

Features

This detector combines inputs from optical and heat sensors and processes them using a sophisticated algorithm.

When polled by the control panel it returns an analog count which is determined by combined responses from both optical and heat sensors.

The multi-sensor detector is designed to be sensitive to a wide range of fires and may be used in place of an ionization detector in many instances.

The multi-sensor can be fitted in place of ionization detectors where these prove to be too sensitive and cause unwanted alarms.

The multi-sensor detector can be fitted where local specifications call for its use.



F1000-886
Addressable Photoelectric/Heat Multi-sensor Detector

Operating Principle

The multi-sensor detector contains an optical smoke chamber and thermistor temperature sensor whose outputs are combined to give the status in analog value.

The multi-sensor construction is similar to that of the optical detector but uses a different lid and optical mouldings to accommodate the thermistor temperature sensor.

Signals from the optical smoke chamber and temperature sensor are independent, and represent the smoke level and air temperature respectively in the vicinity of the detector. The detector's micro controller processes the two signals. The temperature signal processing extracts only rate of rise information for combination with the optical signal. The detector will not respond to a slow temperature increase but a large sudden change can cause alarm without the presence of smoke, if sustained for 20 seconds. The processing algorithms in the multi-sensor incorporate drift compensation.

The sensitivity of the detector is considered the optimum for most general applications since it offers good response to both smoldering and flaming fires.

Approvals and Listings

Underwriters Laboratories (File No. S6349)
Fire Department - City of NY COA #6051



Electrical Specifications

Specifications are typical and given at 24V, 23°C and 50% relative humidity unless otherwise specified.

Detector Type:	F1000-886 Discovery Photoelectric/Heat Multi-sensor Detector
Detection Principle:	Smoke: Photoelectric detection of light scattered by smoke particles. Heat: Temperature sensitive resistance.
Chamber Configuration:	Horizontal optical bench housing an infra-red emitter and sensor arranged radially to detect forward scattered light.
Supply Wiring:	Two wire supply
Terminal Functions:	L1 and L2; supply in and out connections +R; remote indicator positive connection (internal 2.2K Ω resistance to positive) -R; remote indicator negative connection (internal 2.2K Ω resistance to negative)
Operating Voltage:	17 to 28 VDC
Quiescent Current:	400 μ A
Power-up Surge Current:	1mA
Maximum Power-up Time:	10 seconds
Operating Temperature:	0°C to 49°C
Alarm Indicator:	2 colourless Light Emitting Diodes (LEDs) illuminating red in alarm
Alarm Current, LED illuminated:	3.5mA
Remote Output Characteristics:	Connects to positive line through 4.5K Ω (5mA maximum)
Humidity:	0% to 95% relative humidity (no condensation)
Dimensions:	4 in x 1.65 in (diameter x height)
Weight:	3.0 oz.
Materials:	Housing: White polycarbonate V-O rated to UL 94 Terminals: Stainless Steel, nickel plated

Ordering Information

Model No.	Part No.	Description
F1000-886	75163	Discovery Photoelectric/Heat Multi-sensor Detector

It is our intention to keep the product information up to date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice. For more information contact: FIRECOM, INC.