

Maximum choice of features in a high performance package

Sierra Monitor offers two versions of the new 3600 Series Spectrex UV/IR Flame Detectors:

Model 3600-L (& LB) provides a combination of UV and IR sensors, where the IR sensor operates at a wavelegnth of 2.5-3.0µm, and can detect hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires.

Model 3600-L4 (& L4B) is identical to the 3600-L except that the IR sensor works at ta wavelength of 4.5µm and is only suitable for hydrocarbon-based fires.

The UV/IR flame detector senses radiant energy in the short wave section of both the ultraviolet and infrared portions of the electromagnetic spectrum. The signals from both sensors are analyzed for frequency, intensity and duration. Simultaneous detection of radiant energy in both the UV and IR snesors triggers an alarm signal.

The UV sensor incorporates a special logic circuit that helps prevent false alarms causes by solar radiation.



Features & Benefits

- UV/IR Dual-Sensor
 - High-Speed Response - 150 msec Response to Saturated Signal
 - Heated window - for operation in harsh weather conditions (snow, ice, condensation)
 - Multiple output options for maximum flexibility and compatibility
 - Relays (3) for Alarm, Fault and Auxiliary
 - 0-20mA (stepped)
 - HART Protocol for maintenance and asset management
 - RS-485, Modbus Compatible
 - High Reliability - MTBF - minimum 150,000 hours
 - Approved to Safety Integrity Level 2 (SIL-2 - TUV)
 - 2-Year Warranty
 - User Programmable via HART or RS-485
 - Ex approved for Zone 1 hazardous area location
 - ATEX - FM
 - IECEx - CSA
 - 3rd party Performance Tested
 - EN54-10 (LPCB) - FM3260 (FM)
 - Solar blind
 - Automatic Built-In-Test (BIT)* and Manual- to assure continued reliable operation
- * option

Applications

- Offshore Oil & Gas installations
- Onshore Oil & Gas installations and pipelines
- Chemical plants
- Petrochemical plants
- Storage Tank farms
- Aircraft hangers
- Power Generation facilities
- Pharmaceutical Industry
- Printing Industry
- Warehouses
- Automotive Industry
- Explosives & Munitions
- Waste Disposal facilities
- Aerospace Industry
- Paint, Polymer and Glue processes

Ordering Information

Sentry Flame IT		Wiring	Temperature	Elec Entry	Housing	EX Approval	Tilt
Model Number	Type	Config (Table1)			Mount		
3600	- L = UV/IR	- 1	- 1 = 75C std	- 1 = -M25	- S = SS	- F = FM	- 0 = None
	- LB = UV/IR with BIT	- 2	- 2 = 85C	- 2 = 3/4" NPT	- A = AL	- C = ATEX/ IIECEX	- 1 = Tilt Mount
	- L4 = UV/IR (IR at 4.5mm)	- 3					
	- L4B = UV/IR (4.5mm) w/ BIT	- 4					
			- 5				

Wiring Options (Table 1)

All units are provided with RS-485 and HART enabled if mA output is used

Option	4-20mA	Fault Relay	Aux Relay	Alarm Relay
1 default	Sink	NC	--	NO
2	Source	NC	--	NO & NC
3	Source	NO	--	NO & NC
4	X	NC	NO	NO
5	X	NO	NC	NO

Specifications:

Spectral Response	3600-L-LB: UV: 0.185 - 0.260 micron IR: 2.5-3.0 micron 3600-L4-L4B: UV: 0.185 - 0.260 micron; IR: 4.4-4.6 micron	
Detection Range (at highest Sensitivity Setting for 1 ft ² (0.1m ²) pan fire)	n-Heptane: 50 ft (15m) Gasoline: 50 ft (15m) Diesel Fuel: 37 ft (11m) JP5: 37 ft (11m) Hydrogen **: 16 ft (5m) * 20" (0.5m) high, 8" (0.2m) with dlume fire **40/40/L/LB only Typically 5 seconds. High speed 150 msec response to saturated signal	Kerosene: 37 ft (11m) Ethanol 95%: 25 ft (7.5m) Methanol: 25 ft (7.5m) IPA (Isopropyl Alcohol): 25 ft (7.5m)
Response Time	Up to 30 seconds	
Adjustable Time Delay	1 ft ² (0.1m ²) n-heptane pan fire from 50 ft (15m)	
Sensitive Range	Horizontal 100° , Vertical 95°	
Field of View	Automatic (and Manual)	
Built-in-Test (BIT)	Operating: -67°F to +167°F (-55°C to +75°C) Operating Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	
Temperature Range	Up to 95% non-condensing (withstands up to 100% RH for short periods) To eliminate condensation and icing on the window	
Humidity		
Heated Options		
Electrical Specifications		
Operating Voltage	24 VDC nominal (18-32 VDC)	
Power consumption	Standby: Max. 100 mA (150 mA with heated window) Alarm: Max. 150 mA (200mA with heated window)	
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO	
Wiring	12 - 22AWG (2.5mm ² - 0.3mm ²)	
Electrical Input Protection	According to MIL-STD-1275B	
Electromagnetic Compatibility	EM/RFI protected to EN50130-4	
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)	
Outputs		
Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 5A at 30 VDC or 250 VAC	
4-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA IR: 8mA ± 5% Alarm: 15mA ±5% BIT Fault: 2mA ±10% UV: 12mA ± 5% Resistance Loop: 100-600 ohms Normal: 5mA ±10% Warning: 10mA ±5%	
HART Protocol	HART communication on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management	
RS-485	RS-485 Modbus compatible communication link that can be used in computer control installations	
Mechanical Specifications		
Materials	- Stainless Steel 316L with electro polish finish	
Enclosure Options	- Heavy-duty copper free aluminum (less than 1%), red epoxy enamel finish	
Mounting	Stainless Steel 316L with electro polish finish	
Dimensions	Detector: 3.5" x 4.5" x 6.1" (90 x 114 x 156mm)	
Weight	Aluminum: 2.5Lb (1.2 Kg) Stainless Steel 316L: 5.5Lb (2.5 Kg) Tilt mount: 2.2 Lb (1.0 Kg)	
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp	
Water and Dust	IP66 and IP67 per En60529, NEMA 250 6P	
Approvals		
Hazardous Area		
ATEX & IECEx	Ex II 2 GD, Ex de IIB + H2 T5 (-55°C to + 75°C) Ex de IIB + H2 T4 (-55°C to + 85°C) Ex tD A21 IP66/X7 T 95°C Ex tD A21 IP66/X7 T 105°C	
FM / CSA	Class I Div. 1, Groups B, C & D Class II/III Div. 1, Groups E, F & G	
Performance	EN54-10 (LPCB) FM-3260 (FM) IEC61508 - SIL-2 (TUV)	
Reliability		
Accessories		
Fire Simulator	20/20-310	
Tilt Mount	40/40-003	
Weather Protector	777163	
Air Shield	777161	
Laser Pointer	777166	
(Detector area coverage)		



Specifications subject to changes without notice