

40/40L-LB

UV-IR Flame Detector Series



Model 40/40L (or LB, with Built-in-test option) provides a combination of UV and IR sensors, where the IR sensor operates at a wavelength of 2.5-3.0 μm , and can detect hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires.

The UV/IR flame detector senses radiant energy in the short wave section of both the ultraviolet and infrared portions of the electromagnetic spectrum. The signals from both sensors are analyzed for frequency, intensity and duration. Simultaneous detection of radiant energy in both the UV and IR sensors triggers an alarm signal.

The UV sensor incorporates a special logic circuit that helps prevent false alarms caused by solar radiation. 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

- UV/IR Dual-Sensor
- Fast Response - 200 msec to flash fire
- Solar blind
- Automatic Built-In-Test (BIT)* and Manual - 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) model 40/40LB only
- 5-Year Warranty
- User Programmable via HART or RS-485
- Ex approved for Zone 1 hazardous area location
 - ATEX
 - IECEx
 - FM/FMC
 - CSA
- 3rd party performance approved
 - EN54-10 (VdS)
 - FM3260
- Marine Approval
 - MED 'Wheelmark' approval (DNV)

APPLICATIONS

Offshore Oil & Gas installations

**Onshore Oil & Gas installations and
pipelines**

Chemical plants

Petrochemicals plants

Storage Tank farms

Aircraft hangars

Power Generation facilities

Pharmaceutical Industry

Printing Industry

Warehouses

Automotive

Explosives & Munitions

Waste Disposal facilities

Aerospace Industry

Paint, Polymer and Glue processes

40/40L/LB

UV-IR Flame Detector Series

(at highest Sensitivity Setting for 1ft2 (0.1m2) pan fire)	Detection Range	Fuel	ft/m	Fuel	ft/m	Fuel	ft/m
		n-Heptane	50 / 15	Kerosene	37 / 11	Methane*	16 / 5
		Gasoline	50 / 15	Ethanol 95%	25 / 7.5	LPG*	16 / 5
		Diesel Fuel	37 / 11	Methanol	25 / 7.5	Polypropylene Pellets	13 / 4
		JP5	37 / 11	IPA (Isopropyl Alcohol)	16 / 5	Office Paper	16 / 5
	Spectral Response	UV: 0.185 - 0.260 μm; IR: 2.5-3.0 μm					
	Response Time	Typically 5 seconds. 200 msec to flash fire					
	Adjustable Time Delay	Up to 30 seconds					
	Sensitivity Ranges	1 ft2 (0.1m2) n-heptane pan fire from 50 ft (15m)					
	Field of View	Horizontal 100°; Vertical 95°					
	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					
	<u>ELECTRICAL SPECIFICATIONS</u>						
	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 (2.5mm2 - 0.3mm2)					
	<u>OUTPUTS</u>						
	Relays	Alarm, Fault and Auxiliary SPST volt-free contacts rated 2A at 30 VDC					
	0-20mA (stepped)	Sink (source option) configuration Fault: 0 +1mA					

Distributed By

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specifications subject to change without notice (MAY 14)