UV/IR, IR3 or IR4 flame detector

Technical specifications

SharpEye 40/40 optical flame detection
Housing: Stainless steel SS 316L
Vision cone:
- Model 40/40I & 40/40LB: 100° horizontal, 95° vertical
- Model 40/40M: 90° horizontal & vertical
Optical sensibility:
- Model 40/40I (IR3) & 40/40M (IR4): Up to 65m
- Model 40/40LB (UV/IR): Up to 15m
Autotest: Integrated test (Built-In-Test, BIT)
Heated window: For operation in difficult conditions (snow, ice, condensation)
Power supply: 24 V DC nominal (18 – 32 VDC)
Power consumption:
- Stand-by: max. 90 mA (110 mA with heated window)
- Alarm: max. 130 mA (160 mA with heated window)
Output signals: analog 0-20 mA (stepped) & HART
Output relays: SPST volt-free contacts rated 2A at 30Vdc
Communication: Modbus compatible
Certifications:
- ATEX & IECEx: Ex II 2GD
  Ex de IIB+H2 T5 (-55°C +75°C)
- FM / FMC / CSA: Class I Div1 Groups B,C&D
  Class II/III Div1, Groups E,F&G
  Class II/III Div1, Groups E,F&G
- SIL: SIL2 certified by TÜV (IEC61508)
- Marine: DNV and ABS type approval
- MED-B and MED-D approval (wheelmark), issued by DNV
- CE mark EMI/RFI protected to EN61326-3 and EN61000-6-3
Dimensions: 90 x 114 x 156 mm
Ingress protection: IP66 & IP67, NEMA 250 6P
Weight: 2.5 kg (+1 kg with tilt mount)
Operating temperature: from -50°C to +75°C

Product description

Based on the optical analysis technology, the SharpEye 40/40 flame detector is sensitive to radiation emitted by flames and combustion products. Depending on the model, it can be equipped with one or more sensors, either UV or IR or a combination of both.

With an MTBF (average time between failures) of 150,000 hours, it quickly detects and reports all fuel and gas fires at very long distance with a response time of less than 5 seconds in the worst case.

SharpEye 40/40I – IR3 flame detector
It is the most commonly used model in the petrochemical industry and oil platforms. This flame detector combines 3 infrared sensors for the detection of hydrocarbon fires up to 65 meters, while guaranteeing reliability and immunity. Marine certification.

SharpEye 40/40LB – UV/IR flame detector
This detector combines a UV sensor and an IR sensor for detection of hydrocarbon (petrol, ethanol, diesel, methane), metal and hydrogen fires. Good resistance to sunlight, artificial light and radiation from welding operations.

SharpEye 40/40M – IR4 flame detector
Combination of 4 infrared sensors for flame detection of most fires over distances of 5 to 65 meters maximum, with high immunity to false alarms. Version with the same characteristics as the IR3 with hydrogen detection in addition.

Performances

<table>
<thead>
<tr>
<th>Combustibles</th>
<th>Fire size</th>
<th>40/40I IR3</th>
<th>40/40LB UV-IR</th>
<th>40/40M IR4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essence</td>
<td>0.1 m2</td>
<td>65</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td>Gasole</td>
<td>45</td>
<td>11</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>N-heptane</td>
<td>65</td>
<td>15</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Kerosene</td>
<td>45</td>
<td>11</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>40</td>
<td>7.5</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>30</td>
<td>5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>40</td>
<td>7.5</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td>30</td>
<td>5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Hydrogen</td>
<td>Fire feather 50 cm high</td>
<td>30</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>GPL</td>
<td>NA</td>
<td>5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Polypropylen</td>
<td>Fire 0.2 m2</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td>Fire 0.1 m2</td>
<td>10</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>