

Models: 5193SD, 5193SDT

Addressable Photoelectric Smoke Detector

SPECIFICATIONS

5193SD, 5193SDT	
Heat Sensor: (Model 5193SDT):	135°F (57.2°C); Fixed Temperature Electronic Thermistors
Operating Ambient Temperature Range:	32 to 100°F (0 to 38°C)
Operating Humidity Range:	0 to 95% RH non-condensing
Storage Temperature Range:	-4 to 158°F (-20 to 70°C)
Diameter (including base):	5.3 inches
Height (including base):	2.0 inches
Weight:	6.3 oz.
Agency Listing:	UL-268
System Voltage Range:	7-14V
Standby Current (maximum @ 12V)	
LED off:	1.2mA
LED on:	2.8mA

BEFORE INSTALLING

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

NOTICE: This manual shall be left with the owner/user of this equipment.
IMPORTANT: This detector must be tested and maintained regularly following NFPA 72 requirements. At a minimum, cleaning should be performed annually.

GENERAL DESCRIPTION

The Model 5193SD/SDT addressable photoelectric smoke detector incorporates a state-of-the-art optical sensing chamber and an advanced microprocessor. Built-in Drift Compensation algorithms automatically maintain proper operation at factory calibrated detection levels, even when sensitivity is altered due to the presence of contaminants settling into the unit's chamber. In order for this feature to work properly, the chamber must never be opened while power is applied to the smoke detector. This includes cleaning, maintenance or screen replacement. Should it become necessary, the screen/sensing chamber is field replaceable. Once the detector has reached its limit of compensation, a maintenance signal is indicated at the panel. The 5193SDT also features a restorable, built-in, fixed temperature (135°F) thermal detector.

The detector is designed to provide open area protection and to be used with compatible UL-listed Honeywell control panels.

Installation of the 5193SD/SDT detector is simplified by the use of a mounting base that may be pre-wired to the system, allowing the detector to be easily installed or removed.

Two LEDs on the detector provide a local visual indication of the detector's status:

TABLE 1: DETECTOR LED MODES

	Green LED	Red LED
Power-up	Blink 10 sec	Blink 10 sec
Normal (standby)	Blink 5 sec	—
Out of sensitivity	Off	Blink 5 sec
Heat Sensor Trouble	Off	Blink 10 sec
Smoke / Thermal Alarm	Off	Solid- (Initiating device only) Blink 1 sec

During initial power-up, the red and green LEDs will blink synchronously once every ten seconds. It will take approximately 50 seconds for the detector to finish the power-up cycle (see Table 2).

TABLE 2: POWER-UP SEQUENCE FOR LED STATUS INDICATION

Condition	Duration
Initial LED Status Indication	approx.14seconds
Initial LED Status Indication (if excessive electrical noise is present)	4 minutes

NOTE: If, during power-up, the detector determines there is excessive electrical noise in the system such as those caused by improper grounding of the system or the conduit, both LEDs will blink for up to 4 minutes before displaying detector status (see Table 2).

After power-up has completed and the detector is functioning normally within its listed sensitivity range, the green LED blinks once every five seconds. If the detector is in need of maintenance because its sensitivity has shifted outside the listed limits, the red LED blinks once every five seconds. When the detector reports an alarm condition to the control panel, the panel will send a code command to steadily light that unit's red LED. If the same loop has multiple detectors reporting alarm, only the first detector that reported alarm would have its red LED turned on steadily. The remaining units in alarm will blink their red LED once per second. However, the panel will latch the address of all detectors that reported alarm. The LED indication must not be used in lieu of the tests specified under **Testing**.

To measure the detector's sensitivity, the Model SENS-RDR Infrared Sensitivity Reader tool (see Figure 5) should be used.

PROGRAMMING

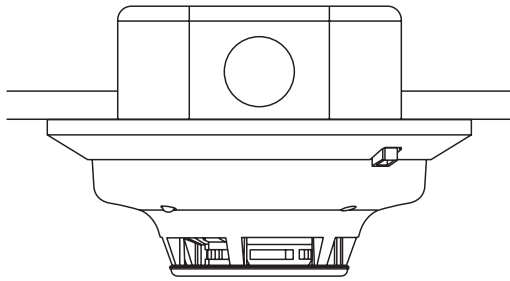
The 5193SD/SDT has an internal serial number which must be enrolled in the control panel prior to its use in the system. Before programming, make sure the detector is mounted on its base. To program this device, enter the control panel's Zone Programming mode. Assign the appropriate Fire Zone Type and an Input Type of "06" (serial number polling loop device). When prompted, either press the "test" button on the smoke detector to enroll the serial number (it will be displayed on the keypad), or enter the serial number manually through the keypad. Press the "test" button again to enroll the loop number, or enter loop number "1."

MOUNTING

Each 5193SD/SDT detector is supplied with a mounting base that can be mounted:

1. Direct mount or to ceiling using drywall fasteners (Figure 1).
2. To a single gang box, or
3. To a 3 1/2-inch or 4-inch octagonal box, or
4. To a 4-inch square box with a plaster ring

FIGURE 1: MOUNTING OF DETECTOR

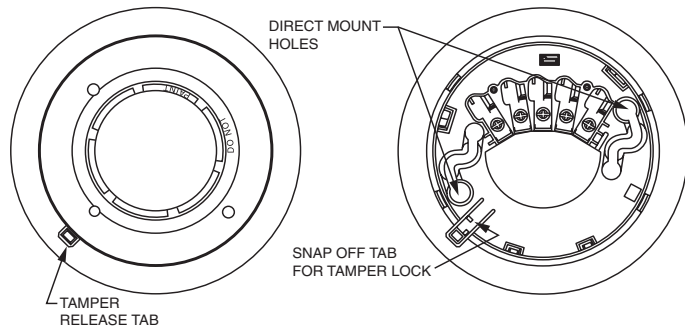


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TAMPER-RESISTANT FEATURE

The 5193SD/SDT detector includes a tamper-resistant feature that prevents removal from the mounting base without the use of a tool. To engage the tamper-resistant feature, cut the small plastic tab located on the mounting base (Figure 2), and then install the detector. To remove the detector from the base once it has been made tamper resistant, use a small screwdriver to depress the square tamper release tab, located on the skirt of the mounting base, and turn the detector counterclockwise.

FIGURE 2: TAMPER-RESISTANT FEATURE



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WIRING INSTALLATION GUIDELINES

All wiring must be installed in compliance with the National Electrical Code, applicable state and local codes, and any special requirements of the local Authority Having Jurisdiction.

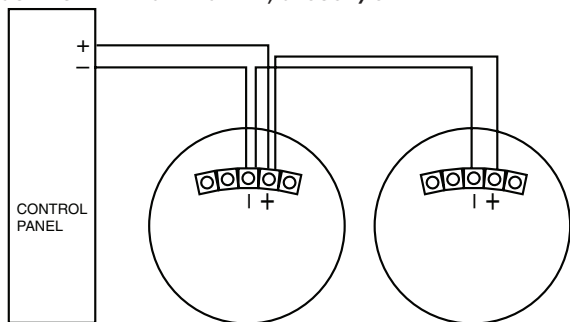
Proper wire gauges should be used. The conductors used to connect smoke detectors to the alarm control panel and accessory devices should be color-coded to reduce the likelihood of wiring errors. Improper connections can prevent a system from responding properly in the event of a fire.

The screw terminals in the mounting base will accept 14–22 gauge wire. For best system performance, all wiring should be installed in separate grounded conduit; do not mix fire alarm system wiring in the same conduit as any other electrical wiring. Twisted pair may be used to provide additional protection against extraneous electrical interference.

Wire connections are made by stripping approximately 1/4-inch of insulation from the end of the feed wire, inserting it into the proper base terminal, and tightening the screw to secure the wire in place.

WIRING DIAGRAM

FIGURE 3: WIRING DIAGRAM, 5193SD/SDT



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INSTALLATION



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

NOTE: To install units so that corresponding LEDs are lined up, refer to the “Green LED” indicator on the base.

1. Wire the mounting base screw terminals per Figure 3.
2. Place detector on the base and rotate clockwise. The detector will drop into the base and lock into place with a “click”.
3. After all detectors have been installed, apply power to the alarm control unit or initiating device circuits.
4. Test each detector as described in **Testing**.
5. Reset all the detectors at the system control panel.
6. Notify the proper authorities that the system is in operation.

TESTING

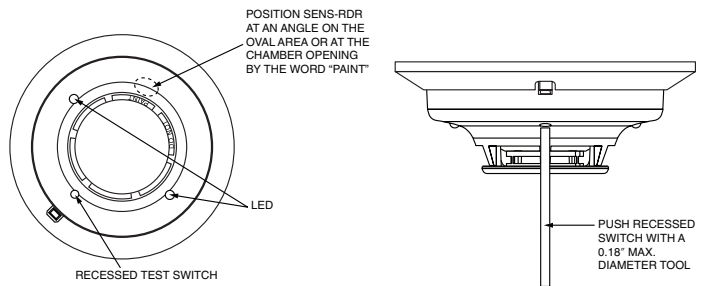
Detectors must be tested after installation and following maintenance.

NOTE: Before testing, notify the proper authorities that maintenance is being performed and the system will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent any unwanted alarms. Ensure proper wiring and power is applied. *After power up, allow 50 seconds for the detector to stabilize before testing.*

TEST 5193SD/SDT DETECTOR AS FOLLOWS:

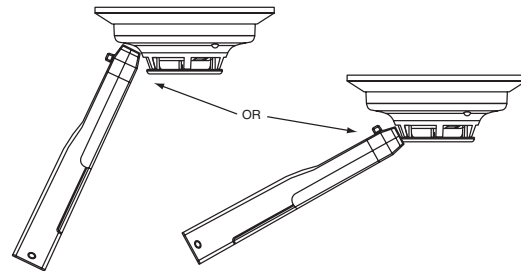
A. Test Switch

FIGURE 4: RECESSED TEST SWITCH OPENING AND SENS-RDR POSITION



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FIGURE 5: POSITION OF READER



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1. An opening for the recessed test switch is located on the detector housing (See Figure 4).
2. Insert a small screwdriver or allen wrench (0.18" max.) into the test switch opening; push and hold.
3. If the detector is within the listed sensitivity limits, the detector's red LED should light within five seconds. An alarm should be annunciated at the system's control or console within 5 seconds.

B. Smoke Entry Test

Canned aerosol simulated smoke (canned smoke agent) may be used for smoke entry testing of the smoke detector. Tested and approved aerosol smoke products are the Smoke Detector Tester model 25S available from Home Safeguard Industries and Chekkit Smoke Detector Tester models CHEK02 and CHEK06 available from SDi. When used properly, the canned smoke agent will cause the smoke detector to go into alarm.

Refer to the manufacturer's published instructions for proper use of the canned smoke agent.

C. Direct Heat Method (5193SDT only)

Using a 1000-1500 watt hair dryer, direct the heat toward either of the thermistors. Hold the heat source about 12 inches from the detector to avoid damage to the plastic.

D. Auto-maintenance Feature: Test detector alarm operation from the control panel if applicable (refer to control panel test procedure).

If a detector fails any of the above test methods, its wiring should be checked and it should be cleaned as outlined in the **Maintenance** section. If the detector still fails, it should be replaced.

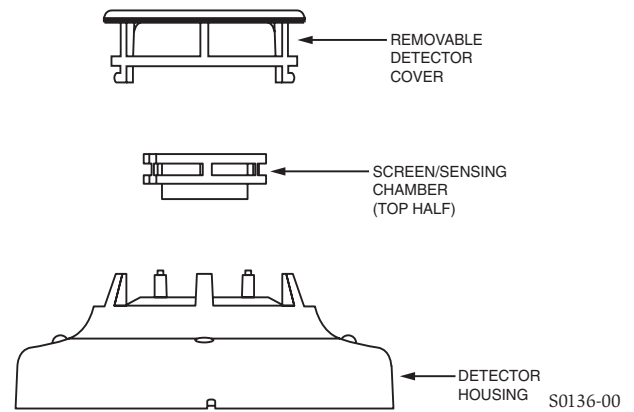
Notify the proper authorities when the system is back in service.

Maintenance

NOTE: Before performing maintenance on the detector, notify the proper authorities that maintenance is being performed and the system will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent any unwanted alarms. **Power must be removed from the panel before performing maintenance of any kind.**

1. Remove the detector cover by turning counterclockwise.
2. Vacuum the cover or use canned air to remove any dust or debris.
3. Remove the top half of the screen/sensing chamber by lifting straight up (Figure 6).
4. Vacuum or use canned air to remove any dust or particles that are present on both chamber halves.
5. Replace the top half of the screen/sensing chamber by aligning the arrow on the screen/sensing chamber with the arrow on the housing. Press down firmly until the screen/sensing chamber is fully seated.
6. Replace the detector cover by placing it over the screen/sensing chamber and turning it clockwise until it snaps into place.
7. Reinstall the detector and test. (See the **Testing** section.)
8. Notify the proper authorities when the system is back in service.

FIGURE 6: REMOVING/REPLACING SCREEN/SENSING CHAMBER



CAUTION

Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

Do NOT Install Detectors in the Following Areas:

- In or near areas where particles of combustion are normally present such as kitchens; in garages (vehicle exhaust); near furnaces, hot water heaters, or gas space heaters.
- In very cold or very hot areas.
- In wet or excessively humid areas, or next to bathrooms with showers.
- In dusty, dirty, or insect-infested areas.
- 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 the detector.

Consult NFPA 72, the local Authority Having Jurisdiction (AHJ), and/or applicable codes for specific information regarding the spacing and placement of smoke detectors.

CAUTION

Dust covers are an effective way to limit the entry of dust into the smoke detector sensing chamber. However, they may not completely prevent airborne dust particles from entering the detector. Therefore, Honeywell recommends the removal of detectors before beginning construction or other dust producing activity. When returning the system to service, be sure to remove the dust covers from any detectors that were left in place during construction.

For the latest warranty information, please go to: www.security.honeywell.com/hsc/resources/wa

Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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