

INSTALLATION AND MAINTENANCE INSTRUCTIONS



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156-0357-008R

B501 Plug-in Detector Base

SPECIFICATIONS

Diameter:	4.0 inches (10.2cm)
Mounting:	50mm, 60mm, and 70mm centers

Electrical Ratings – includes base and detector

Voltage Range:	15 to 32 VDC
Standby Current (Nominal):	150µA at 24 VDC
Power-Up Surge at Max. Rated Voltage:	1.5mA-Sec.
LED Current (Nominal):	6mA at 24 VDC
Operating Temperature Range:	Refer to applicable sensor Operating Temperature Range using the Base/Sensor Cross Reference Chart at http://www.systemsensor.com

BEFORE INSTALLING

Please thoroughly read the System Sensor manual, *System Smoke Detectors Application Guide*, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this manual are available at no charge from System Sensor.

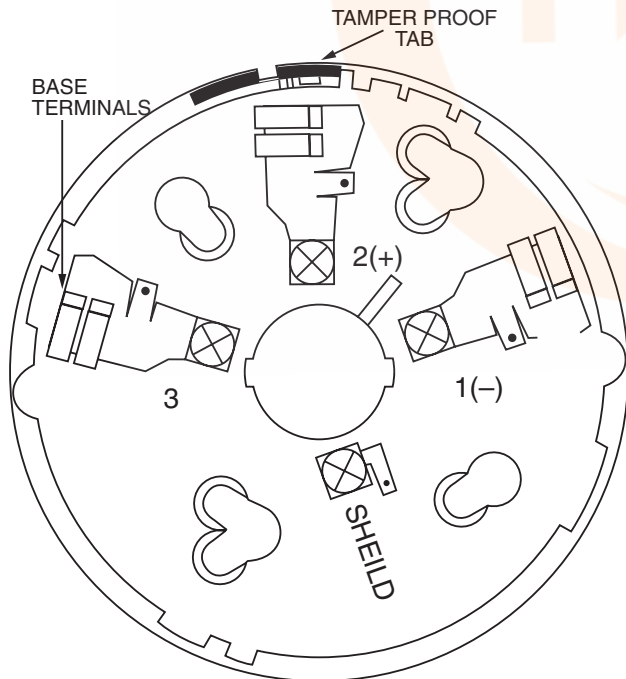
GENERAL DESCRIPTION

The B501 is a plug in detector base intended for use in an intelligent system with screw terminals provided for power (+) and (-), and remote annunciator connections. The communication takes place over the power (+) and (-) lines.

BASE TERMINALS

No.	Function
1	Power (-), Remote Annunciator (-)
2	Power (+)
3	Remote Annunciator (+)

FIGURE 1. TERMINAL LAYOUT:



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WIRING INSTALLATION GUIDELINES (SEE FIGURE 2)

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

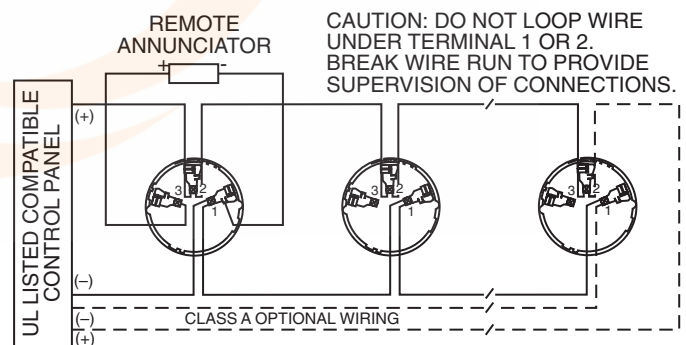
For signal wiring (the wiring between interconnected detectors and modules), it is recommended that the wiring be no smaller than 18 gauge (1.0 square mm). Wire sizes up to 12 gauge wire (2.5 square mm) may be used with the base. For best system performance, the power (+) and (-) loop wires should be twisted pair or shielded cable installed in separate grounded conduit to protect the loop from extraneous electrical interference. If a cable shield is provided, the shield connection to and from the base must be continuous by using wire nuts, crimping, or soldering as appropriate for a reliable connection.

Wire Connections are made by simply stripping about $\frac{3}{8}$ of an inch of insulation from the end of the wire (use strip gauge molded in base), sliding the bare end of the wire under the clamping plate and tightening the clamping plate screw. Do not loop the wire under the clamping plate.

The zone wiring of the detector base should be checked before the detector heads are installed in them. The wiring should be checked for continuity, polarity in the base, and dielectric tests.

The base contains a label to write the zone, address, and type of detector to be installed at that location. This information is used to set the address of the detector head that will later be plugged into the base and to verify the type required for that location.

FIGURE 2. TYPICAL WIRING DIAGRAM FOR 2-WIRE LOOP:



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TAMPERPROOF FEATURE

NOTE: Do Not use the tamper-resistant capability if the XR2 or XR2B Removal Tool will be used. This detector base also includes an optional tamperproof feature that when activated prevents removal of the detector without the use of a tool.

To activate this feature, simply break off the tab on the detector base shown in Figure 3A, and install the detector. To remove the detector from the base once the tamperproof feature has been activated, place a small-bladed screwdriver into the small hole on the side of the base and push the plastic lever away from the detector head (see Figure 3B). This will allow the detector to be rotated counterclockwise for removal.

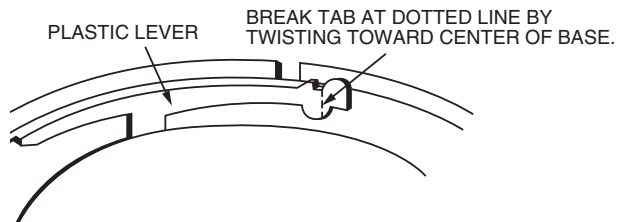
The tamperproof feature may be defeated by breaking and removing the plastic lever from the base, however this prevents ever using the feature again.

REMOTE ANNUNCIATOR (RA400)

The remote annunciator is connected between terminals 1 and 3 using the spade lug terminal packed with the remote annunciator. The spade lug terminal is connected to the base terminal as shown in Figure 4.

It is not acceptable to have three stripped wires under the same wiring terminal unless they are separated by a washer or equivalent means. The spade lug supplied with the model RA400 is considered an equivalent means. See Figure 2 for proper installation.

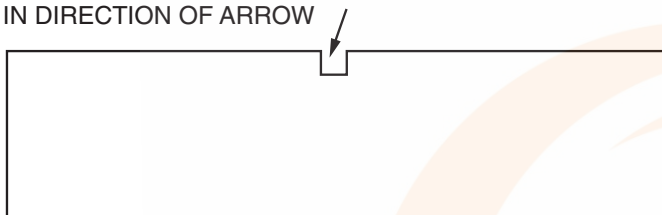
FIGURE 3A. ACTIVATING TAMPERPROOF FEATURE:



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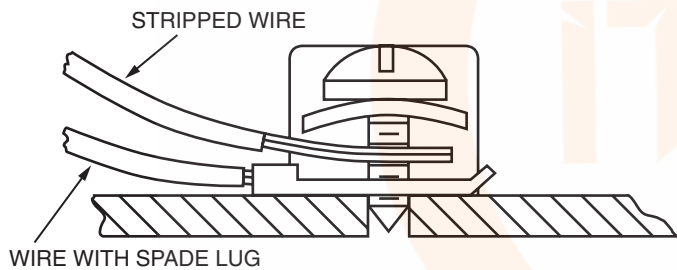
FIGURE 3B. REMOVING DETECTOR HEAD FROM BASE:

SCREWDRIVER TO PRESS PLASTIC LEVER
IN DIRECTION OF ARROW



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FIGURE 4. CONNECTION TO REMOTE ANNUNCIATOR TERMINAL:



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