



4192SDM/SDTM Addressable Photoelectronic Smoke Detector Installation And Maintenance Instructions

Before installing detectors, please thoroughly read the supporting Ademco control panel installation instructions, which provide detailed information on detector spacing, placement, zones, and special applications. Copies of the installation instructions are available from Ademco. NFPA 72 and NEMA guidelines should also be observed.

CAUTION

Use this smoke detector only with panels that support the detector's maintenance feature:
ADEMCO VISTA 150, First Alert FA1600C.

GENERAL DESCRIPTION

The Model 4192SDM/SDTM photoelectronic smoke detector uses a state-of-the-art optical sensing chamber. This detector is designed to provide open area protection and to be used with compatible UL-listed Ademco control panels. An LED on each detector flashes every ten seconds. This LED can be latched on by code command from certain control panels to indicate an alarm. It can also be unlatched to the normal blinking condition by the same control panels. The 4192SDM/SDTM detector is intended for use in an Ademco 2-wire polling loop system. It uses two screw terminals for connection to the system. Both detector power and communication between detector and control panel are accomplished over the same two wires.

SPECIFICATIONS

Base Diameter:	5.0 inches (127 mm)
Cover Height:	3.0 inches (76 mm) Add 0.5 inches (13 mm) for thermal units
Weight:	0.7 lb. (310 gm)
Loop Voltage Range:	7 to 14 VDC
Standby Current (max.):	1.56 mA (LED off); 3.56 mA (LED on)
Operating Temperature Range	
4192SDM:	32° to 131°F (0° to 55°C) NOTE: Do not install Model 4192SDM in locations where normal ambient temperature exceeds 120°F (49°C).
4192SDTM:	32° to 120°F (0° to 49°C) NOTE: Do not install Model 4192SDTM in locations where normal ambient temperature exceeds 120°F (49°C).
Loop Unit Load:	2

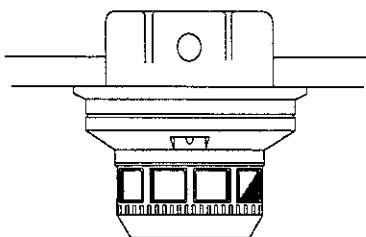


Figure 1. Flush mounting of detector on octagon box

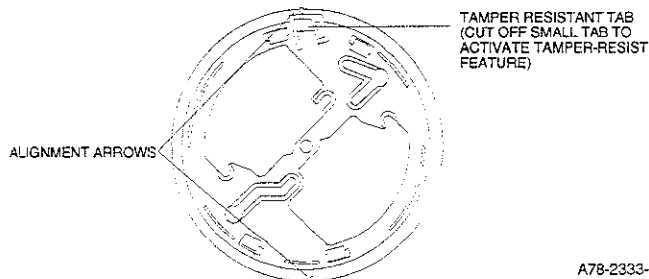


Figure 2. Detector mounting bracket

MOUNTING INSTRUCTIONS

Each 4192SDM detector is supplied with a mounting bracket kit that permits the detector to be mounted using several techniques.

1. Units may be mounted directly to a 3-inch or 4-inch, 1-1/2-inch deep octagonal electrical box using the supplied mounting bracket (See Figures 1 and 2).
2. Units may be mounted to a 4-inch square electrical box by using a plaster ring with the supplied mounting bracket.
3. Units may be mounted directly to the ceiling using the plastic screw anchors packed with the bracket. For direct mounting, the bracket is used as a template and 3/16-inch holes are drilled for the screw anchors.

TAMPER RESISTANCE

This detector includes a tamper-resistant feature that prevents its removal from the base without the use of a tool. To enable this feature, remove the smaller tab by breaking it at the scribed line on the tamper resistant tab before installing the detector. The tamper resistant tab is on the detector mounting base.

To remove a tamper-resistant detector from the base, use a pocket screwdriver, or similar tool, to depress the tamper-resistant tab and turn the detector counterclockwise. The tab is accessible through the slot on the mounting base.

WIRING INSTALLATION GUIDELINES

All wiring must be installed in compliance with local electrical codes and the requirements of the authority having jurisdiction. The conductors used to connect the smoke detectors to the control panel should be color to reduce the likelihood of wiring errors. Improper connections can prevent a system from responding properly in the event of a fire.

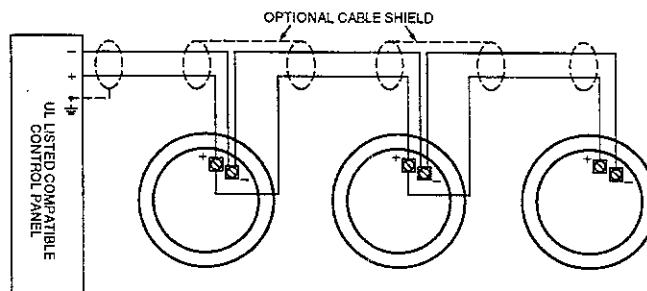


Figure 3. Typical Wiring Diagram for a 2-Wire Loop.

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For signal wiring (the wiring between interconnected detectors), it is recommended that the wire be no smaller than 22 gauge in cross sectional area. However, the screws and clamping plate in the base can accommodate wire sizes up to 12 gauge (2.5 square mm). The use of twisted pair wiring or shielded cable for the power (+ and -) loop is recommended to minimize the effects of electrical interference.

If shielded cable is used, the shield connection to and from the detector must be continuous by using wire nuts, crimping, or soldering, as appropriate, for a reliable connection.

Locate installations where normal ambient temperatures do not exceed 120°F.

Make connections by stripping about 3/8" (10 mm) of insulation from the end of the wire. Then, slide the wire under the clamping plate and tighten the clamping plate screw. Do NOT loop wires around the terminal.

Check the zone wiring of all bases in the system before installing detectors in them. This includes checking the wiring for continuity, correct polarity, and performing a dielectric test.

DETECTOR ID NO.

The detector is addressed via a unique internal serial number sequentially stored in the detector's special circuits. Refer to the supporting Ademco control panel installation instructions for the appropriate information.

TESTING

Note: Before testing, notify the proper authorities that the smoke detector system is undergoing maintenance and, therefore, will be temporarily out of service. Disable the system undergoing maintenance to prevent unwanted alarms.

Note: Before testing the detector, check for the presence of the blinking LED. If it does not blink, power has been lost to the detector (check the wiring) or it is defective (return for repair).

Detectors must be tested after installation and periodic maintenance. Test the 4192SDM as follows:

A. Test Switch

1. Press and hold the test switch for 5 seconds.
2. An alarm should be annunciated at the system's control or console within 5 seconds. Some systems also cause the detector's LED to latch on during the alarm. Otherwise, the LED continues to blink every 10 seconds.

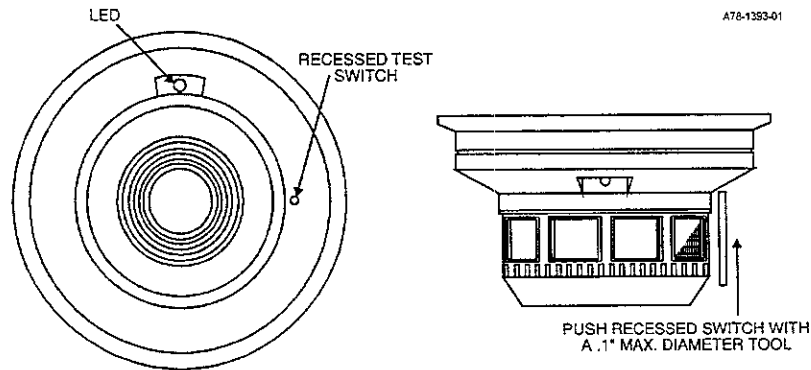


Figure 4. Views Showing Location of Recessed Test Switch.

B. Calibrated Test Card (R59-18-00)

1. Remove the detector cover by placing a small bladed screwdriver in the side slot of the detector cover, twisting it slightly until the cover can be turned counterclockwise for removal.
2. Insert the NO ALARM end of the test card fully into the test slot (See Figure 5) then slide it counterclockwise until it stops.
3. The detector should not alarm. Wait at least 30 seconds.
4. Remove the test card by sliding it clockwise before removing, then insert the ALARM end.
5. The LED should latch on within 20 seconds indicating alarm and annunciating the panel.
6. Put the cover back by gently rotating it clockwise until it locks in place.

C. Test sensitivity from the control panel (refer to control panel test procedure because some panels do not have this feature). Detectors that fail to alarm should be returned for repair.

D. Test Module (Model MOD400R)

Use the MOD400R with a DMM or voltmeter to check detector sensitivity as described in the MOD400R manual.

E. Aerosol Generator

Set the generator to represent 4%/ft to 5%/ft obscuration as described in the aerosol generator manual. Use a bowl shaped applicator to apply aerosol until the detector alarms.

F. Direct Heat Method - Model 4192SDTM only (Hair Dryer of 1000 - 1500 Watts)

From the side of the detector, direct heat toward the sensor. Hold the heat source about six inches away to avoid damaging the cover.

Note: Heat detectors that have gone into alarm reset only after they have cooled sufficiently and power is momentarily interrupted. Check the control panel to determine whether the Reset switch, or some other auxiliary device or control momentarily interrupts loop power.

Notify the proper authorities that the system is back in operation.

Clean and retest any detector that fails these tests as described in **MAINTENANCE**. If a detector still fails the tests, return it for repair.

CAUTION

Dust covers are an effective way to limit the entry of dust into smoke detector sensing chambers. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, System Sensor recommends the removal of detectors before beginning construction or other dust producing activity.

Be sure to remove the dust covers from any sensors that were left in place during construction as part of returning the system to service.

DUAL-LEVEL MAINTENANCE FEATURE

This detector provides two levels in addition to the basic normal and alarm levels. The first is a **HIGH SENSITIVITY** level that, when exceeded, is communicated to the control panel meaning the detector may cause false alarms. The second is a **LOW SENSITIVITY** level, also communicated to the control panel, meaning the detector may not be able to detect smoke. Supporting control panels use these maintenance signals to effect prompt cleaning or replacement of the malfunctioning detector, which is uniquely identified at the control panel by the detector's polling address.

MAINTENANCE

Before cleaning, notify the proper authorities that the smoke detector system is undergoing maintenance and, therefore, will be temporarily out of service. Disable the system undergoing maintenance to prevent unwanted alarms.

1. Remove the detector screen and cover assembly by depressing the three lock prongs on the top cover. Rotate the counterclockwise and separate the screen and cover assembly from the detector.
2. Remove the screen from the cover.
3. Use a vacuum cleaner to remove dust from the screen, cover, and sensing chamber.
4. After cleaning, snap the screen into the cover. Then, place the cover and screen assembly on the detector and rotate it clockwise until it is locked in place.
5. Test the detector as described in **TESTING**.
6. Notify the proper authorities that the system is back in operation.

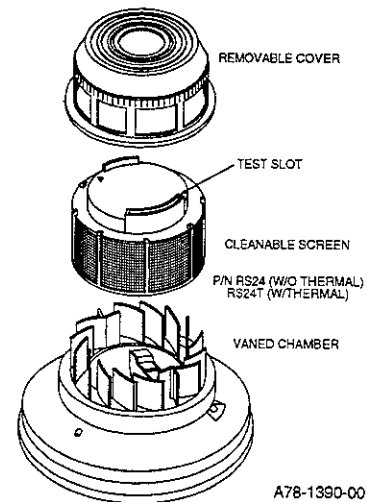


Figure 5.

WARNING

LIMITATIONS OF SMOKE DETECTORS

This smoke detector is designed to activate and initiate emergency action, but will do so only when used in conjunction with other equipment. This detector is designed for installation in accordance with NFPA standard 72, National Fire Alarm Code.

Smoke detectors will not work without power. AC or DC powered smoke detectors will not work if the power supply is cut off for any reason.

Smoke detectors will not sense fires which start where smoke does not reach the detectors. Smoke from fires in chimneys, in walls, on roofs, or on the other side of closed doors may not reach the smoke detector and alarm it.

A detector may not detect a fire developing on another level of a building. For this reason, detectors should be located on every level of a building.

Smoke detectors have sensing limitations, too. Ionization detectors offer broad range fire-sensing capability, but they are better at detecting fast, flaming fires than slow, smoldering fires. Photoelectric detectors sense smoldering fires better than flaming fires. Because fires develop in different ways, and are often unpredictable in their growth, neither type of detector is always best, and a given detector may not always provide warning of a fire. In general, detectors cannot be expected to provide warnings for fires resulting from inadequate fire protection practices, violent explosions, escaping gas, improper storage of flammable liquids like cleaning solvents, other safety hazards, or arson. Smoke detectors used in high air velocity conditions may fail to alarm due to dilution of smoke densities created by such frequent and rapid air exchanges. Additionally, high air velocity environments may create increased dust contamination, demanding more frequent maintenance.

Smoke detectors cannot last forever. Smoke detectors contain electronic parts. Even though detectors are made to last over 10 years, any of these parts could fail at any time. Therefore, test your smoke detector system according to NFPA 72 at least semiannually. Clean and take care of your smoke detectors regularly. Taking care of the fire detection system you have installed will measurably reduce your product liability risks.

ADEMCO

ONE YEAR LIMITED WARRANTY

Alarm Device Manufacturing Company, a Division of Pitway Corporation ("Seller"), 165 Eileen Way, Syosset, NY 11791, warrants its security equipment (the "product") to be free from defects in materials and workmanship for one year from date of original purchase, under normal use and service. Seller's obligation is limited to repairing or replacing, at its option, free of charge for parts, labor, or transportation, any part proven to be defective in materials or workmanship under normal use and service. Seller shall have no obligation under this warranty otherwise if the product is altered or improperly repaired or serviced by anyone other than the seller. In case of defect, contact the security professional who installed and maintains your security system or the Seller for product repair.

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