

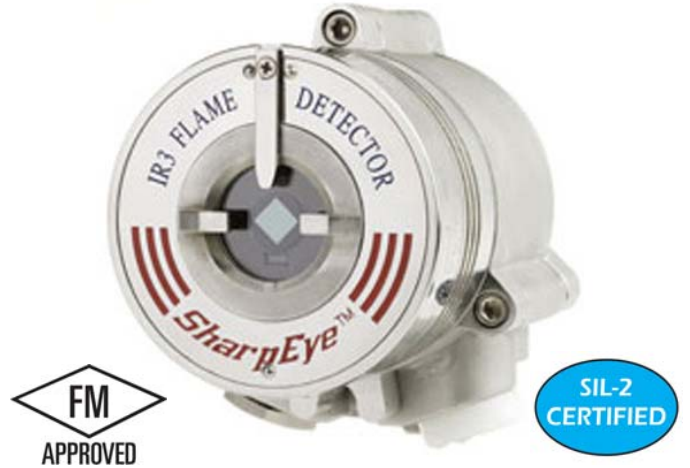
Triple IR (IR3) Flame Detector

Superior performance, reliability and immunity to false alarms

The 3600-I Triple IR (IR3) Spectrex 40/40I Flame Detector detects fuel and gas fires at long distances with the highest immunity to false alarms. The 3600-I IR3 can detect a 1ff^e (0.1m²) gasoline pan fire at 215 ft (65m) in less than 5 seconds.

The 3600-I is the most durable and weather resistant flame detector currently on the market. It's new features includes a heated window, to eliminate condensation and icing; HART capabilities for digital communications; lower power requirements; and a compact, lighter design.

Due to increased reliability, the 3600-I Series is approved to IEC 61508 Safety Integrity requirements of SIL-2.



Features & Benefits

- Triple Spectrum Design - for long distance detection and high false alarm immunity
- Sensitivity Selection - to ensure no zone cross-over detection
- Automatic and Manual Built-In-Test (BIT) - to assure continued reliable operation
- 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 RTU
- High Reliability - MTBF - minimum 150,000 hours
- Approved to Safety Integrity Level 2 (SIL2 - TUV)
- 2-Year Warranty
- User Programmable via HART or RS-485
- Ex approved for Zone 1 hazardous area location
 - ATEX
 - IECEx
 - FM
 - CSA
- 3rd party Performance Tested
 - EN54-10 (LPCB)
 - FM3260 (FM)
 - DNV Marine Approval

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

Ordering Information

Sentry Flame IT		Model Number	Type	Wiring Config (Table1)	Temperature	Elec Entry	Housing	EX Approval
		3600	- I = IR3	- 1	- 1 = 75C std	- 1 = M25	- A = AL	- F = FM
				- 2	- 2 = 85C	- 2 = 3/4" NPT	- S = SS	- C = ATEX/IECEX
				- 3				
				- 4				
				- 5				

Wiring Options (Table 1)

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

Option	0-20mA	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	NO	NO

Model 3600-I (Spectrex 40/40I)

IR3 Flame Detector

Specifications:

Spectral Response	Three IR Bands
Detection Range (at highest Sensitivity Setting for 1 ft ² (0.1m ²) pan fire)	n-Heptane: 215 ft (65m) Kerosene: 150 ft (45m) Methane*: 100 ft (30m) Gasoline: 250 ft (65m) Ethanol 95%: 135 ft (40m) LPG*: 100 ft (30m) Diesel Fuel: 150 ft (45m) Methanol: 115 ft (35m) Polypropylene Pellets: 16 ft (5m) JP5: 150 ft (45m) IPA (Isopropyl Alcohol): 135 ft (40m) Office Paper: 33 ft (10m) *20" (0.5m) high, 8" (0.2m) with dume fire
Response Time	Typically 5 seconds
Adjustable Time Delay	Up to 30 seconds
Sensitive Range	4 Sensitive Ranges for 1 ft ² (0.1m ²) n-heptane pan fire from 50 ft (15m) to 200 ft (65m)
Field of View	100° horizontal, 95° vertical
Built-in-Test (BIT)	Manual and Automatic
Temperature Range	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)
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods)
Heated Options	To eliminate condensation and icing on the window
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	EMI/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
0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA BIT Fault: 2mA ±10% Normal: 5mA ±10% Warning: 10mA ±5% Alarm: 15mA ±5% Resistance Loop: 100-600 ohms
HART Protocol	HART communication on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management
RS-485	RS-485 Modbus RTU 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 I/III Div. 1, Groups E, F & G
Performance	EN54-10 (LPCB) FM-3260 (FM) DNV Marine Approval
Reliability	IEC61508 - SIL-2 (TUV)
Accessories	
Fire Simulator	20/20-310
Tilt Mount	40/40-003
Weather Protector	777163
Air Shield	777161
Laser Pointer (Detector area coverage)	777166



Produced in the USA for Sierra Monitor Corporation by Spectrex USA.
Specifications subject to changes without notice

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