MULTI SPECTRUM IR FLAME DETECTOR

Description

Multi Spectrum IR Flame Detector

The FDS303 compliments the FDS301 and FDS300 Visual Flame Detectors by delivering superior performance in the detection of hydrocarbon fires which are not detectable in the visible spectrum. The FDS303 utilises the latest IR flame detection algorithms to ensure maximum false alarm immunity.

Applications

Typical applications include:
- On/Offshore Oil and Gas Processing Facilities
- Refineries
- Petrochemical Plants
- Chemical Facilities
- Pharmaceutical
- Aircraft Hangars
- Road Tunnels
- Power Generation
- Tank Farms
- Road & Rail Loading Racks
- LNG / LPG
- Warehouses/ Storage Areas
- Waste Recycling/ Biomass Plants
- Printing Industry

Features and Benefits

- Multi spectrum IR design delivers long detection distances and enhanced false alarm immunity
- Continuous optical test, without a reflector
  - Verifies operation and improves device up-time
- Microprocessor controlled heated optics
  - Maintains operation in harsh weather conditions (snow, ice, condensation)
- International hazardous area approvals
  - FM / ATEX / IEC Ex
- Certified performance testing to multiple fuels
  - FM 3260
  - EN 54-10
- Adjustable sensitivity levels
  - For application flexibility
  - Ensure detectors do not cross vote
- External testing with a long-range flame simulator
  - Minimises the need for scaffolding
- Easy integration using industry standard outputs:
  - Alarm and Fault Relays
  - 0-20mA
  - HART®, as standard
- Certified SIL 2 capable
- Worldwide marine approvals

Designed for hazardous industries where fast fire detection is critical and nuisance alarms are not an option.

The MICROPACK FDS303 is an explosion proof multi spectrum IR flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances.

The FDS303 has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at 60m in less than 5 seconds.

micropackfireandgas.com
Environmental
Operating Temp: -60°C to +85°C (-76°F to +185°F)
Storage Temp: -60°C to +85°C (-76°F to +185°F)
Humidity: 0 to 95% RH non-condensing

Operating Voltage
24 Vdc Nominal – (Range 18 to 32 Vdc)

Power Consumption
3 W minimum (without heater), 15 W at 32 Vdc with heater on maximum

Speed of Response
~5 seconds (Typical)

Flame Sensitivity

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Fire Size</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Heptane</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>60m (196 feet)</td>
</tr>
<tr>
<td>n-Heptane + arc welding</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>60m (196 feet)</td>
</tr>
<tr>
<td>Gasoline</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>60m (196 feet)</td>
</tr>
<tr>
<td>Diesel</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>50m (164 feet)</td>
</tr>
<tr>
<td>Crude oil (heavy fuel)</td>
<td>0.5mx0.5m 20&quot;x20&quot;</td>
<td>50m (164 feet)</td>
</tr>
<tr>
<td>JP4</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>60m (196 feet)</td>
</tr>
<tr>
<td>Methane</td>
<td>60 cm / 24&quot; plume</td>
<td>50m (164 feet)</td>
</tr>
<tr>
<td>Ethanol</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>42m (137 feet)</td>
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<td>42m (137 feet)</td>
</tr>
<tr>
<td>n-Heptane</td>
<td>30cm x 30cm / 1' x 1'</td>
<td>30m (98 feet)</td>
</tr>
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Enclosure
Material: Copper free aluminium or 316 stainless steel
Entry size: M25 or 3/4 inch NPT
Weight: Aluminium 2.5 Kg (5.5 lbs), Stainless steel 6 Kg (13.2 lbs)

Field of View
90° horizontal by 90° vertical

Outputs
Relay contacts - alarm and fault
0-20mA, HART®

Certification
FM approved
Class 1 Zone 1 AEx/Ex d IIC T4
ATEX II 2 G Ex db IIC T4
IECEx Ex db IIC T4

Performance approvals
FM 3260
EN 54-10

Ingress IP66 / NEMA type 4X
IEC 61508 Certified SIL 2 Capable

DNV GL Type Approval

Accessories
Flame simulator (FS30x)
Pole mount bracket
Retrofit mounting bracket
Marine mounting bracket