

# SharpEye™ 20/20MI



## Mini Triple IR (IR3) Flame Detector

*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 generalpurpose flame detector for industrial applications to withstand "harsb" environmental conditions, including extreme temperatures, high humidity, vibrations, etc.*

### 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
- FM Approval (Functional)
- EN54-10 (VdS) Approved for 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

# SharpEye™ 20/20MI Mini Triple IR (IR3) Flame Detector

## GENERAL SPECIFICATIONS

<b>Spectral Response</b>	Three IR Bands			
<b>Detection Range</b> (Highest Sensitivity Setting for 1 ft <sup>2</sup> (0.1m <sup>2</sup> ) pan fire)		<b>ft</b>	<b>m</b>	<b>ft</b> <b>m</b>
	Gasoline	133	40	100 30
	n-Heptane	133	40	100 30
	Diesel Fuel	90	27	40 12
	JP5	100	30	40 12
	Kerosene	100	30	16 5
	Alcohol (Ethanol)	100	30	50 15
	*20" (0.5m) long 8" (0.2m) width plume fire			
<b>Response Time</b>	Typical 5 sec.			
<b>Adjustable Time Delay</b>	Up to 30 sec.			
<b>Sensitive Range</b>	4 Sensitive Ranges for 1 ft <sup>2</sup> (0.1m <sup>2</sup> ) 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)			
<b>Field of View</b>	100° horizontal, 100° vertical			
<b>Built-in-Test</b>	Manual and Automatic BIT			
<b>Temperature Range</b>	Operating: -40°F (-40°C) to 160°F (70°C) Storage: -65°F (-55°C) to 185°F (85°C)			
<b>Humidity</b>	Up to 95%			

## ELECTRICAL SPECIFICATIONS

<b>Power Supply</b>	Operating Voltage: 18-32 VDC
<b>Power consumption</b>	Max. 25 mA in stand-by Max. 50 mA in alarm
<b>Electrical Connection</b>	12 wires 6 ft. (2m) cable (for junction box connection) Optional: 12-wires electrical connector (the suitable connector will be supplied)
<b>Electrical Input Protection</b>	According to MIL-STD-1275B
<b>Electromagnetic Compatibility</b>	EMI/RFI protected CE Marked

## OUTPUTS

<b>Relays</b>	Alarm and Fault SPST volt-free contacts rated 2A at 30 VDC Fault relay normally closed, Alarm Relay normally open
<b>4-20mA</b>	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
<b>RS-485</b>	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

<b>Dimensions</b>	4" x 4" x 2.5" (100 x 100 x 62 mm)
<b>Weight</b>	St.St 316L 2.5Lb (1.2 Kg) Tilt Mount 0.8Lb (0.37 Kg)
<b>Enclosure</b>	Stainless Steel 316L with electro polish finish
<b>Environmental Standards</b>	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp
<b>Water and Dust</b>	IP66 and IP67 per EN60529 NEMA 250 6P

## APPROVALS

FM (Functionality)  
EN54-10 (VdS) - 20/20MI-1 Only

## ACCESSORIES

<b>Flame Simulator</b>	FS-1100	<b>Air Shield</b>	20/20-787
<b>Tilt Mount</b>	20/20-005	<b>Laser Pointer</b>	787969
<b>Rain Shield</b>	787980	<b>Hand Held Pocket PC Diagnostic Kit</b>	777820

Specifications subject to change