FIRE CONTROL INSTRUMENTS

by Honeywell

2151

System Sensor
Low Profile, Photoelectronic
Plug-In Smoke Detector



1151

Description

The System Sensor 2151 low profile photoelectronic smoke detector is specifically designed to meet the performance requirements of fire detection/alarm systems. The 2151 detector uses a state-of-the-art optical sensing chamber and is designed so that LED failure will not cause an alarm. The detector is designed to provide open area detection, and when installed in a two-wire base, is compatible with FCI fire alarm control panels. The detector's operation and sensitivity can be tested in place.

The 2151 detector is of plug-in construction and plugs into the same base as the 1151 ionization smoke detector, making both models interchangeable. Bases are available for two-wire, four-wire, and 120 VAC four-wire operation, and also with an audible sounder.

Two visible LEDs on each detector flash approximately every ten seconds indicating that power is being applied to the detector. The LEDs light steadily when the detector is in alarm. A remote LED annunciator is available as an optional accessory.

The 2151 is UL Listed for mounting inside ducts up to a velocity of 3,000 FPM.

Functional testing is performed by placing a test magnet against the cover. The LED on the detector should light within 30 seconds.

Field metering of detector sensitivity may be performed with the aid of a voltmeter and Test Kit, Part No. MOD 400R.

Specifications

Sensitivity	3.0 %/ft. (nominal)
Operating voltage	8.5 - 35 VDC (24 VDC nominal)
Standby current	120 uA maximum
Operating temperature	32° to 120° F (0° to 49° C)
Operating humidity	10 % - 93 % relative humidity
Air velocity	3,000 feet per minute maximum
Construction	Off-white flame retardant plastic
Diameter	6.2 inches (15.5 cm) (flanged base)
Height	1.7 inches (4.2 cm)
Weight	3.6 oz. (104 g)

Features

- Low-profile construction.
- Easy plug-in of the head to base.
- Tamper-resistant feature.
- Test Switch.
- 360° View angle of alarm LEDs.
- Compatible with FCI control panels.
- Audible sounder base (pptional).
- Field metering of detector sensitivity.
- Removable insect screen and cover for field cleaning.
- Insect-resistant screening (020"/.508 mm openings).

An ISO 9001-2000 Company

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GAMEWELL-FCI
12 Clintonville Road, Northford, CT 06472 - Tel: (203) 484-7161 - Fax: (203) 484-7118
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Mounting

- On a 4-inch square box with or without plaster ring. Minimum depth 1.5 inches.
- On a 3.5-inch octagonal box. Minimum depth 1.5 inches.

Installation

Place the detector into the detector base. Turn the detector clockwise until the detector locks into place.

To use the tamper-proof feature, break the smaller tab on the scribed line in the tamper proof tab located on the detector mounting bracket. Install the detector. To remove the detector from the base when using the tamper-proof feature, insert the blade of a small screwdriver into the hole on the side of the base and push the plastic lever away from the detector head. This will allow the detector to be rotated counterclockwise for removal. NOTE: The decorative ring must be removed in order to remove the head when using the tamper-proof feature.

The tamper-proof feature may be defeated permanently by breaking the plastic lever off the base.

Note: The number of two-wire smoke detectors which can be accommodated per zone varies with different control panels. Consult the control panel instruction manual to determine the capacity.

Refer to NFPA 72, Chapter 5-3, “Smoke Sensing Fire Detectors” for spacing, location of detectors and other guidelines.

Testing

Detectors may be tested in the following ways:

- Place a test magnet against the detector as directed in the installation instructions. The detector should go into alarm within 30 seconds.
- Field metering of detector sensitivity may be performed with the aid of a voltmeter and Test Kit, MOD 400R.

For the complete procedure, refer to the Installation and Maintenance instructions furnished with each detector.

Maintenance

Cleaning programs should be adapted to the individual environment in conformance with NFPA Standard 72. We recommend at least an annual cleaning of the unit. The detector screen and cover assembly can be removed, revealing the sensing chamber. A vacuum cleaner can be used to remove dust from the screen, cover and sensing chamber. For the complete procedure, refer to the Installation and Maintenance instructions furnished with each detector.

Ordering Information

Part Number	Description
2151	Photoelectronic detector
B110LP	Base, Two-wire
301BL4	Base, four-wire, 24 VDC operation Form A & C
301BL4AC	Base, four-wire, 120 VAC operation Form A, C & Supv.
B401BH	Base, four-wire, with audible sounder
RA-400Z	Remote alarm indicator
PAM-1	End of line relay, 24 VDC Form B
	Test Kit