

## 5808 Photoelectronic Smoke/Heat Detector with Built-in Wireless Transmitter Installation Instructions

### SPECIFICATIONS

Power Source:	Two 3-volt CR123A Lithium Batteries (included). (Replace with Duracell DL123A, Sanyo CR123A, Panasonic CR123A, ADEMCO 466, or Varta CR123A.)
Maintenance Limits (Maintenance signal is activated at either smoke level):	Hot Sensitivity: 0.65% ± 0.15% per foot Cold Sensitivity: less than 6% per foot
Height:	2.5 inches (14 cm)
Diameter:	5.5 inches (64 mm)
Weight:	0.7 lb. (310 g)
Operating Ambient Temperature Range:	4.4° to 37.8° C (40° to 100° F)
Operating Humidity Range:	5% to 95% Relative Humidity
Heat Sensor:	135° F Fixed Temperature Electronic Thermistors
Agency Listings:	UL 217; UL 268 – Residential, Commercial Installations

Before installing detectors, please thoroughly read these installation instructions and Manual I56-407, *Guide for Proper Use of System Smoke Detectors*, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available from ADEMCO.

**NOTICE:** This manual should be left with the owner/user of this equipment.

**IMPORTANT:** This detector must be tested and maintained regularly following NFPA 72 requirements. The detector should be cleaned at least once a year.

**WARNING:** Do not use the maintenance signal as an indication that the detector has reached the limits of its nominal sensitivity range. Maintenance only indicates that the detector may need cleaning or can no longer respond to smoke and shall not be used as a sensitivity indicating means.

### GENERAL DESCRIPTION

The 5808 photoelectronic smoke/heat detector with built-in wireless transmitter is intended for use with wireless alarm systems that support QED 5800 series devices. Refer to QED control communicator installation instructions for compatibility. The 5808 smoke/heat detector can be used with 5881 series (L, M, H) and 5881EH receivers for residential installations. The 5808 smoke/heat detector can be used with the 5881EH receiver for commercial installations. The transmitter can send alarm, tamper, maintenance (when QED control panels are equipped to process maintenance signals), and battery condition messages to the QED system's receiver. The maintenance signal will either indicate that the photo chamber requires cleaning or that the detector can no longer respond to smoke and may need replacement. Refer to the wireless system's instructions for the maximum number of transmitters that can be supported.

The 5808 sounds its built-in horn when smoke reaches the detector (the LED also flashes rapidly) or when the air temperature reaches 135° F (the LED flashes normally, about once every 40 seconds). A message is also sent to the wireless QED control panel and the smoke detector's ID number is displayed at the console. The alarm message is transmitted every 4 seconds until the smoke condition has cleared and the detector has reset. About 1 second after the horn stops, a RESTORE message is transmitted to the QED control panel and the ID number can be cleared from the panel. During normal, maintenance, and low battery conditions, the LED flashes approximately once every 40 seconds.

### BATTERY INSTALLATION AND REPLACEMENT

The 5808 is powered by two 3-volt CR123A or DL123A Lithium batteries (included). The detector checks for low batteries at every normal LED flash. If a low battery is detected, the transmitter sends a low battery message to the QED control panel, which beeps and displays the detector's ID. This condition will exist for a minimum of seven days, and then the detector's horn will "chirp" about every 40 seconds. The batteries should be replaced BEFORE the chirps begin. BE SURE TO REPLACE BOTH BATTERIES WITH FRESH ONES.

To replace batteries:

1. Remove the detector from its mounting plate by twisting the detector counter-clockwise. Remove batteries, if replacing, and dispose properly.
2. Install two new 3-volt CR123A Lithium batteries in the battery compartment. Follow the polarity diagram inside the compartment.
3. Reinstall the smoke detector onto the mounting plate by turning the detector clockwise.
4. Test the detector as described in the TESTING TRANSMITTER SIGNAL section of this manual. The LED should flash about once every 40 seconds to indicate normal operation. If the batteries are not installed correctly, the smoke detector will not operate and the batteries may be damaged. If the detector does not appear to be sending a signal during any of the tests, check for correct battery installation.

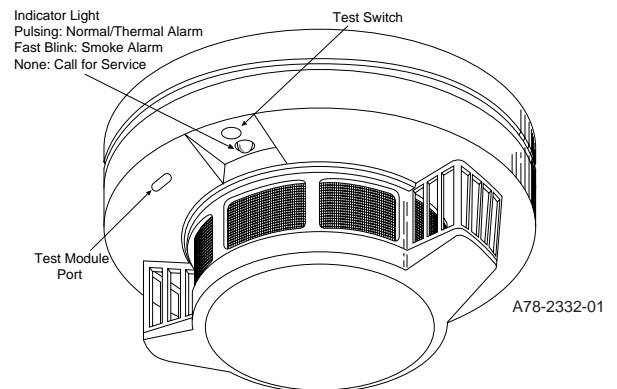


Figure 1. 5808 Wireless Smoke/ Heat Detector

### PROGRAMMING

The smoke detector's ID must be enrolled in the QED control panel during installation of the system. The QED control panel should be programmed to enroll the 5808 as an "RF" unit (must be programmed as "supervised RF" for UL installations). Put the QED control panel in the programming mode and perform the following:

With the QED control panel, program the detector as loop 1 and either manually enter the serial number that is on the label of the 5808, or press the test switch to cause a transmission. Additional transmissions will cause the "Confirm" display to appear on the keypad display.

See the QED control unit's installation instructions for further details.

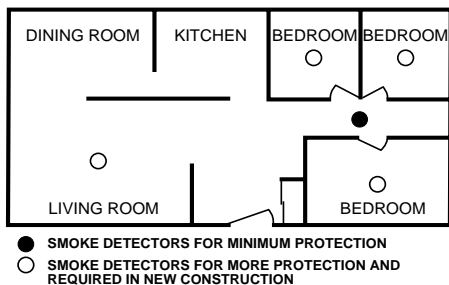
## SMOKE DETECTOR LIMITATIONS

- **Smoke detectors will not sense a fire if the smoke does not reach the sensor or if the air temperature does not reach 135° F.** In order for a smoke detector to sense smoke, it must be installed in the immediate vicinity of the fire. In addition, smoke from fires in chimneys, in walls, on roofs, in remote parts of the building, or on another level from where the smoke detector is located, may not reach the smoke detector quickly enough for occupants to escape unharmed. **For this reason, installer shall install smoke detectors on every level, in every sleeping area, and in every bedroom of the household.**
- **Smoke detectors may not be heard.** The alarm horn in this smoke detector meets or exceeds current Underwriter's Laboratories standards. However, if the smoke detector is not located in the same room as the occupant, or if it is blocked by a closed door or normal noise, the alarm horn may not be heard. In addition, sound sleepers, or persons who are under the influence of drugs or alcohol may not hear the alarm or be able to react to it. **Therefore, locate this smoke detector, which has a sounder rated at 85 dB at 10 feet, on every level, in every sleeping area, and in every bedroom of the household.**
- **In general, detectors 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, or arson.
- Smoke detectors are not fool-proof. **Like all electronic devices, smoke detectors have limitations. No type of smoke detector can sense every kind of fire every time. In addition, smoke from slow, smoldering fires rises slowly and may not reach the smoke detector until actual flame breaks out. This type of smoke may not reach the smoke detector in time for occupants to escape unharmed.**
- **Smoke detectors are not a substitute for life or property insurance.** Though smoke detectors have been responsible for saving many lives, they are not warranted or implied to protect lives or property in the event of a fire.
- To keep your equipment in excellent working order, ongoing maintenance is required per the manufacturer's recommendations and UL and NFPA standards. At a minimum, the requirements of Chapter 7 of NFPA 72, the National Fire Alarm Code, shall be followed. A preventative maintenance agreement should be arranged through the local manufacturer's representative. Though smoke detectors are designed for long life, they may fail at any time. Any smoke detector, fire alarm equipment, or any component of that system which fails shall be repaired or replaced as soon as possible.

## Where to Install Smoke Detectors

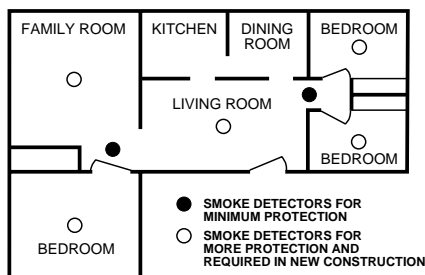
**Warning:** As a minimum requirement, smoke detectors must be installed in accordance with the National Fire Protection Agency (NFPA) Standard 72, Chapter 5, which defines the standards for the National Fire Alarm Code (National Fire Protection Association, Batterymarch Park, MA 02269-9101). In addition, observe all local and national building and electrical codes.

### Recommended Smoke Detector Locations:



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Figure 2. Single-floor residence with only one sleeping area



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Figure 3. Single-floor residence with more than one sleeping area

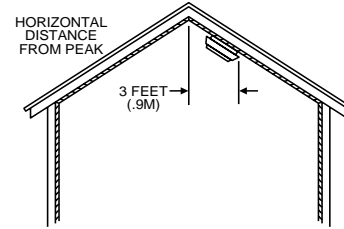
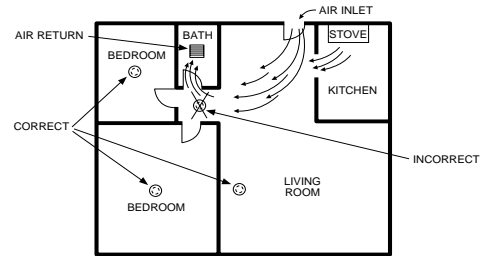


Figure 4. Recommended smoke detector location in rooms with sloped, gabled or peaked ceilings.

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## Where Smoke Detectors Should NOT Be Installed

- **In or near areas where combustion particles are normally present such as kitchens; in garages** where there are particles of combustion in vehicle exhausts; **near furnaces, hot water heaters, or gas space heaters. Install detectors at least 20 feet (6 meters) away from kitchens and other areas where combustion particles are normally present.**
- **On the ceiling in rooms next to kitchens** where there is no transom between the kitchen and these rooms. Instead, install the smoke detector on an inside wall, furthest from the kitchen (See Figure 5). Be sure not to install smoke detectors within 4" of the ceiling or any corner or more than 6" from the ceiling.



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Figure 5. Recommended smoke detector locations to avoid air streams with combustion particles

- **In damp or very humid areas, or next to bathrooms with showers.** The moisture in humid air can enter the sensing chamber as water vapor, then cool and condense into droplets that cause a nuisance alarm. **Install detectors at least 5 feet (1.5 meters) away from bathrooms.**
- **In very cold or very hot rooms or areas.** Operating temperature of the smoke detector is 40°F to 100°F (4°C to 38°C).
- **In dusty, dirty, or insect-infested areas.** Dust and dirt can build up on the detector's sensing chamber and make it overly sensitive, or can block openings to the sensing chamber and keep the detector from sensing smoke.
- **Near fresh air inlets or returns or excessively drafty areas.** Air conditioners, heaters, fans, and fresh air intakes and returns can drive smoke away from smoke detectors, making the detectors less effective.
- **In dead air spaces** at the top of a peaked ceiling or wall/ceiling intersect. Dead air may prevent smoke from reaching a detector.
- **Near fluorescent light fixtures.** Install detectors at least 10 feet (3 meters) away from such light fixtures.

## WHAT TO DO IN CASE OF FIRE

1. **DON'T PANIC** — escape may depend on clear thinking.
2. Get out of the house following the planned escape routes, if possible. Do not stop to dress or to collect anything.
3. Open doors carefully only after feeling them to see if they are hot. If a door is hot, do not open it— follow an alternate escape route.
4. Keep close to the floor — smoke and hot gases rise. Breathe through a cloth (wet, if possible) and take short shallow breaths.
5. Keep doors and windows closed unless it is necessary to open them for escape.
6. Meet at your meeting place after leaving your home.
7. Call the local fire department as soon as possible from outside the home.
8. Never re-enter a burning building.

For more information about fire safety, contact your local fire depart-

ment. They can supply more detailed information about making your home as free from fire hazards as possible and about planning for escape in case of fire.

### MOUNTING

First, determine the best location for the smoke detector; a location that provides strong wireless transmission paths and proper smoke detection. **A GOOD TRANSMISSION PATH MUST BE ESTABLISHED FROM THE PROPOSED MOUNTING LOCATION BEFORE PERMANENTLY INSTALLING THE DETECTOR.** To check, perform the test described in the TESTING TRANSMITTER SIGNAL section of this manual. To mount the detector:

1. Once a suitable location has been determined, install the mounting bracket on the ceiling or on the wall (if local ordinances permit). Use the two screws and anchors provided.
2. Prior to mounting the detector to the mounting bracket, the system must "enroll" the detector's ID. See the PROGRAMMING section for the steps to follow.
3. Turn the detector in a clockwise direction in the mounting bracket until it clicks into place.
4. Test the detector immediately after completing the installation (as described in the TESTING section of this manual) and refer to the QED control system's instructions for additional information concerning the use of wireless smoke detectors.

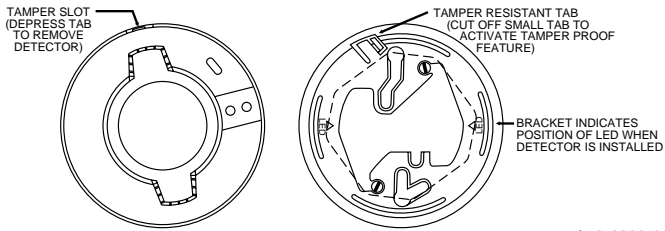


Figure 6. Detector Mounting Bracket

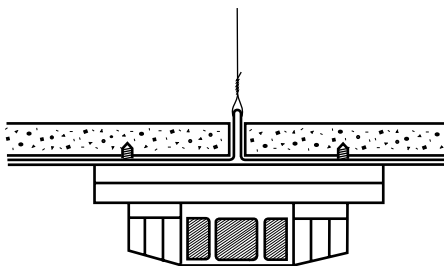


Figure 7. Mount Detector Across Ceiling Panel Support

### CAUTION

DO NOT attach the detector to removable ceiling panels. Attach the detector across panel support as shown in Figure 7.

### TAMPER PROTECTION

This detector has a built-in tamper switch that will cause a CHECK signal to be displayed at the console of the detector if it is removed from its installation bracket. The mounting bracket can also be made tamperproof by breaking off the smaller tab at the scribed line (see Figure 6), thus preventing removal of the detector without a tool. To remove the detector, use a small screwdriver to depress the tamperproof tab and turn the detector counterclockwise.

### TESTING

**NOTE:** Before testing, 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.

Detectors must be tested after installation and following periodic maintenance. The 5808 may be tested as follows:

#### A. TEST SWITCH

1. A recessed test switch is located on the detector housing.
2. Push and hold the recessed test switch with a 0.1" maximum

diameter tool (an allen wrench or small screwdriver.)

3. The LED on the detector should blink once per second and the horn should sound within 3 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. SMOKE ENTRY TEST

Hold a smoldering punk stick or cotton wick at the side of the detector and gently blow smoke through the detector until the unit alarms.

#### D. DIRECT HEAT METHOD (Hair dryer of 1000-1500 watts)

Direct the heat toward either side thermistor. Be sure to hold the heat source about 12 inches from the detector to avoid damage to the plastic. The detector will reset only after it has time to cool.

Smoke detection testing is recommended for verifying system protection capability.

A detector that fails to activate with any of these tests should first be cleaned as outlined in this manual's MAINTENANCE section. If the detector still fails to activate, return for repair.

Notify the proper authorities that the system is back on line.

### TESTING TRANSMITTER SIGNAL

**NOTE:** Remove battery tab before installation.

This test should be performed before installation to determine a strong communication path with the QED control panel and after installation is complete. Also, the owner/user should test the unit at least weekly.

1. Activate the wireless system's TEST mode from the console.
2. Depress and hold the smoke detector's TEST switch and the detector should immediately transmit an alarm signal to the QED control panel. The built-in horn will start to sound about 2.5 seconds after depressing the button.
3. The wireless system's console should emit at least 3 audible sounds when the alarm transmission is received and will display the transmitting detector's ID number.
4. When the console has received the test signal, release the TEST switch. The horn will immediately stop and a few seconds later the detector's ID number will clear from the console display.
5. If the console does not respond as noted, check the polarity of the batteries and be sure they are fresh. If this is an initial installation, try moving the detector to another location that provides proper reception. Also be sure that the detector's ID has been "enrolled" by the QED control panel (see PROGRAMMING). Then, repeat the test.
6. Turn off the system's TEST mode from the console (security code + OFF).

### MAINTENANCE

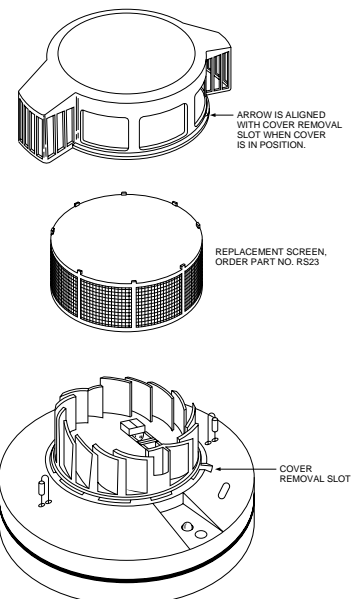


Figure 8. Removal of Cover and Screen for Cleaning

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

1. Remove the detector cover by placing a small-bladed screwdriver in the cover removal slot and twisting it slightly until the cover can be turned counterclockwise for removal.
2. Remove the screen by pulling it straight out (see Figure 8). Vacuum the screen thoroughly.
3. Clean the black vaned chamber piece by vacuuming or blowing out dust and particles.
4. To reinstall the screen, rotate the screen on the housing until it drops into the alignment slots. Carefully push the screen onto the base, making sure it fits tightly to the chamber. Replacement screens are available (order part number RS23).
5. Replace the cover by rotating it clockwise until it locks in place.
6. Reinstall the detector into the system, enable system operation, and notify the proper authorities that the system is back on line.



#### LIMITATIONS OF SMOKE DETECTORS/TRANSMITTERS

This smoke detector is designed to **activate and initiate** emergency action, but will do so only when used in conjunction with an authorized fire alarm system. This detector must be installed in accordance with NFPA standard 72.

**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.

Alarm signal sent by the wireless transmitter in this detector may be blocked or reflected by metal before reaching the alarm receiver. Even if the signal path has been recently checked, blockage can occur if a metal object is moved into the path.

**Smoke detectors will not sense fires which start where smoke does not reach the detectors.** Smoldering fires typically do not generate a lot of heat which is needed to drive smoke up to the ceiling where the smoke detector is usually located. For this reason, there may be large delays in detecting a smoldering fire with either an ionization-type detector or a photoelectric-type detector. Either one of them may alarm only after flaming has initiated, which will generate the heat needed to drive the smoke to the ceiling.

Smoke from fires in chimneys, in walls, on roofs, or on the other side of a closed door may not reach the smoke detector and alarm it. A detector cannot quickly detect, or sense at all, a fire developing on another level of a building. Alarm warning devices, such as bell or horns, may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors, or on another level. Persons may not hear a warning device over the noise levels of a radio, air conditioner or other appliances, or traffic. For this reason, **detectors shall be located on every level and in every bedroom within a building.** Alarm warning devices, however loud, may not warn hearing-impaired people or waken deep sleepers.

**Smoke detectors shall be located in any room where an alarm control is located, or in any room where alarm control connections to an AC source or phone lines are made.** If detectors are not so located, a fire within any of these rooms could prevent the QED control from reporting a fire.

**Smoke detectors have sensing limitations, too.** Ionization detectors and photoelectronic detectors are required to pass fire tests of the flaming and smoldering types. This is to ensure that both can detect a wide range of fires. Ionization detectors offer a broad range of fire-sensing capability, but they are somewhat better at detecting fast-flaming fires than slow-smoldering fires. Photoelectronic detectors sense smoldering fires better than flaming fires, which have little, if any, visible smoke. 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 early warning of a specific type of fire.

In general, detectors cannot be expected to provide warnings for fires resulting from inadequate fire protection practices, violent explosions, escaping gases that ignite, improper storage of flammable liquids like cleaning solvents that ignite, other similar safety hazards, arson, smoking in bed, children playing with matches or lighters, etc. Smoke detectors used in high air velocity conditions may have a delay in alarm due to dilution of smoke densities created by frequent and rapid air exchanges. Additionally, high air velocity environments may create increased dust contamination, demanding more frequent detector maintenance.

To keep your equipment in excellent working order, ongoing maintenance is required per the manufacturer's recommendations and UL and NFPA standards. At a minimum, the requirements of Chapter 7 of NFPA 72, the National Fire Alarm Code, shall be followed. A preventative maintenance agreement should be arranged through the local manufacturer's representative. Though smoke detectors are designed for long life, they may fail at any time. Any smoke detector, fire alarm equipment, or any component of that system which fails shall be repaired or replaced as soon as possible.

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#### 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.

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