooking surface. Large quantities of combustion particles are generated from spills or broiling.

If the smoke alarm does sound, check for fires first. If a fire is discovered, get out and call the fire department. If no fire is present, check to see if one of the reasons listed above may have caused the alarm.

INSTALLATION

Installation of this unit must conform to the electrical codes in your area; Article 760 of the National Electrical Code, NFPA 72, 101; SBC (SBCCI); UBC (ICBO); NBC (BOCA); OTFDC (CABO), and any other local or building codes that may apply. Wiring and installation must be performed by a licensed electrician. Failure to follow these guidelines may result in injury or property damage.

This alarm must be powered by a 24-hour, 120V AC 60Hz circuit. Be sure the circuit cannot be turned off by a switch, dimmer or ground fault circuit interrupter. Failure to connect this alarm to a 24-hour circuit may prevent it from providing constant protection.

IMPORTANT: Do not subject this smoke alarm to megger, high voltage or high-pot tests. Remove the smoke alarm(s) before high-potting tests occur on the circuit or system. (Ref. Section 550-17, National Electric Code, 2002 Edition).

WARNING!

ELECTRICAL SHOCK HAZARD

Turn off power to the area where you will install this alarm at the circuit breaker or fuse box before beginning installation. Failure to turn off the power before installation may result in serious electrical shock, injury or death.

TAMPER LOCKING PIN: To make your smoke alarm somewhat tamper resistant, a locking pin has been provided. Using this pin will deter children and others from removing the alarm from the mounting ring. To use the pin, insert it into the hole in the side of the alarm after it has been installed on the mounting ring. Note the tamper pin will have to be removed in order to change the battery, which can be done easily with a pair of long nose pliers. Using the long nose pliers, pull the pin out of the hole. It is now possible to remove the smoke alarm from the mounting ring.

1. Turn the smoke alarm counterclockwise to remove it from the mounting ring. NOTE: The smoke alarm is sealed and the cover is not removable. Your smoke alarm is also equipped with a safety device which prevents mounting unless a battery is installed. If your smoke alarm will not lock onto the mounting ring, check to make sure a battery is installed.

THIS SMOKE ALARM WILL NOT WORK WITHOUT 120 VAC POWER AND A GOOD BATTERY PROPERLY INSTALLED. THE SMOKE ALARM SHOULD BE TESTED WHEN INSTALLED AND THEN TESTED WEEKLY AFTER THAT.
2. Wiring Instructions:
   a. The appropriate power supply is 120 Volt single phase power supplied from a non-switchable circuit NOT protected by a ground fault circuit interrupter.
   b. Turn off main power to the circuit before wiring the smoke alarm.
   c. There are three pigtail leads (black, white and yellow) coming from the AC QUICK CONNECTOR. The proper wire connection is as follows:

<table>
<thead>
<tr>
<th>WIRES FROM QUICK CONNECTOR</th>
<th>CONNECT TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>&quot;HOT&quot; side of AC line</td>
</tr>
<tr>
<td>WHITE</td>
<td>&quot;NEUTRAL&quot; side of AC line</td>
</tr>
<tr>
<td>YELLOW</td>
<td>Interconnect wires of other units</td>
</tr>
</tbody>
</table>

INTERCONNECTION & COMPATIBILITY: Interconnected alarms can provide earlier warning than stand-alone alarms, especially if a hazard is present in a remote area of the dwelling. When alarms are interconnected, all alarms will sound when the initiating alarm sounds, providing more time to escape safely. This alarm may be interconnected with a total of not more than 24 interconnected devices, i.e. as many as 11 other USI Electric or Universal brand model smoke alarms or combination smoke and carbon monoxide (CO) alarms or smoke and carbon monoxide/natural gas alarms; 6 other initiating alarms which may be a combination of USI Electric or Universal brand CO alarms and heat alarms; and 6 other non-initiating devices such as USI Electric brand relays.

This alarm can be interconnected with the following compatible alarms: MDSCN111, MICN109, MCN108, SS-2895, USI-1103, USI-1204, USI-1208, USI-1209, USI-5204, USI-3204, USI-7795, 5304, MI106, MDS107, MP117, USI-2430, USI-960, MI106S, MIC1509S, MP116S, MPC122S, SLW127, AMIC1510S, AMI1061S.

When any one of these interconnected models goes into alarm, it will trigger the corresponding alarm within the interconnected system with respect to their sensing capabilities.

Interconnected CO alarms, or the CO alarm circuit of combination smoke, CO and natural gas alarms, will only respond if a CO alarm event initiates the alarm. All other alarms remain silent.

Interconnected combination CO and natural gas alarms will only respond if a natural gas event initiated the alarm. All other alarms remain silent. Natural gas detection is only present in models MDSCN111, MICN109, MCN108; therefore, a natural gas alarm will NOT trigger the alarm of non-natural gas sensing models within an interconnected system.

The following alarms can trigger Quick Find® Alarm Origination, but will not indicate Alarm Origination on an interconnected system: USI-1103, USI-1204, USI-1208, USI-1209, USI-1213, USI-5204, USI-3204, USI-7795.

The following alarms cannot be reset through an interconnected system because they do not have Quick Find® Alarm Origination: USI-1103, USI-1204, USI-1208, USI-1209, USI-5204, USI-3204, USI-2430, USI-7795.

Interconnected smoke alarms, heat alarms and relays will only respond if a smoke alarm event or heat alarm event initiates the alarm. All CO and natural gas alarms remain silent.

NOTE: Alarms without battery backup will not respond during an AC power failure.

NOTE: The relay, model USI-960, will not respond if a CO or natural gas alarm event initiates the alarm.

The yellow wire is used only for interconnect (multiple station operations) USI Electric or Universal model alarms. Connecting this yellow wire to any other circuits may result in damage and alarm malfunction. All interconnected alarms must be powered from a single circuit.

If local codes do not specify, be sure the neutral wire is common to all alarms. The maximum wire run distance between the first and last alarm/device in an interconnected system is 1,000 feet.

NOTE: Use standard household wire, 18 gauge or larger, rated at least 300V, as required by local codes. This wire is commonly available at most electrical supply and hardware stores. The resistance of the interconnect wiring shall be a maximum of 10 Ohms.

The alarm wiring shall be in accordance with the provisions of Articles 210 and 300.3(B) of the National Electrical Code, ANSI/NFPA 70. According to the NFPA 72 / Ed. 2013; paragraph 29.6.3 Household Fire Alarm Systems /AC Primary Power Source: "AC primary (main) power shall be supplied either from a dedicated branch circuit or the un-switched portion of a branch circuit also used for power and lighting."
Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: A smoke alarm installed in each separate sleeping area (in the vicinity of, but outside of, the bedrooms) and heat or smoke alarms in living rooms, dining rooms, kitchens, hallways, attics, furnace rooms, closets, utility storage rooms, basements and attached garages. Test the smoke alarm weekly to assure proper operation.

3. Attach the mounting ring to the electrical junction box.
4. To activate 9 volt battery and smoke alarm, pull and remove the thin colored plastic tab at the battery door hinge. Discard plastic tab.
5. Plug the AC QUICK CONNECTORS together. Push and turn the smoke alarm clockwise onto the mounting ring.
6. See "TAMPER LOCKING PIN."
7. Turn on AC power and check the LED's for proper operation. The green LED lights to indicate AC power. The red LED will flash every 40-60 seconds to indicate proper operation.
OPERATION: The smoke alarm is operating once the power is connected and turned on (the battery must also be installed). When products of combustion are sensed, the unit sounds a loud alarm which continues until the air is cleared.

This alarm incorporates the internationally recognized horn signal for evacuation. During alarm mode, the horn produces three short beeps followed by a two second pause and then repeats.

STANDBY CONDITION: The red LED flashes once every 40-60 seconds to indicate the unit is properly functioning.

LOCAL ALARM CONDITION: The red LED flashes rapidly and the unit emits a loud, pulsating alarm sound.

REMOTE ALARM CONDITION: The red LED is off and the unit emits a loud, pulsating alarm.

GREEN LED: The green LED is on whenever AC power is turned on.

TESTING: Test by pushing the test button on the smoke alarm cover until the alarm sounds, then release. The alarm sounds if all electronic circuitry, horn and battery are working. The alarm may continue to sound for up to 10 seconds after the button is released. If no alarm sounds, the unit may have a defective battery or other failure. Test the smoke alarm weekly to assure proper operation.

WARNING!
NEVER use an open flame of any kind to test this unit. You might accidentally damage or set fire to the unit or to your home. The built-in test switch accurately tests the unit’s operation as required by Underwriters Laboratories Inc. (UL).

(UTHA) Sensitivity Indicating Means
The sensitivity indicating means for this Smoke and Fire Alarm is the use of the analyzer for Smoke Detectors Model 501-A or 501-A/Bat Aerosol Generator Manufactured by Gemini Scientific Corp., 1122-B Aster Ave., Sunnyvale, CA 94086.

The Equivalent UL 268 Light obscuration %/Ft as measured by this instrument must be between 1.55% Obs./Ft and 0.85% Obs./Ft (1.20 ± 0.35% Obs./Ft).

(UTHA) Go/No-Go Field Test
The Go/No-Go test for this Smoke and Fire Alarm is the use of a UL Listed can type aerosol smoke detector tester. The instructions for the use of this tester are given on the container.

CAUTION!
If you choose to use an aerosol smoke product to test the smoke alarm, be certain to use one that has been Listed to Underwriters Laboratories, Inc. Safety Standards and use it only as directed. Use of non-UL Listed products or improper use of UL Listed products may affect the smoke alarm’s sensitivity.

FALSE ALARMS "SILENCE" CONTROL: Units with the "silence" feature have the capability of temporarily reducing the sensitivity of the alarm circuit for approximately 8-12 minutes. This feature is to be used only when a known alarm condition such as smoke from cooking activates the smoke alarm. The smoke alarm is deactivated by pushing the test button on the smoke alarm cover for at least three seconds. The smoke alarm will automatically reduce sensitivity and "chirp" every 30-40 seconds for approximately 8-12 minutes to indicate the alarm is in the temporary silent condition. The smoke alarm will gradually reactivate and sound the alarm if particles of combustion are still present. The "silence" feature may be used repeatedly until the air has cleared.

CAUTION!
Before using the alarm "silence" feature, identify the source of smoke and be certain that safe conditions exist.

(UTHA) MAINTENANCE:
The smoke alarm is virtually maintenance free. However, under dusty conditions, a vacuum hose may be used to clear the sensing chamber of dust.

Clean the smoke alarm at least once a month to remove dust, dirt or debris. Always turn off power to smoke alarm before cleaning. Using a soft brush or wand attachment to a vacuum cleaner, vacuum all sides and cover of smoke alarm. Be sure all the vents are free of debris.
WHAT TO DO WHEN THE ALARM SOUNDS

- Leave immediately by your plan of escape. Every second counts, so don't waste time getting dressed or picking up valuables.
- In leaving, don't open any inside door without first feeling its surface. If hot, or if you see smoke seeping through cracks, don't open that door! Instead, use your alternate exit. If inside door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.
- Stay close to the floor if air is smoky. Breathe shallowly through a cloth, wet if possible.
- Once outside, go to your selected meeting place and make sure everyone is there.
- Call the fire department from your neighbor's home – not from yours!
- Don't return to your home until fire officials say that it is all right to do so.

NATIONAL FIRE PROTECTION ASSOCIATION REQUIRED INFORMATION

For your information, the National Fire Alarm Code, NFPA 72, reads as follows:

- "29.8.1 *Required Detection - Where required by applicable laws, codes, or standards for a specific type of occupancy, approved single and multiple-station smoke alarms shall be installed as follows:
  1. *In all sleeping rooms and guest rooms
  2. *Outside of each separate dwelling unit sleeping area, within 6.4 m (21 ft) of any door to a sleeping room, the distance measured along a path of travel
  3. On every level of a dwelling unit, including basements.
  4. On every level of a residential board and care occupancy (small facility), including basements and excluding crawl spaces and unfinished attics
  5. *In the living area(s) of a guest suite
  6. In the living area(s) of a residential board and care occupancy"

The equipment should be installed using wiring methods in accordance with the National Fire Protection Association's Standard 72. (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269)
USI FIVE YEAR LIMITED WARRANTY

USI ELECTRIC, INC. ("USI") warrants your USI product to be free from defects in material and workmanship for a period of five (5) years from the date of purchase. This warranty applies only to the original consumer purchaser and only to products used in normal residential use and service. If this product is found to be defective, USI's only obligation, and your exclusive remedy, is the repair or replacement of the product, at USI's discretion, provided that the product has not been damaged through misuse, abuse, accident, modifications, alteration, neglect or mishandling. This Warranty shall not apply to any product which is found to have been improperly installed, set-up, or used in any way not in accordance with the instructions supplied with the product. This warranty shall not apply to any batteries used in the product or to any damage which may be caused by such batteries. For replacement of the alarm under the terms of this Warranty, contact our Customer Service line at 1-800-390-4321, Ext. 238, for current postage and handling fees.

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Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitations or exclusions may not apply to you.

No agent, representative, dealer, or employee of the company has the authority to increase or alter the obligations or terms of this Warranty.

This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This Warranty is only valid for merchandise purchased from outlets in the United States and Canada.

Visit Us on the Web! www.UsiElectric.com

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