



The SharpEye Triple IR (IR3) High-Speed (20/20FI) Flame Detector is a high-performance and high-reliability, self-contained, triple-spectrum model.

The detector is specially designed for applications that require high-speed (0.2 to 1 second), reliable flame detection with the highest immunity to false alarms.

The detector is useful for industrial applications such as paint solvents manufacturing, flammable and explosive vapors processes, oil and gas exploration and production, aircraft hangars, etc.

The Triple IR is a well-proven, widely used flame detector for those places and applications that require operation under extreme weather and harsh environments - conditions such as oil and gas exploration and production, aircraft hangars, etc.



The 20/20FI utilizes MIL-Spec. electronic components and materials.

The Triple IR Model FI offers a fast response time of 0.2 to 1 seconds for a detection range of 6.6 ft (2m) to 33 ft (10m).

MAIN FEATURES

- Triple Spectrum Design
- Fast Response Time
- Sensitivity Selection
- User Programmable Configuration
- Highly Immune to False Alarms
- Automatic and Manual Built-In Test (BIT)
- Standard 4-wire Connection
- 4-20mA sink or source (3-4 wires) configuration
- RS-485 Interface
- MTBF Minimum 100,000 Hours
- 3-Year Warranty
- ATEX Approved

APPLICATIONS

- **Automotive** - manufacturing, paint spray booths
- **Chemical Industry** - production, storage, transportation
- **Explosives & Munitions** - handling and storage
- **Oil & Gas** - exploration, production, storage and offloading
- **Onshore** - refineries, loading terminals, pipelines
- **Paint** - solvents manufacturing and storage
- **Petrochemicals** - production, storage, shipping facilities
- **Pharmaceutical Industry**
- **Power Generation Facilities** - pump areas, generator rooms, unmanned stations, gas-fired and coal-fired reactors
- **Printing Industry** - solvent handling, presses, drying processes
- **Warehouses** - storage facilities for flammable materials
- **Waste Disposal Facilities** - incineration, processing and storage of flammable waste materials (solids, liquids, gases)

SharpEye™ 20/20FI

GENERAL SPECIFICATIONS

Spectral Response	Three IR Bands			
Detection Range (Highest Sensitivity Setting for 1 ft ² (0.1m ²) pan fire)	Gasoline	33 ft (10m)	JP4	25 ft (7.5m)
	n-Heptane	33 ft (10m)	Kerosene	25 ft (7.5m)
	Alcohol 95%	25 ft (7.5m)	Methane*	10 ft (3m)
	Diesel Fuel	25 ft (7.5m)	Propane*	10 ft (3m)
	<i>* 0.5m plume fire</i>			
Response Time	0.2-1 sec.			
Adjustable Time Delay	Up to 30 seconds			
Sensitive Range	4 Sensitive Ranges for 1 ft ² (0.1m ²) gasoline pan fire from 8 ft (2.5m) to 33 ft (10m)			
Field of View	90° horizontal, 90° vertical			
Built-in-Test	Manual and Automatic BIT			
Temperature Range	Operating: -40°F (-40°C) to 160°F (70°C)			
	Storage: -65°F (-55°C) to 185°F (85°C)			
Humidity	Up to 95%			

ELECTRICAL SPECIFICATIONS

Power Supply	Operating Voltage: 18-32 VDC
Power Consumption	Max. 150mA in stand-by
	Max. 200mA in alarm
Electrical Connection	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected CE Marked

OUTPUTS

Relays	Alarm	- 2A at 30 VDC, 0.5A at 250 VAC
	Fault and Accessory	- 5A at 30 VDC and 250 VAC
	Fault relay normally closed, others normally open	
4-20mA	Sink (source option) configuration	
	Fault:	0 +0.5mA
	Normal:	5mA ±10%
	Warning:	10mA ±10%
	Alarm:	15mA ±10%
Resistance Loop: 100-600 Ω		
RS-485	The detector is equipped with an RS-485 proprietary communication protocol link that can be used in installations with computerized controllers.	

MECHANICAL SPECIFICATIONS

Dimensions	4.7" x 5.2" x 5.2" (120 x 132 x 132 mm)
Weight	Aluminum: 8.1Lb (3.7 Kg)
	St.St 316L: 14.3Lb (6.5 Kg)
Enclosure	Aluminum, heavy-duty copper free (less than 1%), white epoxy enamel finish. Optional - Stainless Steel 316L with electro polish finish.
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

HAZARDOUS AREA APPROVALS

ATEX	EX II 2G, EExd IIB + H ₂ T5 (70°C)
	EX II 2G, EExde IIB + H ₂ T5 (70°C)

ACCESSORIES

Fire Simulator	20/20-310
Swivel Mount	20/20-003 (St. St. 316L)