

Multi IR Flame Detector

40/40M

SharpEye

The new 40/40M multi IR Flame Detector is specifically designed for detection of hydrocarbon and hydrogen flames.

The 40/40M is the most durable and weather resistant flame detector currently on the market. Its new features include 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 40/40 Series warranty period has been extended to 5 years and is SIL2 (TUV) approved to IEC 61508.



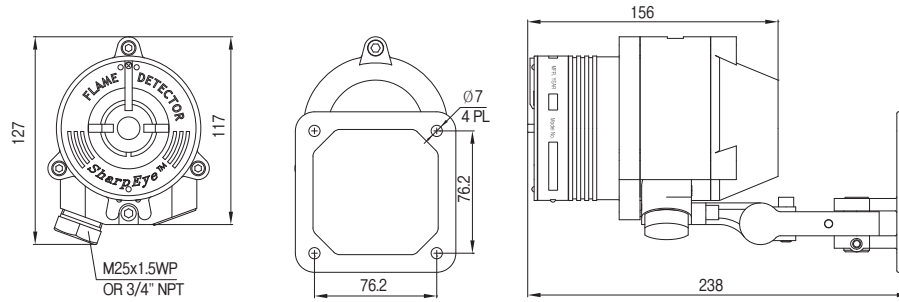
FEATURES & BENEFITS

- Multi spectrum design—for long distance detection of hydrocarbons and hydrogen flames
- High false alarm immunity
- Sensitivity selection—to ensure no zone crossover 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 Compatible
- High Reliability—MTBF—minimum 150,000 hours
- Approved to Safety Integrity Level 2 (SIL2-TUV)
- 5-Year Warranty
- User Programmable via HART or RS-485

Accessories

		
Simulators Up to 9m	Tilt Mount Wall Mount bracket	Duct Mount In high temperatures
		
U-Bolt/Pole Mount 2" ~ 3" Pipe mounting	Laser Pointer Optimizing detector location	Air shield Using under tough environmental conditions
		
Weather Protector Protecting the detector from rain and snow	Mini Laptop Kit Re-configure settings or perform diagnostics	USB RS485 Harness Re-configure settings or perform diagnostics

Dimension (Unit:mm)



GENERAL SPECIFICATIONS

Spectral Response	Multi IR Bands					
Detection Range (at highest Sensitivity Setting for 1ft ² (0.1m ²) pan fire)	Fuel	ft / m	Fuel	ft / m	Fuel	ft / m
	n-Heptane	215 / 65	Ethanol 95%	135 / 40	LPG *	100 / 30
	Gasoline	215 / 65	Methanol	115 / 35	Polypropylene Pellets	16 / 5
	Diesel Fuel	150 / 45	IPA (Isopropyl Alcohol)	135 / 40	Ammonia*	40 / 12
	JP5	150 / 45	Hydrogen*	100 / 30	Silane*	16 / 5
	Kerosene	150 / 45	Methane*	100 / 30	Office Paper	33 / 10
	* 20" (0.5m) high, 8" (0.2m) width plume fire					
Response Time	Typically 5 seconds					
Adjustable Time Delay	Up to 30 seconds					
Sensitivity Ranges	4 Sensitive ranges for 1 ft ² (0.1m ²) n-heptane pan fire from 50 ft (15m) to 215 ft (65m)					
Field of View	Horizontal 67°, Vertical 70° for Gasoline Horizontal 80°, Vertical 80° for Hydrogen					
Built-in-Test (BIT)	Automatic (and Manual)					
Temperature Range	Operating:	-67°F to +167°F	(-55°C to +75°C)			
	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 Optics	To eliminate condensation and icing on the window					

ELECTRICAL SPECIFICATIONS

Operating Voltage	24 VDC nominal (18-32 VDC)
Power Consumption	Standby: Max. 90mA (110mA with heated window) Alarm: Max. 130mA (160mA 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 EN61326-3 and EN61000-6-3
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 2A at 30 VDC
0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA Normal: 4mA ± 10% Alarm: 20mA ± 5% BIT Fault: 2mA ± 10% Warning: 16mA ± 5% Resistance Loop: 100-600Ω
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations

MECHANICAL SPECIFICATIONS

Materials	Stainless Steel 316L with electro polish finish		
Mounting	Stainless Steel 316L with electro polish finish		
Dimensions	Detector	4" x 4.6" x 6.18"	(101.6 x 117 x 157 mm)
Weight	Detector (St.St.)	6.1 lb (2.8 kg)	Tilt mount 2.2 lb (1.0 kg)
	Detector, aluminum	2.8 lb (1.3 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 and IECEx	Ex II 2 GD, Ex de IIC T5 (-55°C to +75°C) Ex d IIC T4 (-55°C to +85°C)	Ex de IIC T4 (-55°C to +85°C) Ex d IIC T5 (-55°C to +75°C)
	FM/FMC/CSA	Class I Div. 1, Groups B, C & D Class II/III Div. 1, Groups E, F & G	Ex d IIC T4 (-55°C to +85°C) Ex d IIC T5 (-55°C to +75°C)
Performance	EN54-10 (VdS) FM3260		
Reliability	IEC61508 - SIL2 (TUV)		

ACCESSORIES

Fire Simulator	20/20-313	U-Bolt/Pole Mount	789260-2 (2" pole)	Mini Laptop Kit	777820	Laser Pointer	777166
Tilt Mount	40/40-001		789260-1 (3" pole)	Weather Protector	777163	(Detector area coverage)	
Duct Mount	777670	USB RS485 Harness Kit	794079-5	Air Shield	777161		