



## INSTALLATION INSTRUCTIONS FOR PLUG-IN DETECTOR DEEP MOUNTING BASE B501DG FOR USE WITH MODELS 1551E, 2551E, 5551E, 1251E AND 2251E

Before installing bases, please thoroughly read the system wiring and installation manual, which provides detailed information on detector spacing, placement and special applications. Copies of these manuals are available from System Sensor.

### General Description

The Plug-in Detector Base is used with System Sensor model 1551E and 1251E ionisation, 2551E and 2251E photoelectric, and 5551E thermal detectors.

The B501DG base is intended for use in an Intelligent System with screw terminals provided for (+) 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 (+)

### Specifications

Diameter:	102mm
Mounting:	50mm, 60mm and 70mm centres

### Electrical Ratings (includes base and detector)

Voltage Range:	15-32 VDC
Standby Current: (nominal):	150mA DC @ 24 VDC
Power-up Surge at Maximum Rated Voltage:	1.5 mA-sec
LED Current (nominal):	6 mA @ 24 VDC

### Wiring Installation Guidelines (see Figure 2)

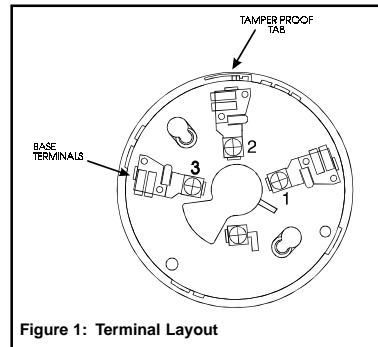
All wiring must be installed in compliance with the local codes and standards. Proper wire sizes should be used. The conductors used to connect smoke detectors to control panels and accessory devices should be color-coded to prevent wiring mistakes. Improper connections can prevent a system from responding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

For signal wiring (the wiring between interconnected detectors or modules), it is recommended that the wire be no smaller than 1.0 mm<sup>2</sup>. Wire sizes up to 2.5 mm<sup>2</sup> may be used with the base. For best system performance, the power (+) and (-) circuit wires should be twisted pair or shield cable installed in separate grounded conduit to protect the circuit 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 1cm of insulation from the end of the wire 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 important 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.

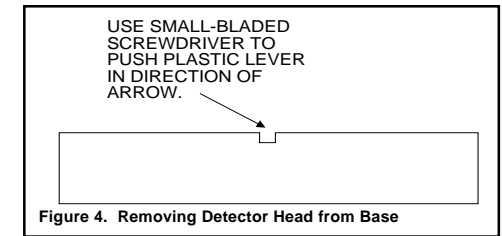
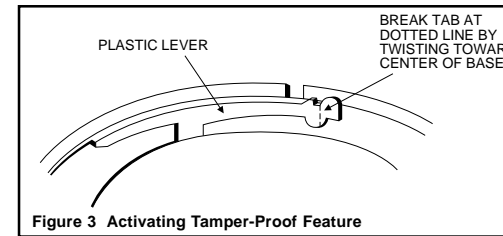


### Tamper-Proof Feature

This detector base also includes an optional tamper-proof 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 3, then install the detector. To remove the detector from the base once the tamper-proof feature has been activated, place a small bladed screwdriver into the small hole on the side of the base and push plastic lever away from the detector head (see Figure 4). This will allow the detector to be rotated counterclockwise for removal.

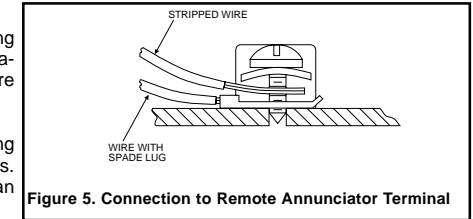
The tamper-proof feature may be defeated by breaking and removing the plastic lever from the base, however this prevents ever using the feature again.



### Remote Annunciator (System Sensor Part No. 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 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 RA400 is considered an equivalent means. See Figure 2 for proper installation.



### Warning Limitations of Smoke Detectors

The smoke detectors used with this base are designed to activate and initiate emergency action, but will do so only when used in conjunction with other equipment. This detector is designed for installation in accordance with NFPA standards, 71, 72A, 72B, 72C, 72D, and 72E.

**Smoke detectors will not work without power.** AC or DC powered smoke detectors will not work if the power supply is cut off for any reason.

**Smoke detectors will not sense fires which start where smoke does not reach the detectors.** Smoke from fires in chimneys, in walls, on roofs or on the other side of closed doors may not reach the smoke detector and alarm it.

**A detector may not detect a fire developing on another level of a building.** For this reason, detectors should be located on every level of a building.

**Smoke detectors have sensing limitations.** Ionisation detectors offer a broad range fire-sensing capability, but they are better at detecting fast, flaming fires than slow smoldering fires. Photoelectric detectors sense smoldering fires better than flaming fires. Because fires develop in different ways, and are often unpredictable in their growth, neither type of detector is always best, and a given detector may not always provide warning of a fire. In general, detectors cannot be expected to provide warnings for fires resulting from inadequate fire protection practices, violent explosions, escaping gas, improper storage of flammable liquids like cleaning solvents, other safety hazards, or arson.

**Smoke detectors cannot last forever.** Smoke detectors contain electronics parts. Even though detectors are made to last over 10 years, any of these parts could fail at any time. Therefore, test your smoke detector system per NFPA 72E at least semiannually. Clean and take care of your smoke detectors regularly. Taking care of the fire detection system you have installed will measurably reduce your product liability risks.

