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ENVIROMUX[®] Series

E-SDS-120V

120V Wire-In Smoke Detector

Used in Conjunction with

E-RLY-SDS120V

Smoke Alarm Relay Module Installation and Operation Manual



E-SDS-120V

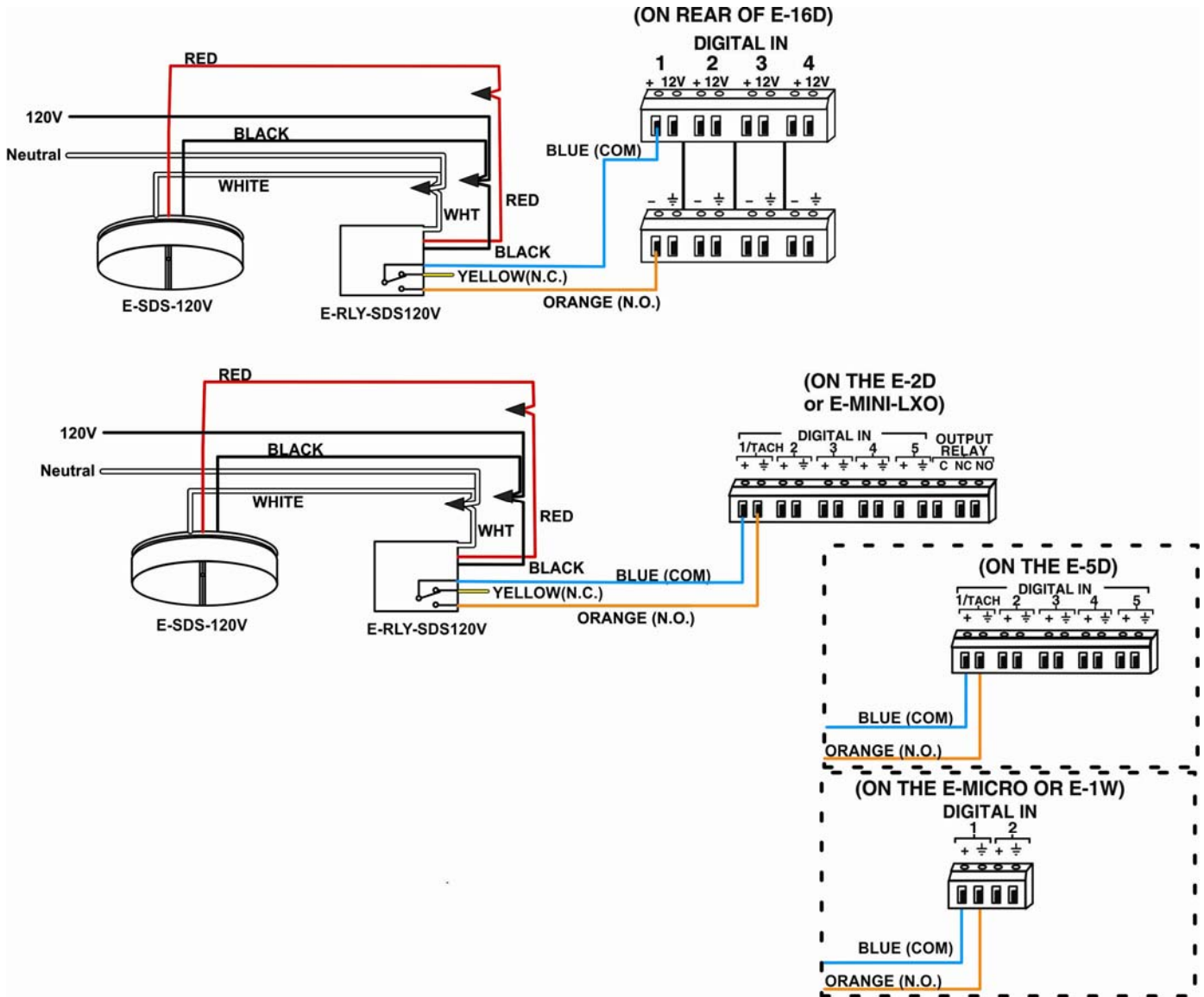


**E-RLY-SDS120V
(Sold Separately)**

Installation with Server Environment Monitoring System

The E-SDS-120V 120V Wire-in Smoke Detector and E-RLY-SDS120V relay module can be installed with connection to an E-2D/ -5D/-16D , E-MINI-LXO, E-1W(P) or E-MICRO-T(TRHP) Server Environment Monitoring System(SYSTEM). When installed in this way, the Smoke Detector will be able to cause the SYSTEM to provide alerts via email, Syslog, SNMP traps, SMS text messages and front panel LEDs indications.

Follow the diagrams below to install to a SYSTEM.



See the pages that follow for more on the installation, operation and maintenance of the E-SDS-120V Wire-In Smoke Detector.

Note: The E-SDS-120V is NOT intended to be used as a primary fire and smoke detection device.

Smoke Alarm User Guide

A.C. Wire-in Single and/or Multiple Station (up to 24 Devices) Ionization Smoke Alarm with 9 Volt Battery Back Up and HUSH™ Control to temporarily silence nuisance alarms.

This alarm detects products of combustion using the ionization technique. It contains 0.9 microcurie of Americium 241, a radioactive material (see Section 9). Distributed under U.S. NRC License No. 32-23858-01E. Manufactured in compliance with U.S. NRC safety criteria in 10 CFR 32.27. The purchaser is exempt from any regulatory requirements. Do not try to repair the smoke alarm yourself. Refer to the instructions in Section 12 for service.

⚠ WARNING! REMOVAL OF THE SMOKE ALARM BATTERY AND DISCONNECTING or LOSS OF A.C. POWER WILL RENDER THE SMOKE ALARM INOPERATIVE.

ELECTRICAL RATING: 120 VAC, 60HZ, 80mA maximum per alarm (maximum 80mA for originating unit with 24 devices interconnected).

IMPORTANT! READ ALL INSTRUCTIONS BEFORE INSTALLATION AND KEEP THIS MANUAL NEAR THE ALARM FOR FUTURE REFERENCE.

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- 1 -- RECOMMENDED LOCATIONS FOR SMOKE ALARMS**
- 2 -- LOCATIONS TO AVOID**
- 3 -- INSTALLATION INSTRUCTIONS**
- 4 -- OPERATION AND TESTING**
- 5 -- NUISANCE ALARMS**
- 6 -- MAINTENANCE**
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1. RECOMMENDED LOCATIONS FOR ALARMS

- Locate the first alarm in the immediate area of the bedrooms. Try to monitor the exit path as the bedrooms are usually farthest from the exit. If more than one sleeping area exists, locate additional alarms in each sleeping area.
- Locate additional alarms to monitor any stairway as stairways act like chimneys for smoke and heat.
- Locate at least one alarm on every floor level.
- Locate an alarm in every sleeping room.
- Locate an alarm in every room where electrical appliances are operated (i.e. portable heaters or humidifiers).

- Locate an alarm in every room where someone sleeps with the door closed. The closed door may prevent an alarm not located in that room from waking the sleeper.
- Smoke, heat, and 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.
- For mobile home installation, select locations carefully to avoid thermal barriers that may form at the ceiling. For more details, see MOBILE HOME INSTALLATION.
- When mounting an alarm on the ceiling, locate it at a minimum of 4" (10 cm) from the side wall (see FIGURE 1).
- When mounting the alarm on the wall, use an inside wall with the top edge of the alarm at a minimum of 4" (10 cm) and a maximum of 12" (30.5 cm) below the ceiling (see FIGURE 1).
- Put smoke alarms at both ends of a bedroom hallway or large room if the hallway or room is more than 30 feet (9.1 m) long.
- Install Smoke Alarms on sloped, peaked or cathedral ceilings at or within 3ft (0.9m) of the highest point (measured horizontally). NFPA 72 states: "Smoke alarms in rooms with ceiling slopes greater than 1 foot in 8 feet (.3m in 2.4 m) horizontally shall be located on the high side of the room." NFPA 72 states: "A row of detectors shall be spaced and located within 3 ft (0.9m) of the peak of the ceiling measured horizontally" (see FIGURE 3).

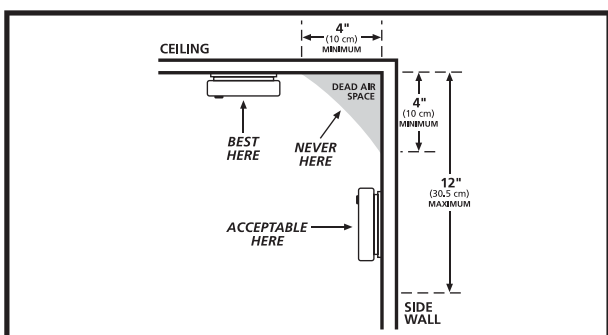


FIGURE 1

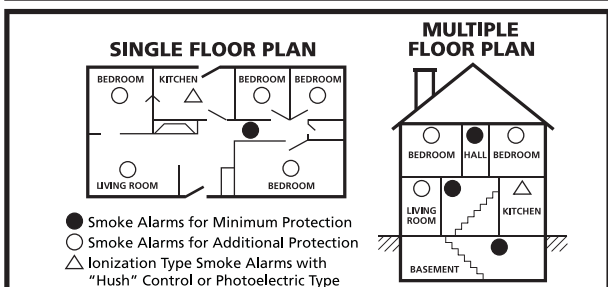


FIGURE 2

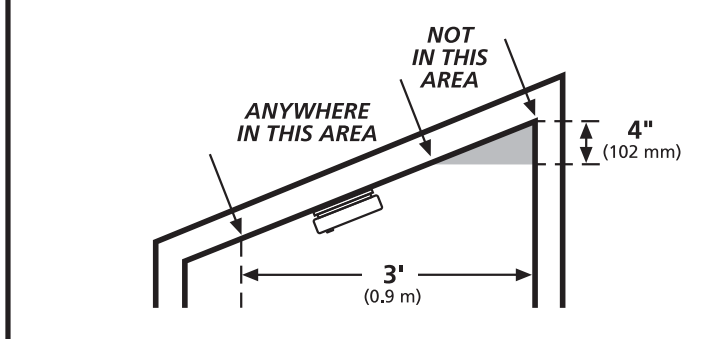
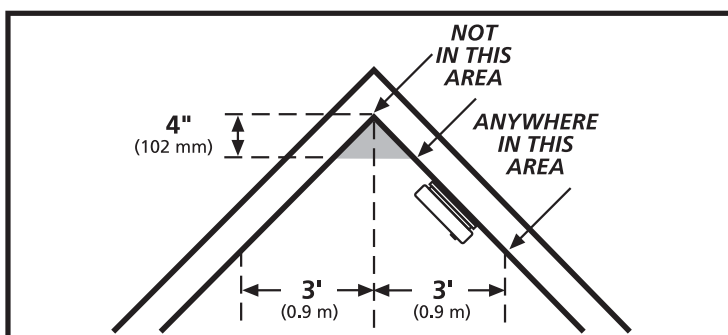


FIGURE 3

MOBILE HOME INSTALLATION

Modern mobile homes have been designed and built to be energy efficient. Install smoke alarms as recommended above (refer to RECOMMENDED LOCATIONS and FIGURES 1 and 2).

In older mobile homes that are not well insulated compared to present standards, extreme heat or cold can be transferred from the outside to the inside through poorly insulated walls and roof. This may create a thermal barrier which can prevent the smoke from reaching an alarm mounted on the ceiling. In such units, install the smoke alarm on an inside wall with the top edge of the alarm at a minimum of 4" (10 cm) and a maximum of 12" (30.5 cm) below the ceiling (see FIGURE 1).

If you are not sure about the insulation in your mobile home, or if you notice that the outer walls and ceiling are either hot or cold, install the alarm on an inside wall. For minimum protection, install at least one alarm close to the bedrooms. For additional protection, see SINGLE FLOOR PLAN in FIGURE 2.

⚠ WARNING: TEST YOUR SMOKE ALARM OPERATION AFTER R.V. OR MOBILE HOME VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE A WEEK DURING USE.

2. LOCATIONS TO AVOID

- In the garage. Products of combustion are present when you start your automobile.
- Less than 4" (10cm) from the peak of an "A" frame type ceiling.
- In an area where the temperature may fall below 40°F (4.4°C) or rise above 100°F (37.8°C), such as garages and unfinished attics.
- In dusty areas. Dust particles may cause nuisance alarm or failure to alarm.
- In very humid areas (greater than 85% R.H.). Moisture or steam can cause nuisance alarms.
- In insect-infested areas.
- Smoke alarms should not be installed within 3 ft (.9m) of the following: the door to a kitchen, the door to a bathroom containing a tub or shower, forced air supply ducts used for heating or cooling, ceiling or whole house ventilating fans, or other high air flow areas.
- Kitchens. Normal cooking may cause nuisance alarms. If a kitchen alarm is desired, it should have an alarm silence feature or be a photoelectric type.
- Near fluorescent lights. Electronic "noise" may cause nuisance alarms.
- Smoke alarms are not to be used with detector guards unless the combination

(alarm and guard) has been evaluated and found suitable for that purpose.

3. INSTALLATION INSTRUCTIONS

WIRING REQUIREMENTS

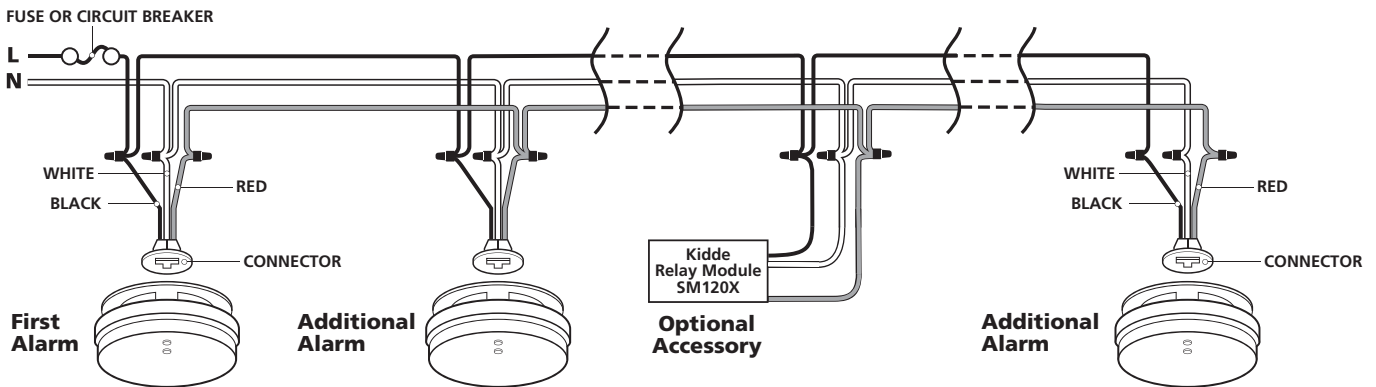
- This smoke alarm should be installed on a U.L. listed or recognized junction box. All connections should be made by a qualified electrician and all wiring used shall be in accordance with articles 210 and 300.3(B) of the U.S. National Electrical Code ANSI/NFPA 70, NFPA 72 and/or any other codes having jurisdiction in your area. The multiple station interconnect wiring to the alarms must be run in the same raceway or cable as the AC power wiring. In addition, the resistance of the interconnect wiring shall be a maximum of 10 ohms.
- The appropriate power source is 120 Volt A.C. Single Phase supplied from a non-switchable circuit which is not protected by a ground fault interrupter.
- **WARNING:** This alarm cannot be operated from power derived from a square wave, modified square wave or modified sine wave inverters. These types of inverters are sometimes used to supply power to the structure in off grid installations, such as solar or wind derived power sources. These power sources produce high peak voltages that will damage the alarm.

WIRING INSTRUCTIONS FOR A.C. QUICK CONNECT HARNESS

⚠ CAUTION! TURN OFF THE MAIN POWER TO THE CIRCUIT BEFORE WIRING THE ALARM.

- For alarms that are used as single station, **DO NOT CONNECT THE RED WIRE TO ANYTHING.** Leave the red wire insulating cap in place to make certain that the red wire cannot contact any metal parts or the electrical box.
- When alarms are interconnected, all interconnected units must be powered from a single circuit.
- A maximum of 24 **E-SDS-120V** may be interconnected in a multiple station arrangement. The interconnect system should not exceed the NFPA interconnect limit of 12 smoke alarms and/or 18 alarms total (smoke, heat, carbon monoxide, etc.). With 18 alarms interconnected, it is still possible to interconnect up to a total of 6 remote signaling devices and/or relay modules.

- The maximum wire run distance between the first and last unit in an interconnected system is 1000 feet.
- Figure 4 illustrates interconnection wiring. Improper connection will result in damage to the alarm, failure to operate, or a shock hazard.
- Make certain alarms are wired to a continuous (non-switched) power line.



NOTE: Use standard UL listed household wire (as required by local codes) available at all electrical supply stores and most hardware stores.

FIGURE 4 INTERCONNECT WIRING DIAGRAM

WIRES ON ALARM HARNESS	CONNECTED TO
Black	Hot Side of A.C. Line
White	Neutral Side of A.C. Line
Red	Interconnect Lines (Red Wires) of Other Units in the Multiple Station Set up

BATTERY INSTALLATION

See MAINTENANCE (Section 6) for battery installation.

⚠ CAUTION! THIS UNIT WILL NOT FUNCTION WITHOUT A PROPERLY INSTALLED BATTERY, AND IS EQUIPPED WITH A BATTERY LOCKOUT FEATURE WHICH PREVENTS THE BATTERY CARRIER FROM CLOSING IF A BATTERY IS NOT INSTALLED CORRECTLY.

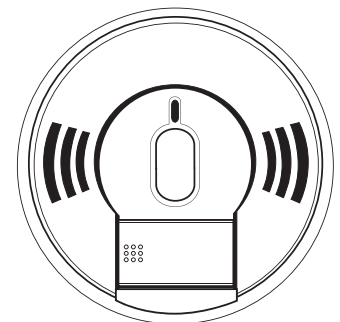


FIGURE 5

MOUNTING INSTRUCTIONS

⚠ CAUTION: THIS UNIT IS SEALED. THE COVER IS NOT REMOVABLE!

⚠ CAUTION: WHEN WALL MOUNTING: UNIT MUST BE MOUNTED SO THAT THE BATTERY BOX FACES DOWN! (SEE FIGURE 5). INCORRECT ORIENTATION OF WALL MOUNTED SMOKE ALARMS WILL DECREASE OPERATIONAL EFFECTIVENESS.

1. Remove the trim ring from the back of the alarm by holding the trim ring and twisting the alarm counter-clockwise.
2. After selecting the proper smoke alarm location as described in Section 1 and wiring the AC Quick Connector as described in the WIRING INSTRUCTIONS, attach the trim ring to the electrical box (see Figure 6). To ensure aesthetic alignment of the alarm with the hallway or wall, the "A" line on the mounting bracket must be parallel with the hallway when ceiling mounted, or horizontal

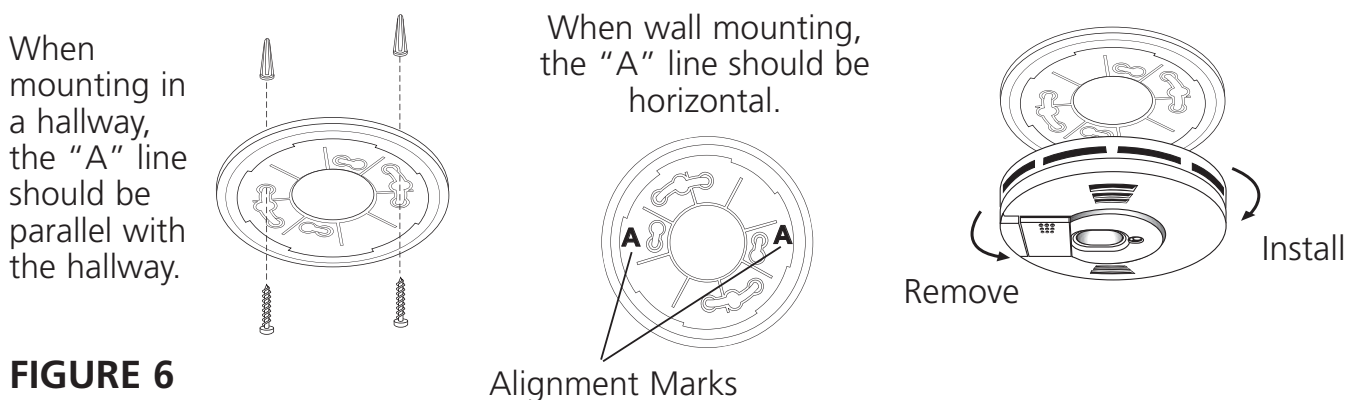


FIGURE 6

when wall mounted.

3. Pull the AC QUICK CONNECTOR through the center hole in the mounting bracket and secure the bracket, making sure that the mounting screws are positioned in the small ends of the keyholes before tightening the screws.

4. Plug the AC QUICK CONNECTOR into the back of the alarm (see Figure 7), making sure that the locks on the connector snap into place. Then push the excess wire back into the electrical box through the hole in the center of the mounting bracket.



FIGURE 7

5. Install the alarm on the mounting bracket and rotate the alarm clockwise until the alarm ratchets into place (this ratcheting function allows for aesthetic alignment). NOTE: The alarm will mount to the bracket in 4 positions (every 90 degrees). When wall mounting, make sure the battery box is at the bottom of the unit. (see Figure 5).

6. Pull the Battery Pull Tab (yellow tab protruding from the unit) completely out of the unit. This will automatically connect the battery.

7. Test the unit to ensure proper operation by pressing the Test/Hush Button for

a minimum of 5 seconds. (All interconnected, battery backed up, alarms should respond).

⚠ CAUTION: Due to the loudness (85 decibels) of the alarm, always stand an arms length away from the unit when testing.

8. Turn on the AC power. The green Power On Indicator should be lit when the alarm is operating from AC power. Confirm unit operation by pressing the Test/Hush button.

TAMPER RESIST FEATURES

Smoke Alarm Tamper Resist Feature

This alarm has a tamper resist feature, which helps prevent someone from removing the unit from the mounting bracket. When used in conjunction with the Battery Carrier Tamper Resist Feature, it can be very effective in preventing smoke alarm tampering and battery removal.

Activate the smoke alarm tamper resist feature by breaking off the four posts in the square holes in the mounting bracket (see Figure 8A). When the posts are broken off, the tamper resist tab on the base is allowed to engage the mounting bracket. Rotate the alarm onto the mounting bracket until you hear the tamper resist tab snap into place, locking the alarm on the mounting bracket. Using the tamper resist feature will help deter children and others from removing the alarm from the bracket. NOTE: To remove the alarm when the tamper resist tab is engaged, press down on the tamper resist tab, and rotate the alarm off the

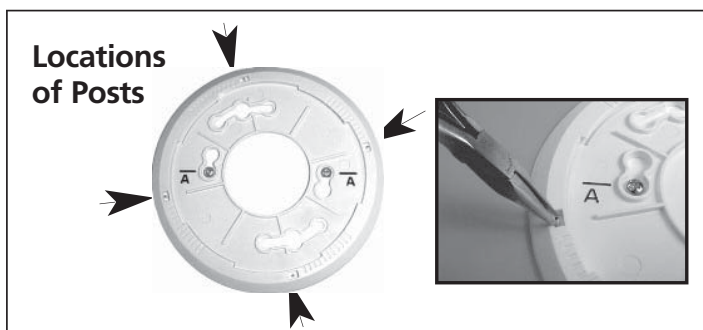


FIGURE 8A

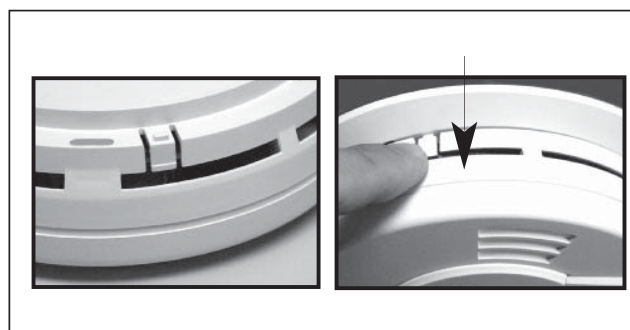


FIGURE 8B

bracket (see Figure 8B).

Battery Carrier Tamper Resist Feature

This alarm has a battery carrier tamper resist feature, which helps prevent the battery carrier from being opened. This feature is effective in preventing the removal of the battery from this device (which will render the unit inoperable during the loss of AC power).

To activate the battery carrier tamper resist feature, remove the unit from the

trim plate, disconnect the AC quick connector and locate the small cut-out in the middle of the product label on the back of the unit. With a small screwdriver, or similar tool, move the slider towards the lock position as indicated by the arrow. (see Figure 9) The tamper resist feature is now active and the battery carrier can not be opened until the tamper resist feature is deactivated.



FIGURE 9

NOTE: Before activating the battery carrier tamper resist feature, make sure a fresh battery is installed in the unit and that the battery carrier is properly closed. If the battery carrier tamper resist feature is activated while the battery carrier is open, the battery carrier will not close and the unit will be inoperable during the loss of AC power.

To deactivate the battery carrier tamper resist, in order to change the smoke alarm battery, remove the unit from the trim plate (see Smoke Alarm Tamper Resist Feature if activated), disconnect the AC quick connector and locate the small cut-out in the middle of the product label. Using a screwdriver, or similar tool, move the slider away from the lock position (opposite the direction indicated by the arrow). The battery carrier can now be opened and the battery changed.

4. OPERATION AND TESTING

OPERATION: The smoke alarm is operating once A.C. power is applied, fresh batteries are installed and testing is complete. When the smoke alarm ionization chamber senses products of combustion, the horn will sound a loud (85db) temporal alarm until the sensing chamber is cleared of smoke particles.

HUSH™ CONTROL: The “HUSH” feature has the capability of temporarily desensitizing the alarm circuit for up to 8 minutes. This feature is to be used only when a known alarm condition, such as smoke from cooking, activates the alarm. The smoke alarm is desensitized by pushing the “TEST/HUSH” button on the smoke alarm cover. If the smoke is not too dense, the alarm will silence immediately. The red LED will illuminate for 1.5 seconds every 8-10 seconds while in hush. This indicates that the alarm is in a temporarily desensitized condition. The smoke alarm will automatically reset after approximately 8 minutes and sound the alarm if particles of combustion are still present. The “HUSH” feature can be used repeatedly until the air has been cleared of the condition causing the alarm. Pushing the Test/Hush button on the alarm will end the hush period.

This alarm has a low battery HUSH feature. If the alarm is sounding a low battery warning chirp, you can silence this chirp for approximately 13 hours by pressing the Test/Hush button.

NOTE: DENSE SMOKE WILL OVERRIDE THE HUSH CONTROL FEATURE AND SOUND A CONTINUOUS ALARM.

CAUTION: BEFORE USING THE ALARM HUSH FEATURE, IDENTIFY THE SOURCE OF THE SMOKE AND BE CERTAIN A SAFE CONDITION EXISTS.

LED INDICATORS: This smoke alarm is equipped with red and green LED indicators. The green LED (when illuminated) indicates the presence of AC power.

The red LED has four modes of operation:

Standby Condition: The red LED will flash every 40 seconds to indicate that the smoke alarm is operating properly.

Alarm Condition: When the alarm senses products of combustion and goes into alarm, the red LED will flash one flash per second. The flashing LED and pulsating alarm will continue until the air is cleared.

WHEN UNITS ARE INTERCONNECTED, only the red LED of the alarm which senses the smoke or is being tested (the originating unit) will flash. All other units in the interconnect system will sound an alarm but their red LED's will NOT be flashing.

Alarm Memory: This smoke alarm is equipped with an alarm memory, which provides a visual indication when an alarm has been activated. The red LED will illuminate for about 1.5 seconds every 20 seconds to indicate the memory condition. The memory will remain activated until pushing the Test/Hush Button resets it or will time-out between 11 to 13 hours. In an interconnected installation only the memory of the originating alarm will be activated.

Hush® mode: The red LED will illuminate for 1.5 seconds every 10 seconds, indicating the smoke alarm is in the Hush® mode.

TESTING: Test by pushing the Test/Hush button on the cover and hold it down for a minimum of 5 seconds. This will sound the alarm if all the electronic circuitry, horn and battery are working. In an interconnected installation all interconnected alarms should sound when the test feature on any one of the interconnected alarms is activated. If no alarm sounds, check the fuse or circuit breaker supplying power to the alarm circuit. If the alarm still does not sound, the unit has defective batteries or other failure. DO NOT use an open flame to test your alarm, you could damage the alarm or ignite combustible materials and start a structure fire.

TEST THE ALARM WEEKLY TO ENSURE PROPER OPERATION. Erratic or low sound coming from your alarm may indicate a defective alarm, and it should be returned for service (see Section 12).

5. NUISANCE ALARMS

Smoke alarms are designed to minimize nuisance alarms. Cigarette smoke will not normally set off the alarm, unless the smoke is blown directly into the alarm. Combustion particles from cooking may set off the alarm if the alarm is located close to the cooking area. Large quantities of combustible particles are generated from spills or when broiling. Using the fan on a range hood which vents to the outside (non-recirculating type) will also help remove these combustible products from the kitchen.

If the 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 in Section 2 may have caused the alarm.

6. MAINTENANCE/TROUBLESHOOTING

ALARM REMOVAL

IF SMOKE ALARM TAMPER RESIST FEATURE HAS BEEN ACTIVATED, REFER TO SMOKE ALARM TAMPER RESIST FEATURE IN SECTION 3 FOR REMOVAL INSTRUCTIONS.

To remove the alarm from the trim ring, rotate the alarm counter clockwise in the direction of the "OFF" arrow on the cover. To disconnect the A.C. power harness, squeeze the locking arms on the sides of the Quick Connector while pulling the connector away from the bottom of the alarm (see Section 3, Figure 7).

BATTERY INSTALLATION AND REMOVAL

Note: If battery carrier tamper resist feature has been activated it will need to be deactivated in order to change the battery. Refer to section 3 "Battery Carrier Tamper Resist Feature" for instructions.

To replace or install the batteries press down on the battery carrier and then release to allow the carrier to pop open. The battery can then be pulled out of the carrier. When installing a new battery into the carrier, make sure the battery terminals are exposed and that the polarity matches the markings printed on the battery carrier. Completely press the battery carrier down into the alarm and release, the battery carrier will lock into the closed position.

A missing or improperly installed battery will prevent the battery carrier from closing and result in improper alarm operation.

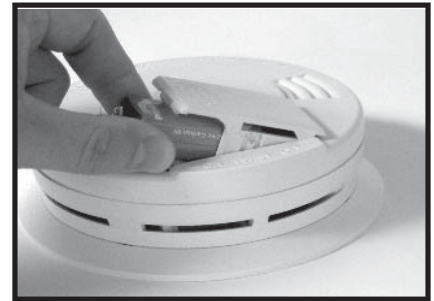
This smoke alarm uses a 9V carbon zinc battery (alkaline and lithium batteries may also be used). A fresh battery should last for one year under normal operating conditions.



PRESS



OPEN



INSERT

This alarm has a low/missing battery monitor circuit which will cause the alarm to “chirp” approximately every 30-40 seconds for a minimum of seven (7) days when the battery gets low. Replace the battery when this condition occurs.

NOTE: Low/missing battery monitor circuit WILL cause the unit to chirp while replacing the battery. This function will cease once the new battery has been installed. To avoid this “chirp” the unit can be removed from the base and disconnected from the AC power when replacing the battery, but it is not necessary.

USE ONLY THE FOLLOWING 9 VOLT BATTERIES FOR SMOKE ALARM BATTERY REPLACEMENT.

Carbon-zinc type EVEREADY 1222; GOLD PEAK 1604P OR 1604S,
GOLDEN POWER G6F22M

Alkaline type ENERGIZER 522; DURACELL MN1604 OR MX1604; GOLD PEAK 1604A PANASONIC 6AM6, 6AM-6, 6AM-6PI, 6AM6X, AND 6LR61 (GA)

NOTE: Do not use lithium batteries in this unit.

These batteries can be purchased at your local retailer.

NOTE: WEEKLY TESTING IS REQUIRED!

⚠ WARNING! BE SURE TO FOLLOW BATTERY INSTALLATION INSTRUCTIONS PRINTED ON THE BACK OF THE ALARM AND USE ONLY THE BATTERIES SPECIFIED. USE OF DIFFERENT BATTERIES MAY HAVE A DETRIMENTAL EFFECT ON THE SMOKE ALARM.

⚠ WARNING: THIS ALARM WILL “CHIRP” IF ABNORMAL OPERATION OF THE SMOKE-SENSING CHAMBER IS DETECTED. THIS CHIRP WILL OCCUR APPROXIMATELY 20 SECONDS AFTER THE RED LED FLASH. REPLACE THE ALARM IF THIS CONDITION OCCURS.

CLEANING YOUR ALARM

YOUR ALARM SHOULD BE CLEANED AT LEAST ONCE A YEAR

To clean your alarm, remove it from the mounting bracket as outlined in the beginning of this section. You can clean the interior of your alarm (sensing chamber) by using compressed air or a vacuum cleaner hose and blowing or vacuuming through the openings around the perimeter of the alarm. The outside of the alarm can be wiped with a damp cloth. After cleaning, reinstall your alarm, verify the green LED is on and test your alarm by using the Test/Hush Button. If cleaning does not restore the alarm to normal operation the alarm should be replaced.

7. LIMITATIONS OF SMOKE ALARMS

⚠ WARNING: PLEASE READ CAREFULLY AND THOROUGHLY

- NFPA 72 states: Life safety from fire in residential occupancies is based primarily on early notification to occupants of the need to escape, followed by the appropriate egress actions by those occupants. Fire warning systems for dwelling units are capable of protecting about half of the occupants in potentially fatal fires. Victims are often intimate with the fire, too old or young, or physically or mentally impaired such that they cannot escape even when warned early enough that escape should be possible. For these people, other strategies such as protection-in-place or assisted escape or rescue are necessary.
- Smoke alarms are devices that can provide early warning of possible fires at a reasonable cost; however, alarms have sensing limitations. Ionization sensing alarms may detect invisible fire particles (associated with fast flaming fires) sooner than photoelectric alarms. Photoelectric sensing alarms may detect visible fire particles (associated with slow smoldering fires) sooner than ionization alarms. Home fires develop in different ways and are often unpredictable. For maximum protection, Kidde recommends that both Ionization and Photoelectric alarms be installed.
- A battery powered alarm must have a battery of the specified type, in good condition and installed properly.
- A.C. powered alarms (without battery backup) will not operate if the A.C. power has been cut off, such as by an electrical fire or an open fuse.
- Smoke alarms must be tested regularly to make sure the batteries and the alarm circuits are in good operating condition.

- Smoke alarms cannot provide an alarm if smoke does not reach the alarm. Therefore, smoke alarms may not sense fires starting in chimneys, walls, on roofs, on the other side of a closed door or on a different floor.
- If the alarm is located outside the bedroom or on a different floor, it may not wake up a sound sleeper.
- The use of alcohol or drugs may also impair one's ability to hear the smoke alarm. For maximum protection, a smoke alarm should be installed in each sleeping area on every level of a home.
- Although smoke alarms can help save lives by providing an early warning of a fire, they are not a substitute for an insurance policy. Home owners and renters should have adequate insurance to protect their lives and property.

8. GOOD SAFETY HABITS

DEVELOP AND PRACTICE A PLAN OF ESCAPE

- Install and maintain Fire extinguishers on every level of the home and in the kitchen, basement and garage. Know how to use a fire extinguisher prior to an emergency.
- Make a floor plan indicating all doors and windows and at least two (2) escape routes from each room. Second story windows may need a rope or chain ladder.
- Have a family meeting and discuss your escape plan, showing everyone what to do in case of fire.
- Determine a place outside your home where you all can meet if a fire occurs.
- Familiarize everyone with the sound of the smoke alarm and train them to leave your home when they hear it.
- Practice a fire drill at least every six months, including fire drills at night. Ensure that small children hear the alarm and wake when it sounds. They must wake up in order to execute the escape plan. Practice allows all occupants to test your plan before an emergency. You may not be able to reach your children. It is important they know what to do.
- Current studies have shown smoke alarms may not awaken all sleeping individuals, and that it is the responsibility of individuals in the household that are capable of assisting others to provide assistance to those who may not be awakened by the alarm sound, or to those who may be incapable of safely evacuating the area unassisted.

WHAT TO DO WHEN THE ALARM SOUNDS

- Alert small children in the home.
- Leave immediately by your escape plan. 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 the inside of the 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 the 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 the fire officials say that it is all right to do so.

There are situations where a smoke alarm may not be effective to protect against fire. For instance:

- Smoking in bed.
- Leaving children unsupervised.
- Cleaning with flammable liquids, such as gasoline.
- Fires where the victim is intimate with a flaming initiated fire; for example, when a person's clothes catch fire while cooking.
- Fires where the smoke is prevented from reaching the detector due to a closed door or other obstruction.
- Incendiary fires where the fire grows so rapidly that an occupant's egress is blocked even with properly located detectors

9. NRC INFORMATION

Ionization type smoke alarms use a very small amount of a radioactive element in the sensing chamber to enable detection of visible and invisible combustion products. The radioactive element is safely contained in the chamber and requires no adjustments or maintenance. This smoke alarm meets or exceeds all government standards. It is manufactured and distributed under license from the U.S. Nuclear Regulatory Commission.

10. NFPA REQUIRED PROTECTION

The National Fire Protection Association's Standard 72 provides the following information:

Smoke Detection – Where required by applicable laws, codes, or standards for the specified 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 21 ft (6.4 m) of any door to a sleeping room, with 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 (small facility).

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 the smoke alarms in the kitchen, attic (finished or unfinished), or garage is normally not recommended, as these locations occasionally experience conditions that can result in improper operation.

This equipment should be installed in accordance with the National Fire Protection Association's Standard 72 (NFPA, Batterymarch Park, Quincy, MA 02269).

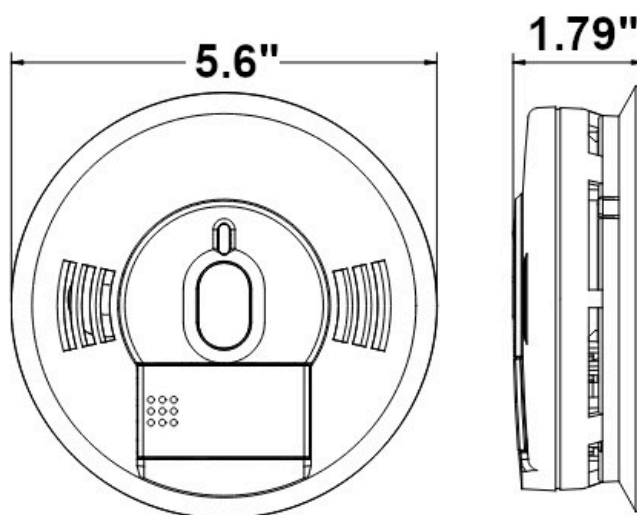
NOTIFY YOUR LOCAL FIRE DEPARTMENT AND INSURANCE COMPANY OF YOUR SMOKE ALARM INSTALLATION.

11. ⚠ CAUTION (AS REQUIRED BY THE CALIFORNIA STATE FIRE MARSHAL)

“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 detectors in the living rooms, dining rooms, bedrooms, kitchens, hallways, attics, furnace rooms, closets, utility and storage rooms, basements and attached garages.”

Technical Specifications

Power Source:	120VAC (80mA), 60HZ, 9V battery backup
Audio Alarm:	85dB at 10ft
Temperature Range:	40°F to 100°F (4°C to 38°C)
Humidity Range:	5%-95% relative humidity (RH)
Sensor:	Ionization
Size:	5" in diameter x 1.75" depth
Weight:	.5lbs
Interconnects:	Up to 24 devices
LED:	Green, receiving AC power Red, 4 modes of operation



RELAY / POWER SUPPLY MODULE

READ INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE INSTALLING.

Electrical Rating: 120V AC 60 HZ 0.08 AMP
Contact Rating: 10 AMPS @ 120 VAC
NON INDUCTIVE
5 AMPS @ 30 VDC
DC Output: 5 MA Max. (CURRENT LIMITED)



DESCRIPTION:

This module is only activated by a smoke alarm interconnect signal.

The relay portion of this module can be used to activate auxiliary warning devices such as external bells and sirens, hallway or stairwell lighting. It provides isolated, (no internal connection to 120 volts AC) normally open, and normally closed contacts.

The power supply portion can be used to connect spot type heat detectors (**Rate of rise or combined rate of rise and fixed temperature only**) and manual pull stations with interconnected multiple station alarms.

WARNING! Alarm and module wiring must conform to the electrical codes and local codes in your area. In USA, it includes Article 760 of the U.S. National Electrical Code, and NFPA No. 72-2.

All wiring should be performed by a licensed electrician. The module should be installed in a UL listed junction box that has sufficient volume for proper installation. The electrical circuit used to power the alarms and the module must be a 120 volt ac 60hz circuit which cannot be turned off by a switch or a ground fault interrupter, **it must be on 24 hours a day. Since this module is 120 volt AC powered, it will not function during an AC power failure.**

IMPORTANT: Whenever alarms and modules are interconnected they must be powered from a single circuit. When wiring the module remote from the alarm use CSA listed #18 AWG wire or larger as required by codes in your area. **Do not use more than 1000 feet of wire** between the first and last device in the multi station system.

INSTALLATION INSTRUCTIONS:

This module should be installed in a UL listed junction box. All connections should be made by a qualified electrician in accordance with the requirements of the national electrical code and/or any other local codes having jurisdiction in your area.

Turn off the main power to the circuit. If you are also installing smoke alarms, heat alarms, or CO alarms, wire them according to their specific owner's manual. Refer to the typical installation diagrams (Figures 1-4) included in this manual for your specific application.

Connections on the Relay /Power Supply Module:

Black Wire	AC Hot
White Wire	AC Neutral
Red Wire	Interconnect Signal
Blue Wire	Common Contact
Yellow Wire	Normally Closed Contact
Orange Wire	Normally Open Contact
Gray Wire	9-Volt DC Output (5MA Max.)

After all connections are made, place the module inside a UL listed junction box, where the alarm is installed, or in a remote location and use the appropriate electrical box cover.

CAUTION: This module should not be used to connect groups of alarms to a fire alarm panel or to interconnect groups of fire alarms together.

Residential alarms do not latch in the alarm condition and they are self-resetting. If an alarm connected to a module has the test button pushed or the alarm momentarily activates, it will activate the module for as long as the unit is in alarm. If more than one alarm is connected to the module and the module is tied to a control panel there will be no way of knowing which unit caused the alarm.

This module is for use with the E-SDS-120V Smoke Alarm with red interconnect wires. Each module is equivalent to one interconnect alarm, reduce the maximum number of interconnect devices by one for each module used. Do not exceed the total number of devices allowable in the interconnect system, refer to the individual alarm owners manual for the maximum number of units allowed when interconnecting. Do not exceed the temperature or humidity limits of +40°F (4,4°C) to 100°F (37,8°C) and 90% relative humidity for either the relay module or the alarms.

ATTENTION: The wiring connecting the module with the external devices is not supervised. Be sure to test the operation of all the devices controlling the module or controlled by the module. Devices controlled by the module can be tested by pushing the test button on the alarms and verifying that the controlled device responds in the desired manner.

Devices controlling the module can be tested by activating the device. Test pull stations and spot type heat detectors after initial installation and each time you test your alarms. Verify that the pull station and heat detectors sound all your interconnected alarms.

ATTENTION: Only use spot type heat detectors incorporating a rate of rise feature, as this type can be tested to validate operation. These detectors should be tested following the manufacturers recommended procedure. This procedure typically recommends using a hot air source (hand held hair dryer or heat gun) directed at the detector from approximately 1 foot away. This will activate the rate of rise portion of the detector and sound the interconnected alarms.

CAUTION: Remove the hot air source as soon as the alarms sound. This will prevent activating the fixed temperature portion of the heat detector. The fixed temperature element is a one-time device. Once activated it will not reset and the detector will have to be replaced.

ADDITIONAL INSTALLATION INFORMATION: (Figures 1 and 2) If the desired function is to switch off a device when the alarms sound, connect the yellow wire (NC) instead of the orange wire (NO) to the supply side of the device. Be sure not to exceed the relay contact ratings of the module. This module should not be used to control inductive loads with inrush currents that will exceed the maximum contact ratings.

FIGURE 1 shows a typical installation of a relay / power supply module wired to switch on 120 volt device when the alarms sound. In this configuration the common switch contact (blue wire) is connected to the 120 volt supply. When the alarms sound the module detects the signal on the interconnect line (red wire) and activates the relay. As a result of this action, the orange wire (NO) supplies 120 volts to the device.

FIGURE 2 shows a typical installation of a manual pull station and a relay / power supply module. In this configuration the module receives 120-volt power all the time. The 9-volt DC output (gray wire) is used to supply power to the pull station, and the relay portion is used to control a 120-volt device configured to switch on when the module is activated. The pull station switches the 9 volt signal from the module back into the interconnect line.

Activating the pull station will sound the alarms and activate the relay portion of the module. The common terminal of the switch contact (blue wire) is connected to the 120-volt supply. When the alarms sound or the pull station is activated the module detects the signal on the interconnect line (red wire) and activates the relay. As result of this action, the orange wire (NO) supplies 120 volts to the device.

FIGURE 3 and 4 show the typical installation of a relay / power supply module and a manual pull station or a spot type heat detector, interconnected with multiple station alarms. In both of these configurations the connected device (manual pull station or spot type heat detector) switches on the AC power to the module when the device is activated. The module then supplies the DC interconnect signal (gray wire) needed to activate all of the interconnected alarms.

NOTE: The switch contacts in the Pull Station or the Heat detector must be rated for 120 volts in this application.

FIGURE 1

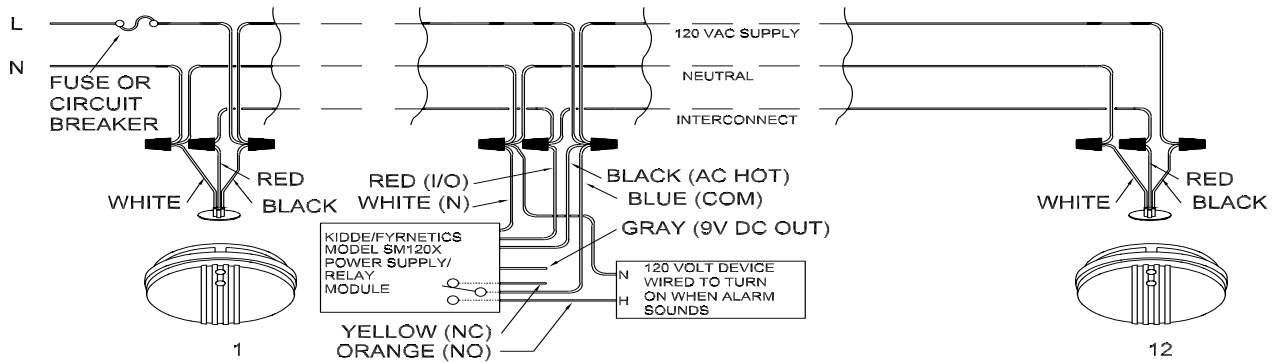


FIGURE 2

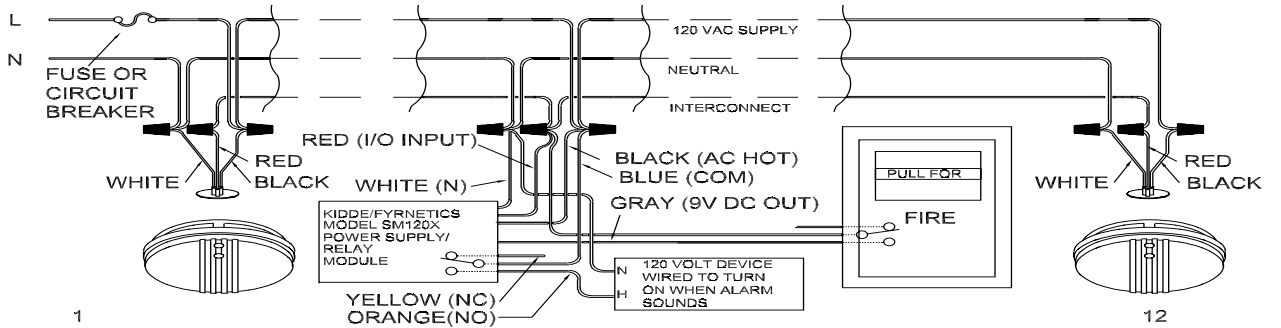


FIGURE 3

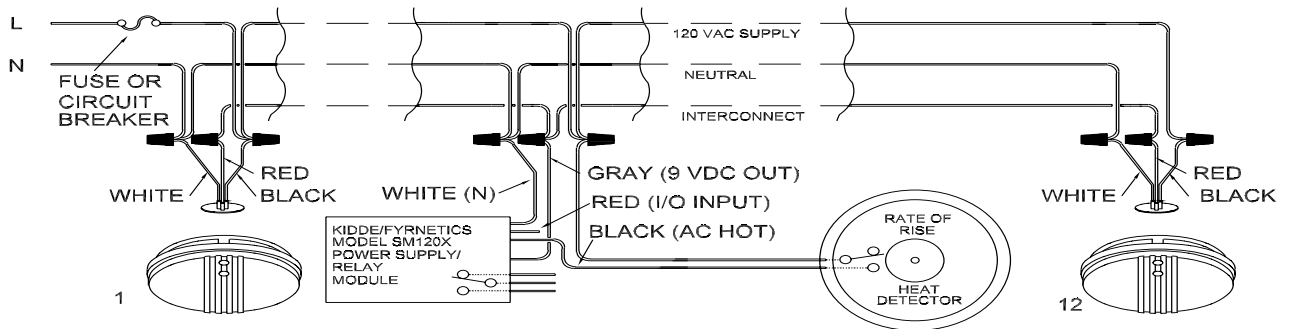


FIGURE 4

