5192CP Addressable Ionization 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.

GENERAL DESCRIPTION

The Model 5192CP ionization smoke detector uses a state-of-the-art 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 four 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 5192CP detector is intended for use in an Ademco 2-wire polling loop system. It is addressed by either dip switch or internal serial number and has high and low maintenance signals that may be disabled with dip switch position 8. A three-screw, removable terminal block is used to connect to the system. Both detector power and communication between detector and control panel are accomplished over the same two wires.

SPECIFICATIONS

Diameter (including mounting bracket):	5.5 inches (140 mm)
Height (including mounting bracket):	1.7 inches (43 mm)
Weight:	5.3 ounces (150 grams)
Operating Temperature Range:	32° to 120°F (0° to 49°C)
Operating Humidity Range:	10% to 93% relative humidity, noncondensing
Start-up Time:	30 seconds maximum
System Voltage:	12 V
Standby Current (maximum @ 12V):	
LED off:	1.3 mA
LED on:	3.1 mA

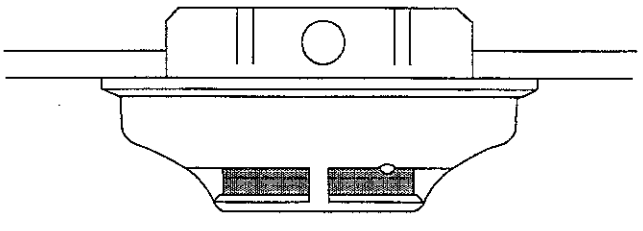
MOUNTING INSTRUCTIONS

Each 5192CP detector is supplied with a mounting bracket that permits the detector to be mounted:

1. To a single gang box.
2. Directly to a 3½ inch or 4 inch octagonal box.
3. To a 4 inch square electrical box by using a plaster ring.

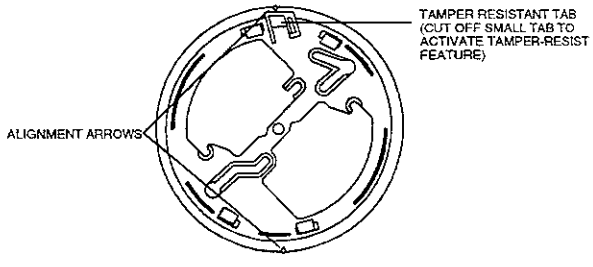
TAMPER RESISTANCE

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 on the detector mounting bracket (see Figure 2), then install the detector. To remove a detector from the bracket once it has been made tamper resistant, use a small screwdriver to depress the tamper-resistant tab located in the slot on the mounting bracket, and turn the detector counterclockwise.



A78-2653-00

Figure 1. Surface Mounting on 3½ inch and 4 inch octagon box



A78-2333-02

Figure 2. Detector mounting bracket

Ademco, 165 Eileen Way, Syosset, NY 11791

WIRING INSTALLATION GUIDELINES

All wiring must be installed in compliance with the National Electrical Code, local codes, and any special requirements of the authority having jurisdiction. Proper wire gauges should be used. The conductors used to connect the smoke detectors to the control panel and accessory devices should be color-coded to reduce the likelihood of wiring errors. Improper connections can prevent a system from responding properly in the event of a fire.

The screw terminal block accepts 14 to 22 gauge wire. For best system performance, all wiring should be installed in separate grounded conduit. Do not mix fire system wiring in the same conduit as any other electrical wiring. Twisted pair or shielded cable may be used to provide additional protection against 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.

Smoke detectors and alarm system control panels have specifications for allowable loop resistance. Consult the control panel specifications for the total loop resistance allowed for the control panel being used before wiring the detector loops. Wire connections are made by stripping about 1/4" of insulation from the end of the feed wire, inserting the wire into the appropriate terminal, and tightening the screw to secure the wire in place.

NOTE: Using twisted, shielded wire will result in decreased overall cable run as specified in the control installation instructions.

INSTALLATION

Remove power from the control unit or initiating device circuits before installing detectors.

1. Wire the plug-in screw terminal block (see Figure 3) and plug the terminal block into the detector.
2. Align the arrows on the detector with the arrows on the mounting bracket.
3. Turn the detector clockwise in the mounting bracket until it clicks into place.
4. After all the detectors have been installed, apply power to the control unit or initiating device circuits.
5. Test the detector as described in TESTING.
6. Rest the detector at the system control panel.
7. Notify the proper authorities that the system is in operation.

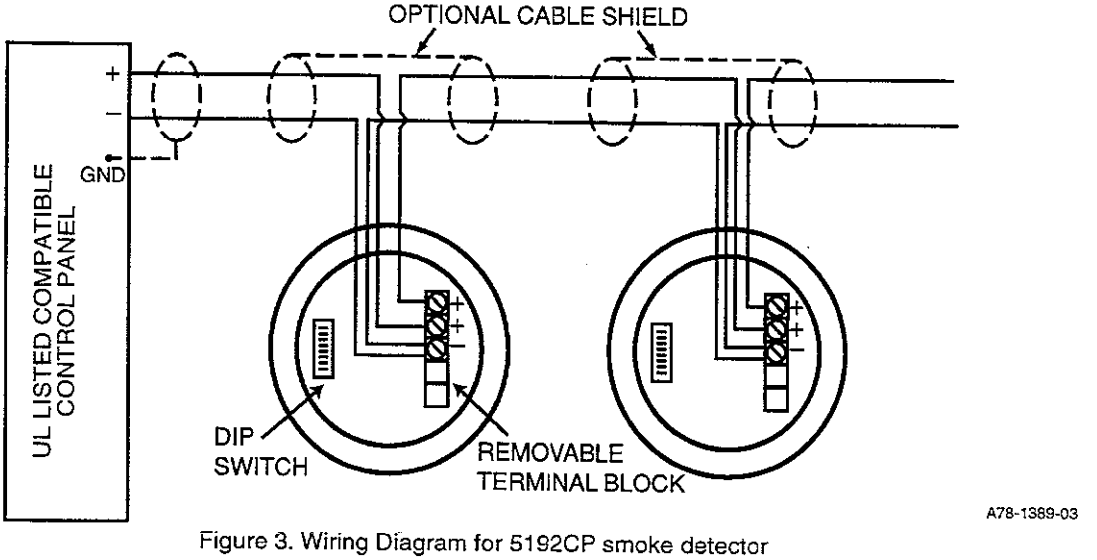


Figure 3. Wiring Diagram for 5192CP smoke detector

DETECTOR ID NO.

IMPORTANT: The 5192 smoke detector provides for both **DIP switch** and **serial number addressing**. DIP switch positions 1-7 are used for setting the zone number with older controls which only support DIP switch addressing. The permissible DIP switch addresses are from **10** to **63** as shown in Table 1. If the 5192 smoke detector is to be used with newer controls that support serial number addressing, you MUST configure the detector as a serial number device during the zone programming procedure for those controls. DIP switch addressing of the 5192 with controls that support serial number addressing may result in polling loop trouble conditions.

TESTING THE 5192CP SENSITIVITY

NOTE: Before testing, notify the proper authorities that the smoke detector system is undergoing maintenance and will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms. Notify the proper authorities that the system is back in operation when finished testing.

Detectors must be tested after installation and following periodic maintenance. Both smoke and heat detection testing are recommended for verifying system protection capability. Test the 5192CP as follows:

A. Test Switch

1. Press and hold the recessed test switch, located on the detector housing (see Figure 4), for 15 seconds with a 0.18 inch maximum diameter tool such as an Allen wrench or small screwdriver.

Zone Number	DIP SWITCH POSITION							
	1	2	3	4	5	6	7_1	8_2
10	ON		ON		ON	ON	ON	
11			ON		ON	ON	ON	
12	ON	ON			ON	ON	ON	
13		ON			ON	ON	ON	
14	ON				ON	ON	ON	
15					ON	ON	ON	
16	ON	ON	ON	ON		ON	ON	
17		ON	ON	ON		ON	ON	
18	ON		ON	ON		ON	ON	
19			ON	ON		ON	ON	
20	ON	ON		ON		ON	ON	
21		ON		ON		ON	ON	
22	ON			ON		ON	ON	
23				ON		ON	ON	
24	ON	ON	ON			ON	ON	
25		ON	ON			ON	ON	
26	ON		ON			ON	ON	
27			ON			ON	ON	
28	ON	ON				ON	ON	
29		ON				ON	ON	
30	ON					ON	ON	

Zone Number	DIP SWITCH POSITION							
	1	2	3	4	5	6	7_1	8_2
31						ON	ON	
32	ON	ON	ON	ON	ON		ON	
33		ON	ON	ON	ON		ON	
34	ON		ON	ON	ON		ON	
35			ON	ON	ON		ON	
36	ON	ON		ON	ON		ON	
37		ON		ON	ON		ON	
38	ON			ON	ON		ON	
39				ON	ON		ON	
40	ON	ON	ON		ON		ON	
41		ON	ON		ON		ON	
42	ON		ON		ON		ON	
43			ON		ON		ON	
44	ON	ON			ON		ON	
45		ON			ON		ON	
46	ON				ON		ON	
47					ON		ON	

Zone Number	DIP SWITCH POSITION							
	1	2	3	4	5	6	7_1	8_2
48	ON	ON	ON	ON			ON	
49		ON	ON	ON			ON	
50	ON		ON	ON			ON	
51			ON	ON			ON	
52	ON	ON		ON			ON	
53		ON		ON			ON	
54	ON			ON			ON	
55				ON			ON	
56	ON	ON	ON				ON	
57		ON	ON				ON	
58	ON		ON				ON	
59			ON				ON	
60	ON	ON					ON	
61		ON					ON	
62	ON						ON	
63							ON	
S/N3								

NOTES: Blank position = OFF

1. **DIP Switch position 7 must always be set ON.**
2. **DIP Switch position 8 disables maintenance signals if ON; enables maintenance signals if OFF. It must be set to ON for all applications except for panels that can support maintenance signals. Failure to do so may result in False Check conditions on the system.**
3. **Serial Number addressing occurs when DIP switch positions 1-7 are OFF.**

Table 1. Permissible Dip Switch Addresses

2. An alarm should be annunciated at the system's control or console within 15 seconds. Some systems also cause the detector's LED to latch on during the alarm. Otherwise, the LED continues to blink every 4 seconds.

B. Test Module (Model No. MOD400R)

The MOD400R test module can be used with a DMM or analog voltmeter to check the detector sensitivity as described in the test module's manual.

C. Auto-maintenance Feature

Test sensitivity from the control panel if applicable (refer to control panel test procedure).

D. Smoke Entry Test

The recommended field test tool is the GEMINI model 501 aerosol generator set to represent 4%/ft. to 5%/ft. obscuration as described in the Gemini manual. Using the bowl-shaped applicator, apply aerosol until detector alarms.

Detectors that fail to alarm during any of the above tests should first be cleaned as outlined in MAINTENANCE. If the detector still fails to activate, return it for repair.

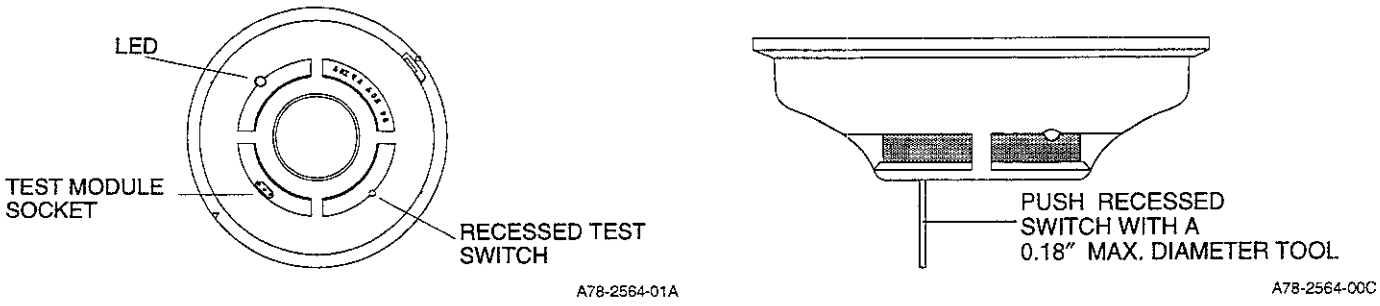


Figure 4. Top and side views showing test switch location

⚠CAUTION

Dust covers are an effective way to limit the entry of dust into smoke sensing chambers. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, Ademco recommends removal of detectors before beginning construction or other dust producing activitites. Be sure to remove dust covers from any detectors left in place during construction as part of returning the system to service.

AUTO-MAINTENANCE FEATURE

This detector can transmit a LOW SENSITIVITY or HIGH SENSITIVITY signal in addition to the basic normal and alarm levels. These HIGH and LOW SENSITIVITY signals are communicated to the control panel and indicate that the detector may not be able to detect smoke or may false alarm. 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. Both maintenance signals may be disabled by closing dip switch #8. This may be necessary to be compatible with some panels. Refer to Ademco control panel installation instructions to determine if maintenance features are supported.

MAINTENANCE

NOTE: Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and will temporarily be out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

1. Remove the detector housing by gently prying the four housing tabs on the bottom of the base with a small-bladed screwdriver and pull the housing from the base.
2. Vacuum the screen carefully without removing it.
3. Remove the screen by pulling it straight away from the sensing chamber (see Figure 5).
4. Clean the sensing chamber by vacuuming or blowing out dust and particles.
5. Replace the screen by sliding it over the sensing chamber.
6. Replace the housing by aligning the three triangular slots on the base with their counterparts on the housing. Gently press the housing until it locks in place.
7. Reinstall the detector.
8. Notify the proper authorities that the system is back in operation.

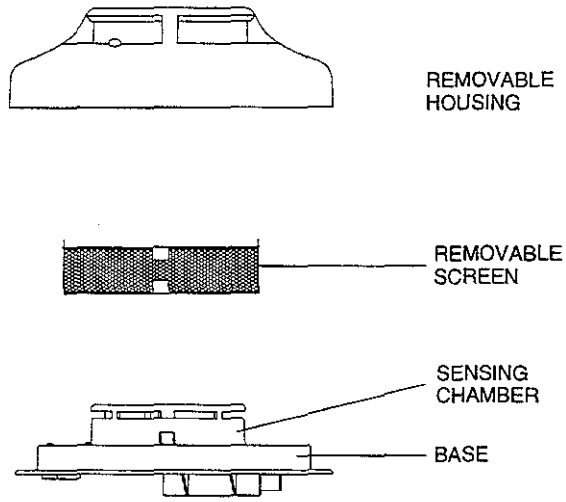


Figure 5. Removal of cover and screen for cleaning

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. Photoelectronic 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 Pittway 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.

This one year Limited Warranty is in lieu of all other express warranties, obligations, or liabilities. THERE ARE NO EXPRESS WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF. ALL IMPLIED WARRANTIES, OBLIGATIONS, OR LIABILITIES MADE BY SELLER IN CONNECTION WITH THIS PRODUCT, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. ANY ACTION OR BREACH OF ANY WARRANTY, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, MUST BE BROUGHT WITHIN 18 MONTHS OF DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT. Some states do not allow limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so above limitation or exclusion may not apply to you.

Seller does not represent that the product may not be compromised or circumvented; that the product will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm my only reduce the risk of a burglary, robbery, or fire occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THAT THE PRODUCT FAILED TO GIVE WARNING. However, if seller is held liable, whether directly or indirectly, for any loss or damage arising under this Limited Warranty or otherwise, regardless of cause or origin. Seller's maximum liability shall be complete and remedy against Seller. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. No increase or alteration, written or verbal, to this warranty is authorized.