SD-651 Low Profile Photoelectronic Plug-in Smoke Detector
Installation and Maintenance Instructions

Before installing detectors, please thoroughly read, *System Smoke Detector Application Guide*, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available from Notifier.

GENERAL DESCRIPTION

The Model SD-651 low profile, photoelectronic 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 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 the detector light to provide a local 360° visible alarm indication. They flash every 10 seconds to indicate power is applied and the detector is working properly. The LEDs latch on in alarm. Remote LED annunciator capability is standard and may be implemented through an optional accessory RA400Z. The alarm can be reset only by a momentary power interruption. This detector may be tested by activating the internal reed switch with a magnet.

SPECIFICATIONS

Size:	Height	1.7 inches (43 mm)
	Diameter	4.0 inches (101 mm)
Weight:		3.6 oz. (102 g)
Operating Temperature Range		-10° to 60°C (14° to 140°F) Note: Do not install in locations where normal ambient temperature range extends beyond 0° to 49°C (32° to 120°F)
Operating Humidity Range		10% to 93% Relative Humidity noncondensing
Latching Alarm		Reset by momentary power interruption.

BASE SELECTION AND WIRING GUIDE

Refer to the installation instructions for the Plug-in Detector Bases for base selection and wiring instructions. Notifier has a variety of detector bases available for this smoke detector, including 2-wire applications with and without relays, 4-wire and 120VAC 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. (Refer to detector base manual for testing procedure.)

WARNING

Remove power from initiating-device circuits before installing detectors.

1. Install detectors:
   a. Place the detector into the detector base
   b. Turn the detector clockwise until the detector drops into place.
   c. Continue turning detector clockwise to lock it in place.
2. Tamper Resistance: The detector bases can be made tamper resistant. When capability is enabled, detectors cannot removed from the base without the use of a tool. See the detector base installation manual of the detector base for details in using this capability.
3. After all detectors have been installed, apply power to the control unit.
4. Test the detector using the magnet as described under **TESTING**.
5. Reset the detector at the system control panel.
6. Notify the proper authorities that the system is back on line.

CAUTION

Dust covers can be used to help limit dust entry into the smoke detector, but they are not a substitute for removing the detector during building construction. Remove any dust covers before placing the system in service.

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TESTING

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 as part of periodic maintenance.

Test the SD-651 as follows:

NOTE: Before testing the detector, check to ensure the LEDs blink. If they do not, the detector has lost power (check the wiring) or it is defective (return it for repair).

A. Test Magnet (Model no. M02-04-01)
   1. Place the magnet against the cover in the location designated by the raised mark to activate the test feature (see Figure 1).
   2. The LEDs should latch ON within 5 seconds indicating alarm and annunciating the panel.

B. Test Module (MOD400R).
   Use the MOD400R with a DMM or voltmeter to check the detector sensitivity as described in the MOD400R manual.

C. Aerosol Generator (Gemini 501)
   Set the generator to represent 4% to 5%/Ft. obscuration as described in the Gemini 501 Manual. Using the bowl shaped applicator, apply aerosol until unit alarms.

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.

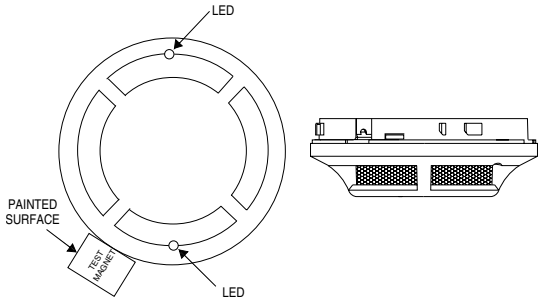

Figure 1. Bottom and side views showing position of test magnet

MAINTENANCE

It is recommended that the detector be removed from its mounting base to facilitate cleaning. The detector is cleaned as follows:

NOTE: Before removing the detector, 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.

1. Remove the detector cover by prying away the four side tabs with a small-bladed screwdriver, and then pulling the cover from the base.
2. Vacuum the screen carefully without removing it. If further cleaning is required continue with Step 3, otherwise skip to Step 8.
3. Remove the screen assembly by pulling it straight out (see Figure 2).
4. Remove the sensing chamber cover by pulling it straight out.
5. Clean the vaned chamber piece by vacuuming or blowing out dust and particles.
6. Replace the sensing chamber cover, aligning the arrow on the top with arrow on the printed circuit board.
7. To replace the screen, place it over the chamber assembly, turning it until it snaps into place.
8. Replace the cover using the test module socket and LEDs to align the cover and then gently pushing it until it locks into place.
9. Reinstall the detector.
10. Test the detector as described in TESTING.
11. Reconnect disabled circuits.
12. Notify the proper authorities that the system is back on line.

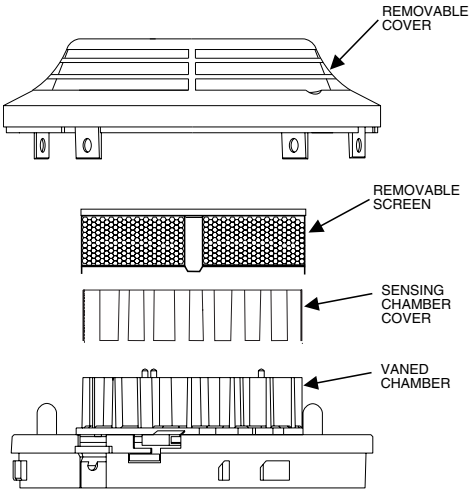

Figure 2. A78-2456-02

Please refer to insert for the Limitations of Fire Alarm Systems