Flame Detector Series

40/40 UV/IR

Maximum choice of features in a high performance package

**FEATURES & BENEFITS**

- UV/IR Dual-Sensor
- High-Speed Response - 150 msec Response to Saturated Signal
- 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)
- 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 Tested
  - EN54-10 (LPCB)
  - FM3260 (FM)

**APPLICATIONS (model dependent)**

- 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 Industry
- Explosives & Munitions
- Waste Disposal facilities
- Aerospace Industry
- Paint, Polymer and Glue processes

Spectrex offers two versions of the new 40/40 Series UV/IR Flame Detectors:

**Model 40/40L (LB)** 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.

**Model 40/40L4 (L4B)** is identical to the 40/40L except that the IR sensor works at a wavelength of 4.5 μm and is only suitable for hydrocarbon-based fires.

The UVIR 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.
### GENERAL SPECIFICATIONS

| Spectral Response | 40/40L-LB: UV: 0.185 - 0.260 μm; IR: 2.5-3.0 μm  
|                  | 40/40L4-L4B: UV: 0.185 - 0.260 μm; IR: 4.4-4.6 μm |

<table>
<thead>
<tr>
<th>Detection Range</th>
<th>(at highest Sensitivity Setting for 1ft² (0.1m²) pan fire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>ft / m</td>
</tr>
<tr>
<td>n-Heptane</td>
<td>50 / 15</td>
</tr>
<tr>
<td>Gasoline</td>
<td>50 / 15</td>
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<tr>
<td>Diesel Fuel</td>
<td>37 / 11</td>
</tr>
<tr>
<td>JP5</td>
<td>37 / 11</td>
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<tr>
<td>Kerosene</td>
<td>37 / 11</td>
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</tbody>
</table>

| Response Time   | Typically 5 seconds, High speed 150 msec response to saturated signal |
| Adjustable Time Delay | Up to 30 seconds |

### 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 (2.5mm² - 0.3mm²) |
| Electrical Input Protection | According to MIL-STD-1275B |
| Electromagnetic Compatibility | EM/RFI protected to EN61326-3 and EN61000-6-3 |

### MECHANICAL SPECIFICATIONS

| Material         | - Stainless Steel 316L with electro polish finish |
| Enclosure options | - Heavy duty copper free aluminum (less than 1%), red epoxy enamel 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: 6.1 lb (2.8 kg)  
|                  | Detector, aluminum: 2.8 lb (1.3 kg)  
|                  | Tilt mount: 2.2 lb (1.0 kg) |

### APPROVALS

| Hazardous Area   | ATEX and IECEx  
|                  | FM/FMC/CSA  
|                  | Ex II 2 QD,  
|                  | Ex de IIB H2 T5 (-55°C to + 75°C)  
|                  | Ex de IIB H2 T4 (-55°C to + 85°C)  
|                  | Ex de II B T5 (-55°C to + 75°C)  
|                  | Ex de II B T4 (-55°C to + 85°C)  

### ACCESSORIES

| Fire Simulator   | 20/20-311  
| Tilt Mount       | 40/40-001  
| Weather Protector| 777163  
| Air Shield       | 777161  
| Mini Laptop      | 777820  
| USB RS485 Harness Kit | 794079-5  
| Laser Pointer    | 777166 |

Specifications subject to changes
For more information view manual or website www.spectrex-inc.com