Advanced

Axis AX

Intelligent Photoelectric Detector

The low-profile Intelligent Photoelectric Detector, with built-in dedicated microprocessor, offers a wide range of capabilities to suit any commercial, industrial, or institutional application. Distinguished by it's clear dual-alarm LEDs which illuminate red during alarm, the detector provides a complete 360º view of device status. The detector's dual-alarm LEDs can also be programmed for flashing during quiescent mode.

The Intelligent Photoelectric Detector incorporates a unique industry method of addressing the detector. Each detector is individually addressed through it's associated base by a patented address ("XPerT") card. The address is quickly and easily set by removing "pips" on the XPerT card according to a chart supplied with each base. Once the address is set on the XPerT card, it can be slid into place and locked into the detector base. By addressing the detector at the base rather than internally to the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.

Designed to adapt to changing environments and protect against unwanted false alarms, the response characteristics of the detectors have been carefully set to comply with the stringent requirements of UL 268 and NFPA 72. Each detector is continuously monitored and tested for proper sensitivity and operation. If a problem is detected with either the device's sensitivity or proper operation, a trouble or maintenance signal is reported back to the fire alarm control panel. In addition, the detector will compensate for any sensitivity drift of the initial programmed response/sensitivity value due to environmental contamination and/or dust build-up. Each detector will maintain the initially set sensitivity at a constant level even when the chamber is severely contaminated. When compensation levels exceed normal values, a maintenance signal will be generated.

In addition to the detector's superior false alarm reduction features, each detector is capable of being field programmed for one of five response/sensitivity modes (see Table 1).

Response modes correspond to unique response behaviors of a detector and the type of environment it is protecting, which can be broadly related to the characteristics of a fire. The detector response modes relate to different combinations of smoke sensitivity characteristics and transient rejection/stabilization times (see Table 2). Response mode 1 is more sensitive than response mode 5. Detectors set to response mode 1 would be for environments in which sources of unwanted alarms are rare. Response mode 5 set detectors would be suitable for more dusty or smoky environments (i.e.: factory, light industry areas). Response mode 3 (default programmed) would be the mid-sensitivity level used for most normal ionization detector applications.



Features

- Patented XPerT Detector Base Addressing
- Built-in Dedicated Microprocessor
- Five Selectable Response/Sensitivity Modes
- Ten 7-Day Response/Sensitivity Mode Timers
- Sub-Addressing of Ancillary Functions
- Dual-Alarm LEDs with 360º View
- 100% Digital Communication Protocol
- Integral XPerT Card Address Labeling Tab
- Automatic Drift Compensation
- Automatic Detector Testing w/Maintenance Alert
- Field Programmable Alarm Verification
- Sub-Addressable Remote LED Output
- Optional Relay and Isolator Bases
- Superior Rejection of Transient Signals
- Detector to Base Locking Mechanism
- Plastic Dust Cover for Construction Protection

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UROXC.S24459

Response mode setting and hysteresis of the individual detectors are stored within the detector's memory. The advantage of storing this critical information in the detector rather in the fire alarm control panel software is that the detector will maintain the programmed response settings and compensated values even when power is removed from the detector. If the detector is powered down or inadvertently replaced in another location, the detector response mode and clean values are not lost, thereby minimizing the errors associated with inferior products; false alarms due to a dirty detector and non-calibrated response/sensitivity mode parameters.

Equally beneficial as the response mode settings, the detectors are each capable of being programmed for different response/sensitivity mode settings based on the time of day and day of week. Detectors can be set to one of ten 7-day response mode/sensitivity timers, allowing the detector to be more or less sensitive due to installation changing environments based on time of day and day of week. Such changing environments can be industrial,restaurant, or factory processes that produce smoke, fumes, or excessive dust during normal working hours.

Another unique industry feature of the Intelligent Photoelectric Detector, in conjunction with the Axis AX Series Intelligent Fire Alarm Control Panel, is it's ability to sub-address detector base ancillary functions. Each detector is capable of incorporating, based on optional intelligent base utilization, a remote LED and/ or relay. When these options are utilized, the user is capable of sub-addressing each of these options (remote LED and/or relay) to activate independently of the detector. This provides 100% free programmability of the detector base outputs to meet the demanding requirements of today's installations. (For further explanation, refer to Intelligent Detector Bases and Intelligent Isolator data sheets).

Table 1

Clean Rm Computer Rm					Hotel Rm Apartment					Office Hospital Ward Factory Light Industry					Warehouse Restaurant					Loading Bay Parking Garage					Boiler Rm				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
✓							✓	✓	✓			✓	✓	✓				✓						✓					✓	✓
1, 2, 3, 4, 5 = Response/Sensitivity Modes ✓ = Mode Suitable for Installation																													

Table 2

Response Mode	Sensitivity Characteristics	Programmable Assessment Time
1	1.7 %/ft	5 sec
2	1.7 %/ft	30 sec
3	2.3 %/ft	5 sec
4	2.3 %/ft	30 sec
5	2.9 %/ft	5 sec

Specification

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC
Operating Current Quiescent Alarm With LED's	 0.4 mA 0.4 mA 5.4 mA
Surge Current	1.0 mA
Air Flow	0-300 ft/min
Sensitivity - Smoke	1.16 - 4 %/ft
Environment	Indoor, Dry
Operating Temperature	32º-120ºF (0º-48ºC)
Humidity	10-93% (Non-Condensing)
Dimensions	4" x 1 ⅞"
Weight	3.7 oz
Housing	Polycarbonate, 94 V0

Order Codes and Options

58000-650AFC	Intelligent Photoelectric Detector

* Refer to Intelligent Detector Bases and Intelligent Isolator data sheets for specific information.

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As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice.