VF5601-00

Discovery Photoelectric

Smoke Sensor

Standard Features

- Compatible with Elite and Elite RS control panels
- 5 operating modes
- Drift compensation
- Two status LEDs
- Address is set by X-Pert card and is stored in base
- User memory
- Alarm flag for fast alarm reporting
- Conventional false safe mode
- Polarity insensitive

Note:
Bases and cards are not included with Sensors, please order separately.

Overview

The VF5601 Discovery Photoelectric Sensor uses the same outer case as the Ionization smoke Sensor and is distinguished by the indicator LEDs which will flash when the Sensor is in standby state and steady red in alarm. The housing is white polycarbonate and will not fade. Terminals are nickel plated stainless steel.
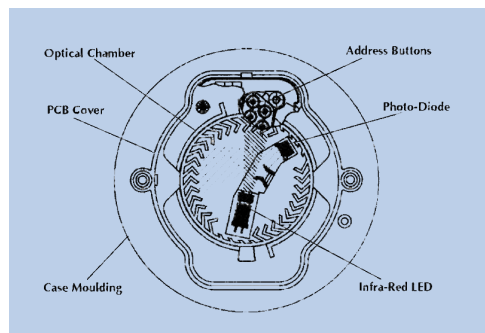
Operation

Within the case is a printed circuit board which, on one side, has the light-proof chamber with integral gauze surrounding the optical measuring system and, on the other, the signal processing and communications electronics. An infra-red light emitting diode is arranged at an obtuse angle to the photo-diode. The photo-diode has an integral daylight-blocking filter. The IR LED emits a burst of light every second. In clear air the photodiode receives no light directly from the IR LED, because of the angular arrangement and the chamber Baffles. When smoke enters the chamber it scatters light from the emitter IR LED onto the photo-diode in an amount related to the smoke characteristics and density. The photo-diode signal is processed to provide an analog value for transmission when the Sensor is interrogated.

Mode	Pre-Alarm (%/fT)	Alarm (%/fT)	30 Second Alarm Delay
1	1.1	1.7	No
2	1.1	1.7	Yes
3	1.5	2.3	No
4	1.5	2.3	Yes
5	2.0	3.0	No

Photoelectric Sensor operating modes

Engineering Specification

The Photoelectric Smoke Sensor shall be VF5601, where indicated on the plans, with one of the several addressable mounting base options available. The Photoelectric Smoke Sensor shall include compensation for sensor drift as part of the internal signal-processing algorithm. The Photoelectric Sensor head and twist-lock mounting base shall be UL Listed and UL Listed as compatible with the Elite addressable fire alarm control panels. The base shall permit free interchange of sensor heads without requiring any additional wiring or additional programming of the head or base. The smoke sensor shall contain an integral LED that shall latch in when the unit goes into alarm. RF suppression techniques shall be employed to minimize false alarms. The Photoelectric Smoke Sensor shall have automatic conventional false safe mode if the detectors polling mechanism fails.

Top view - Photoelectric Smoke Sensor

Technical Specifications

Stand current: 400µA

Alarm current: 3.4mA

Operating voltage: 17-28 VDC

Max. continuous operating temp: 140°F

Min. continuous operating temp: 32°F

Min. Operating temp: -4°F (no condensation/icing)

Storage: -22°F to 176°F

Detector weight: 3.68 oz

Detector with base weight: 5.62 oz

Dimensions: Diameter: 3.93", Height: 1.65", Height in base: 1.96"

Ordering Codes

Part number	Description
VF5601-00	Photoelectric Smoke Sensor
VF5630-00	4" Mounting Base
VF5632-00	6" Low Profile Relay Base
VF5633-00	Isolator Base
VF5636-00	6" E-Z Fit Low Profile Base
VF5631-00	6" Sounder Base
VF5640-00	Blank XPERT Cards
VF5641-00	Pre-addressed XPERT Cards