SYSTEM SENSOR®
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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

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.

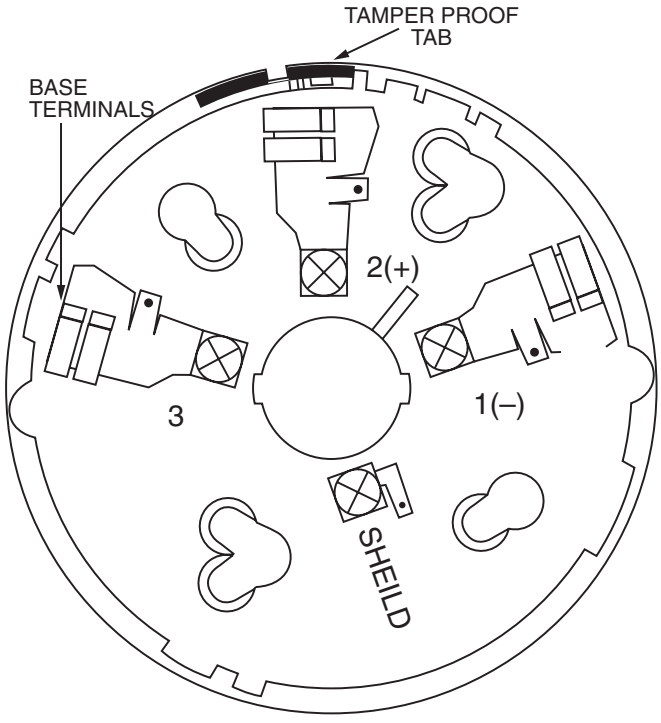
GENERAL DESCRIPTION

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 form responding properly in the event of a fire.

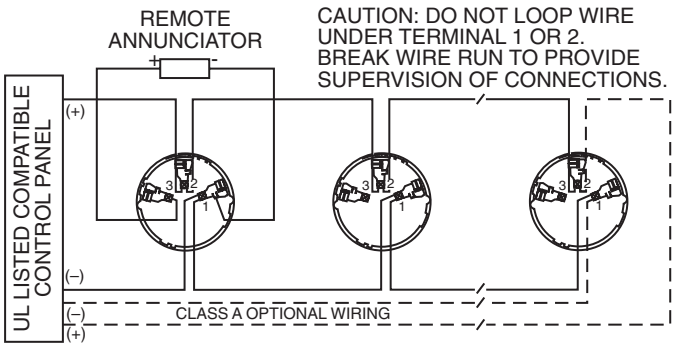
For signal wiring (the wiring between interconnected detectors and modules), it is recommended that the wiring be no smaller than 18 gauge (1.0 square mm). Wire sizes up to 12 gauge wire (2.5 square mm) may be used with the base. For best system performance, the power (+) and (–) loop wires should be 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 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.

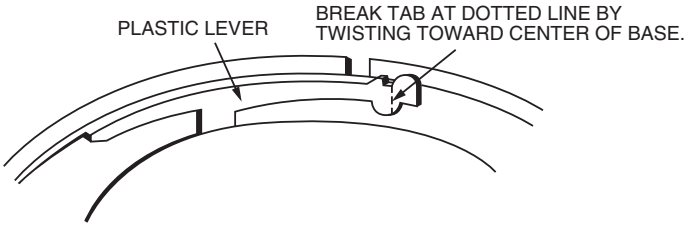
The tamperproof feature may be defeated by breaking and removing the plastic lever from the base, however this prevents ever using the feature again.

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.

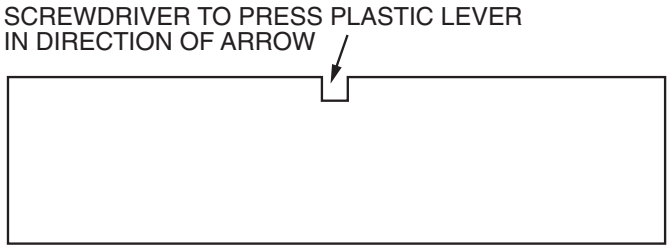
It is not acceptable to have three stripped wires under the same wiring terminal unless they are separated by a washer or equivalent means. The spade lug supplied with the model RA400 is considered an equivalent means. See Figure 2 for proper installation.

FIGURE 3A. ACTIVATING TAMPERPROOF FEATURE:



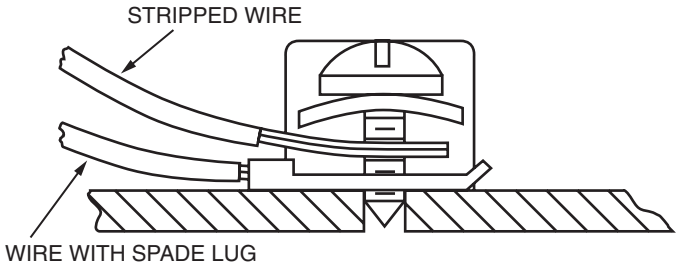
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FIGURE 3B. REMOVING DETECTOR HEAD FROM BASE:



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FIGURE 4. CONNECTION TO REMOTE ANNUNCIATOR TERMINAL:



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Please refer to insert for the Limitations of Fire Alarm Systems

THREE-YEAR LIMITED WARRANTY

System Sensor warrants its enclosed smoke detector base to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for this smoke detector base. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the repair or replacement of any part of the smoke detector base which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: System Sensor, Repair Department, RA #_____, 3825 Ohio Avenue, St. Charles, IL 60174. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to repair or replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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