XP95-DM

Description

The Gamewell-FCI Analog Addressable Discovery Multi-Sensor detector (XP95-DM) includes both photoelectric and thermal sensing elements integrated into a single device. The XP95-DM digitally transmits its address to the Fire Alarm Control Panel (FACP) plus the analog value for analysis from both the photoelectric chamber and the thermal sensor. The signals from the two sensors are combined and processed using sophisticated algorithms designed to prevent false alarms. The detector is automatically programmed for pure heat detection, pure smoke detection, or a combination of both dependent on ambient conditions.

The XP95-DM Discovery multi-sensor detector operates with all the Gamewell-FCI 600 Series analog addressable FACPs. All of the detectors in the XP95 family have identical external dimensions and fit all base options. Polling and external alarm status is indicated by dual LEDs located on both sides of the detector housing. The thermal element of the XP95-DM is designed for the free movement of air around the exposed thermistor. The photoelectric detection element uses a patented smoke chamber and infrared smoke sensing design for maximum sensitivity and selectivity.

Operation

The XP95-DM Multi-Sensor has both a photoelectric detection chamber and a thermal sensing element. The infrared LED in the photoelectric detection chamber emits a burst of collimated light once per second or in response to direct interrogation by the FACP.

In clean air, the photo diode receives no light from the emitter. When the smoke enters the chamber, it scatters light from the emitter onto the photo diode proportional to the smoke's characteristics and density. As the smoke content in the chamber increases, the signal from the photo diode increases.

Analog Addressable Discovery Multi-Sensor



XP95-DM

Features

- Compatible with all the Gamewell-FCI analog addressable 600 Series fire alarm control panels
- Combines photoelectric smoke and thermal sensor values for enhanced detector performance
- Five programmable detection modes
- Detector head uses common analog addressable style bases
- Address is set by X-Pert Programming Card stored in sensor base
- Rate-of-rise heat detection
- Drift compensation in Modes 1 through 4

An ISO 9000-2000 Company

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Operation (Continued)

The XP95-DM monitors temperature using a single thermistor which provides a voltage output proportional to the external air temperature.

The thermistor is calibrated to the normal analog value at a temperature of 25°C (77°F). Values from each sensing element are processed by on-board electronics according to detector programming. The XP95-DM Discovery multi-sensor detector is automatically programmed for pure heat detection, pure smoke detection, or a combination of both.

Programming

Assigning an XP95-DM detector to a verification zone allows local operation when smoke is detected by the optical element located in the head, and general alarm operation when heat is present. When smoke is sensed, the local sounder, relay, or LED located in the detector base (or group of bases) will be activated, and a pre-alarm signal will be sent back to the panel. The Aux (4th) relay on the common control card will transfer. If heat is also present, the panel will go into a full General Alarm condition. If there is only smoke, the panel will automatically restore when the smoke clears.

Alarm and trouble conditions are determined by the electronics in the detector head, which also automatically performs drift compensation. Normal sensitivity is 2.4% per foot. When the sensor is in alarm, the LEDs in the sensor's housing will light continuously.

The XP95-DM is connected to a two-wire signal line circuit (SLC) carrying both XP95 protocol data and a 17 to 28 VDC supply voltage. The XP95-DM is insensitive to loop polarity. A remote LED indicator may be connected.

Engineer's Specifications

The contractor shall furnish and install, where indicated on the plans, a combination photo/heat multi-sensor detector (Gamewell-FCI model XP95-DM) with one of the several Addressable Mounting Base Options available. The combination sensor head and twist-lock mounting base shall be UL Listed and UL-Listed as compatible with the Gamewell-FCI 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 illuminate when the unit goes into alarm.

Heat Detector Response Modes

MODE	TYPICAL Application Temperature	MAXIMUM Application Temperature	MINIMUM Static Response Temperature	TYPICAL Static Response Temperature	MAXIMUM Static Response Temperature
1	77°F (25°C)	122°F(25°C)	129°F(53.89°C)	134°F(56.67°C)	149°F(65°C)
2	77°F (25°C)	122°F(25°C)	129°F(53.89°C)	141°F(60.56°C)	158°F(70°C)
3	77°F (25°C)	122°F(25°C)	129°F(53.89°C)	141°F(60.56°C)	158°F(70°C)
4	131°F (55°C)	176°F(55°C)	183°F(83.89°C)	194°F(90°C)	212°F(100°C)
5	131°F (55°C)	176°F(55°C)	183°F(83.89°C)	194°F(90°C)	212°F(100°C)

For air temperatures in the range of 59° F to 131° F (15° C to 55° C) the analog value for a detector in Mode 1 will correspond approximately to the air temperature.

Specifications

Standby Current: 500 µA average, 750 µA peak
Alarm LED Current: 0.004 A
Remote Alarm Output: 0.004 A @ 5 VDC
Minimum Operating Temperature: –5°F (–20.55°C)
Maximum Operating Temperature: See table on page 2
Relative Humidity (non-condensing): 0% to 95%

Ordering Information

Model	Description
XP95-DM	Discovery Multi-Sensor, analog addressable, photoelectric and thermal (58000-750).
XP95-B6EZ	6" (15.24 cm) ultra-low-profile EZ-Fit mounting base with X-Pert programming card (45681-250).
XP95-B4	4" (10.16 cm) mounting base with X-Pert programming card (45681-210).
XP95-B6R4	6" (15.24 cm) relay base (four-wire) with X-Pert programming card.
XP95-B6SNDR	6" (15.24 cm) mounting base with X-Pert programming card and audible alarm sounder.
71112	Additional blank X-Pert programming cards.
30203	Remote LED (24 V).