INSTALLATION AND MAINTENANCE INSTRUCTIONS

1151 Low Profile Ionization Plug-in Smoke Detectors

SYSTEM SENSOR®

3825 Ohio Avenue, St. Charles, Illinois 60174
1-800-SENSOR2, FAX: 630-377-6495
www.systemsensor.com

Specifications

Size	
Height:	1.7 inches (43 mm)
Diameter:	4.0 inches (102 mm)
Weight:	3.6 oz (102 g)
Operating Temperature Range:	–10°C to 60°C (14°F to 140°F)
	NOTE: Do not install in locations where normal ambient temperature range extends beyond 0°C to 49°C (32°F to 120°F)
Operating Humidity Range:	10% to 93% Relative Humidity, Noncondensing
Latching Alarm:	Reset by momentary power interruption

Before Installing

Please thoroughly read the System Sensor manual A05-1003, *Applications Guide for System Smoke Detectors,* which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available from System Sensor.

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

IMPORTANT: The detector used with this base must be tested and maintained regularly following NFPA 72 requirements. The detector used with this base should be cleaned at least once a year.

General Description

Model 1151 ionization detector uses state-of-the-art sensing chambers. This detector is designed to provide open area protection, and to be used with compatible UL-listed control panels only. The capability of plugging this detector into a variety of special bases makes it more versatile than equivalent direct-wired models.

Two LEDs on each detector light to provide a local 360° visible alarm indication. Remote LED annunciator capability is available as an optional accessory. This detector also has the latching alarm feature. The alarm can be reset only by a momentary power interruption. For testing, this detector has an internal magnetically activated reed switch.

Spacing

Spacing of 30 ft. on a smooth ceiling as per NFPA 72. Where conditions or response requirements vary, other spacing may apply.

Base Selection and Wiring Guide

Refer to the installation instructions for the plug-in detector bases for wiring instructions. System Sensor has available a variety of detector bases for this smoke detector, including 2-wire applications with and without relays and/or current limiting resistors, 4-wire and 120 VAC applications.

All bases are provided with screw terminals for power, ground, remote annunciator connections, and relay contact connections, if applicable. The electrical ratings for each detector-base combination are also included in the base installation instructions.

Installation

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations.

NOTE: Verify that all detector bases are installed, that the initiating-device circuits have been tested, and that the wiring is correct.

⚠WARNING

Remove power from initiating device circuits before installing detectors.

1. **Install Detectors:**
   a. Place the detector into the detector base.
   b. Rotate the detector clockwise until the detector drops into place.
   c. Continue rotating the detector clockwise to lock it in place.
2. **Tamper-Resistance:** The detector bases include a feature that, when activated, prevents removal of the detector without the use of a tool. See the installation instruction manual of the detector base for details in using this feature.

3. After all detectors have been installed, apply power to the control unit.
4. Test the detector as described under **TESTING**.
5. Reset the detector at the system control panel.
6. Notify the proper authorities that the system is in operation.

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

⚠CAUTION

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

Testing

Detectors must be tested after installation and following periodic maintenance. However, before testing, notify the proper authorities that the smoke detector system is undergoing maintenance and the system will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

In addition, check to ensure that the LEDs blink. If they do not, power has been lost to the detector (check the wiring), or it is defective (return for repair).

Test the sensors as follows:
A. Test Magnet (p/n M02-04-01 or M02-09-00)
   1. Test the sensor by positioning the optional test magnet against the sensor plastic just to the left of LED1 (Figure 1).

2. Both LEDs should latch on within 30 seconds, indicating an alarm and annunciating the panel.
B. Calibrated Sensitivity Test (MOD400R)
   Use the MOD400R Test Module with a digital or analog voltmeter to test calibrated detector sensitivity as described in the test module manual.

C. Aerosol Generator (Gemini 501)
   Set the generator to represent 4%/ft. to 5%/ft. obscuration as described in the Gemini 501 manual. Use the bowl shaped applicator to apply aerosol to the sensor. It should alarm within 30 seconds.

Notify the proper authorities that the system is back on line. Detectors that fail these tests should be cleaned as described under **MAINTENANCE** and retested. If the detectors still fail these tests they should be returned for repair.

Maintenance

Before cleaning, notify the proper authorities that the system is undergoing maintenance and will be temporarily out of service. Disable the system to prevent unwanted alarms.
1. Remove the sensor to be cleaned from the system.
2. Remove the sensor cover. Use a small standard screwdriver to release each of four cover removal tabs that hold the cover in place.
3. Vacuum the outside of the screen carefully without removing it.
4. Remove the sensor screen. Pull the screen straight away from the sensing chamber until it snaps out of place. Replacement screens are available.
5. Use a vacuum cleaner or clean, compressed air to remove dust and debris from the sensing chamber.
6. Reinstall or replace the sensing chamber screen by sliding the edge without the tabs over the sensing chamber. Make sure that one of the Screen Contacts touches the PC Board Contact.

Figure 1. Bottom and side views showing position of test magnet:

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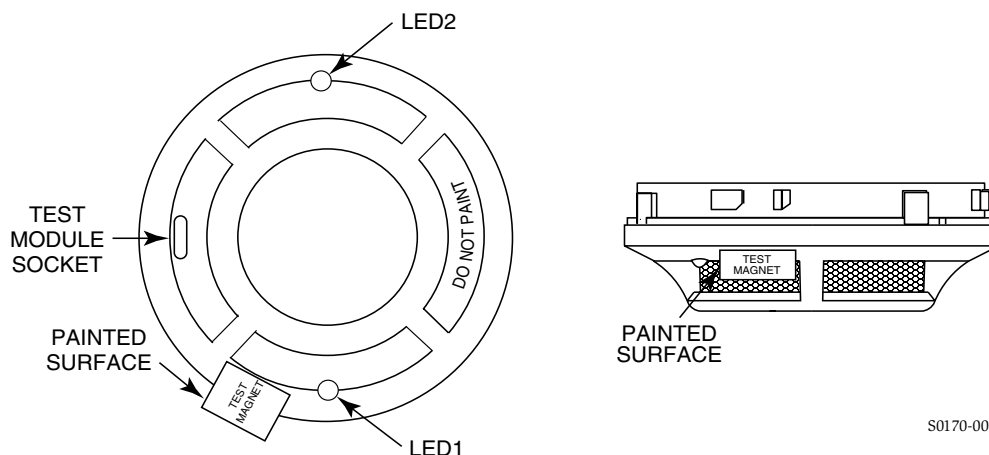
7. Reinstall the sensor cover. Use the test module socket and LEDs to align the cover with the sensor. Snap the cover into place.
8. When all sensors have been cleaned, restore power to the system and test the sensor(s) as described in the **TESTING** section of this manual.

Figure 2:

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Special Note Regarding Smoke Detector Guards

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

Please refer to insert for the Limitations of Fire Alarm Systems