



SYSTEM SENSOR B501-WHITE 4 Inch Plug-in Detector Bases Instruction Manual

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SYSTEM SENSOR B501-WHITE 4 Inch Plug-in Detector Bases



SPECIFICATIONS

- **Base Diameter:** 4.0" (10.2 cm)
- **Base Height:** 0.74" (18.8 mm)
- **Operating Temperature:** Refer to the applicable sensor Operating Temperature Range using the Base/Sensor Cross Reference Chart at systemsensor.com.

Electrical Ratings – includes base and detector

- **Operating Voltage:** 15 to 32 VDC
- **Standby Current:** 150 μ A
- **Listings:** UL268, ULC S529

BEFORE INSTALLING

Please read the System Smoke Detectors Application Guide, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications. Copies of this application guide are available from System Sensor. Observe guidelines for NFPA 72 or CAN/ULC S524 (depending on location).

- **NOTICE:** This manual should be left with the owner/user of this equipment.
- **IMPORTANT:** Use only compatible ULC-listed detector heads for proper system function. The detector used with this base must be tested and maintained regularly following the requirements of NFPA 72 or CAN/ULC S536 (depending on location). The detector should be cleaned at least once a year.

GENERAL DESCRIPTION

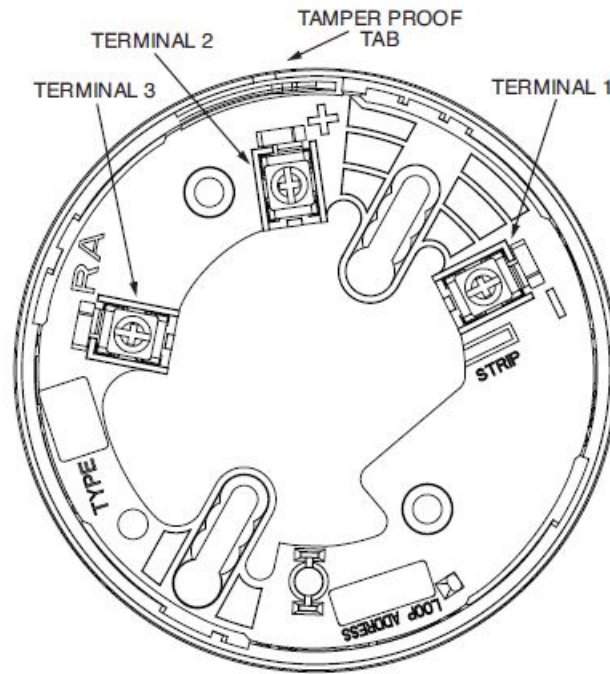
The B501-WHITE, B501-IV, and B501-BL are plug-in detector bases intended for use in an intelligent system with screw terminals provided for power (+ and –), and remote annunciator connections. Communication takes place over the power lines (+ and –).

BASE TERMINALS

No. Function

1. Power (–), Remote Annunciator (–)
2. Power (+)
3. Remote Annunciator (+)

FIGURE 1. TERMINAL LAYOUT



MOUNTING

This detector base mounts directly to a 4" square with plaster ring, 31/2" octa-gon, 50 mm, 60 mm, and 70 mm centers.

INSTALLATION AND WIRING GUIDELINES

(SEE FIGURE 2)

All wiring must be installed in compliance with all applicable 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 control panels 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.

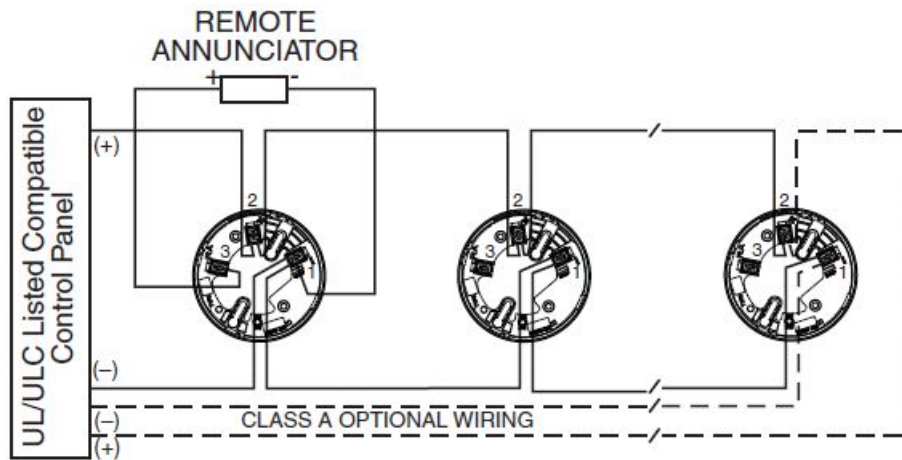
For signal wiring (the wiring between interconnected detectors and modules), it is recommended that the wiring be no smaller than 18 AWG (0.823 mm²). Wire sizes up to 12 AWG (3.31 mm²) may be used with the base. Alarm system control panels have specifications for allowable loop resistance. Consult the control panel specifications for the total loop resistance allowed before wiring the detector loops.

Make wiring connections by stripping about 3/8" (10 mm) of insulation from the wire end (use strip gauge molded-in base). Then slide the wire under the clamping plate and tighten the clamping plate screw. Do not loop the wire under the clamping plate. (See Figure 3.) Check the zone wiring of all bases in the system before installing the detectors. This includes checking the wiring for continuity, correct polarity, ground fault testing, and performing a dielectric test.

The base includes an area for recording the zone, address, and type of detector to be installed at that location.

This information is useful for setting the detector head address and for verification of the detector type required for that location. Once all detector bases have been wired and mounted, and the loop wiring has been checked, the detector heads may be installed in the bases.

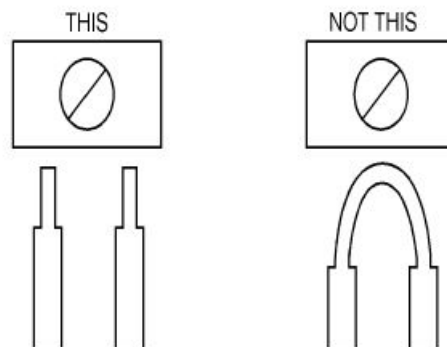
FIGURE 2. TYPICAL WIRING DIAGRAM FOR 2-WIRE LOOP



CAUTION:

Do not loop the wire under terminals 1 or 2. Break wire runs to provide supervision of connections.

FIGURE 3.



TAMPER-RESIST FEATURE

NOTE:

Do not use the tamper-resist feature if the removal tool is to be used.

The detector base includes a tamper-resist feature that prevents the removal of the detector without using a small screwdriver or similar tool. To activate this feature, use needle-nose pliers to break the tab on the detector base as shown in Figure 4A. Then, install the detector. To remove the detector from the base once the tamper-resist feature has been activated, insert 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 4B). This allows the detector to be rotated counterclockwise for removal.

The tamper-resist feature can be defeated by breaking and removing the plastic lever from the base. However, this prevents the feature from being used again.

FIGURE 4A. ACTIVATE TAMPER-RESIST FEATURE

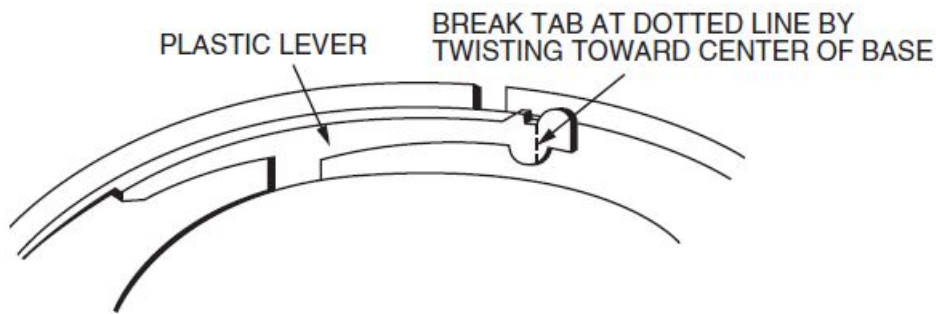
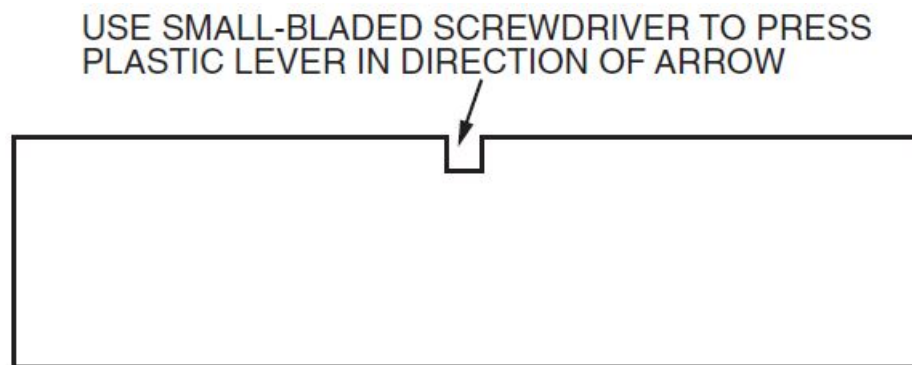


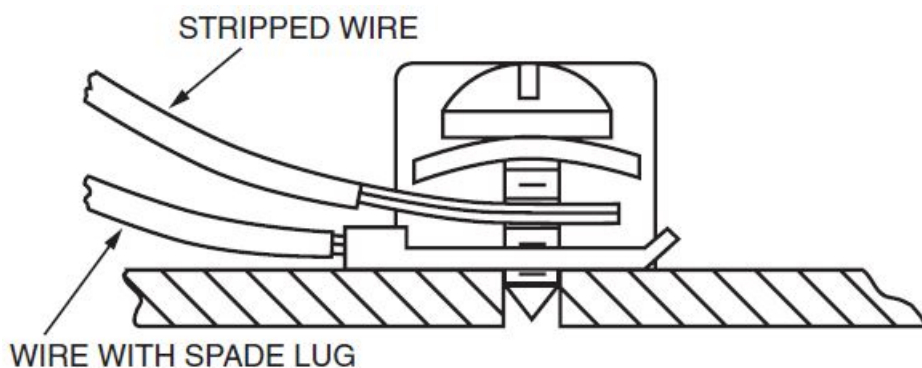
FIGURE 4B. DETECTOR REMOVAL



REMOTE ANNUNCIATOR (RA100Z)

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 5. 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 RA100Z is considered an equivalent means. See Figure 2 for proper installation.

FIGURE 5. CONNECTION TO REMOTE ANNUNCIATOR TERMINAL



NOTE:

B501-WHITE, B501-IV, and B501-BL replace the previous model numbers B501 and B501A; all are functionally the same.

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 the 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 Honeywell, 12220 Rojas Drive, Suite 700, El Paso TX 79936 USA. Please include a note describing the malfunction and suspected cause of failure.

The Company shall not be obligated to repair or replace units that 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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