SPECTREX INC.

SharpEye™ 20/20MI

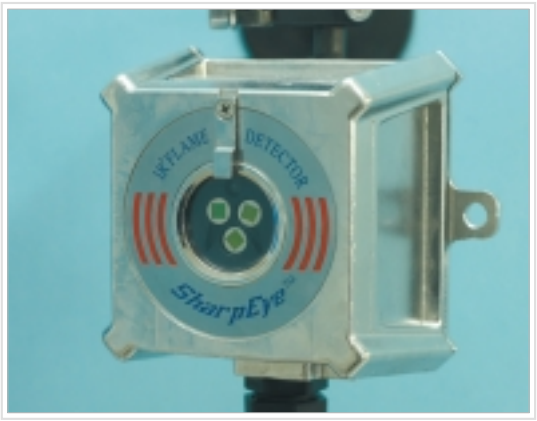
Mini Triple IR (IR3) Flame Detector – 20/20MI

The SharpEye Mini-IR3 Flame Detector (20/20MI) is a high performance and high reliability compact, self-contained triple spectrum infrared flame detector.

With the highest immunity to false alarms, the Mini-IR3 has applications in a wide range of industrial and commercial facilities, where the threat of accidental fire involves hydrocarbon fuels such as gasoline, kerosene, diesel fuel, aviation jet fuels like JP-4, JP-5, JP-8, hydraulic fluids, paints and solvents, monomers and polymers like ethylene and polyethylene, natural gas (LNG), town gas and liquefied petroleum gas (LPG), hydrocarbon gases like methane, ethane, propane, butane, acetylene, propylene, etc.

The patented Triple IR design also offers 3 - 4 times the detection distance of any conventional IR or UV/IR Detector.

This detector is packaged in a compact, lightweight



housing for easy installation and where space is at a premium. It is specially designed as a general-purpose flame detector for industrial applications to withstand "harsh" environmental conditions, including extreme temperatures, high humidity, vibrations, etc. This model is also available as intrinsically safe approved for use in Ex areas.

Main Features

- Triple Spectrum Design
- 80% Less Power Consumption
- Highly Immune to False Alarms
- Large Field of View (100° horizontal/vertical)
- Sensitivity Selection
- User-Programmable Functions
- Configurable via software from a PC or handheld device
- Automatic and Manual Built-In-Test (BIT)
- Standard 4-Wire Connection
- 4-20mA sink or source (3-4 wires) configuration
- RS-485 Modbus Compatible
- MTBF Minimum 100,000 Hours
- 3-Year Warranty
- ATEX Approved
- Functional Test - FM Approved - 20/20MI-3; FM Pending - 20/20MI-1

Applications

- Aircraft-hangars and maintenance areas including landing gear pits
- Automotive parts manufacturing
- Car parking towers and garages
- Chemical industry
- Mining and heavy-duty vehicles
- Nuclear power plants
- Paint spray booths
- Petrochemical facilities
- Power generation - pumps, generators, and unmanned stations
- Printing-presses and facilities
- Recreational and sports arenas (facilities)
- Storage areas
- Tank farms with fixed or floating roofs
- Wet bench manufacturing

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SharpEye™ 20/20MI

General Specifications

Spectral Response	Three IR Bands
Detection Range (Highest Sensitivity Setting for 1 ft² (0.1m²) pan fire)	Gasoline 133 ft (40m); n-Heptane 133 ft (40m); Diesel Fuel 90 ft (27m); JP5 100 ft (30m); Kerosene 100 ft (30m); Alcohol (Ethanol) 100 ft (30m); IPA (Isopropyl Alcohol) 100 ft (30m); Methanol 100 ft (30m); Methane* 40 ft (12m); LPG (Propane)* 40 ft (12m); Polypropylene Pellets** 16 ft (5m); Office Paper 50 ft (15m) **20" (0.5m) plume fire, **8" (0.2m) diameter*
Response Time	Typical 5 sec.
Adjustable Time Delay	Up to 30 seconds
Sensitive Range	4 Sensitive Ranges for 1 ft² (0.1m²) gasoline pan fire: 20/20MI-1: 33 ft (10m) to 133 ft (40m) 20/20MI-3: 7.5 ft (2.5m) to 33 ft (10m)
Field of View	100˚ horizontal, 100˚ 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. 25 mA in stand-by Max. 50 mA in alarm
Electrical Connection	12-wires electrical connector (the suitable connector will be supplied) Optional 12 wires 6 ft. (2m) cable (for junction box connection)
Electrical Input Protection	According to MIL-STD-1275A
Electromagnetic Compatibility	EMI/RFI protected CE Marked

Outputs

Relays*	Alarm and Fault SPST volt-free contacts rated 2A at 30 VDC or 0.5A at 250 VAC Fault relay normally closed, Alarm Relay normally open ** The Relays do not apply to Ex approved version*
4-20mA	Sink (source option) configuration Fault: 0 ±0.5mA BIT Fault: 2mA ±10% Normal: 5mA ±10% Warning: 10mA ±5% Alarm: 15mA ±5% Resistance Loop: 100-600 Ω
RS-485	The detector is equipped with an RS-485 communication link that can be used in installation with computerized controllers. The RS-485 is Modbus compatible

Mechanical Specifications

Dimensions	4" x 4" x 2.5" (100 x 100 x 62 mm)
Weight	St.St 316L 2.5Lb (1.2 Kg) Plastic 0.7Lb (0.3 Kg) Tilt Mount 0.8Lb (0.37 Kg)
Enclosure	1. Stainless Steel 316L with electro polish finish. 2. Plastic housing - glass fiber reinforced polyester.
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 1 GD, EExia IIC T5 (60˚C), T4 (85˚C) Zener barriers (not included) are required to achieve the stated approval ** The Relays do not apply to Ex approved version*

Accessories

Fire Simulator	20/20-310
Tilt Mount	20/20-005 (St. St. 316L)