The FIRERAY 50RV series conventional infra-red beam smoke detector provides economical and effective protection of large, open plan spaces with high ceilings, particularly if access to ‘point type’ smoke detectors presents practical difficulties.

The FIRERAY 50RV is ideally suited for protecting warehouses, factories, shopping malls, leisure centres, churches, museums, power stations and industrial plants. It can be connected to a zone of a conventional fire alarm panel or interfaced to an analogue addressable system via an addressable interface input module or a zone monitor module.

**Features**

- Combined transmitter and receiver unit in one discrete unit
- Range 5-50 metres
- Low current consumption
- Automatic self-check drift compensation
- Selectable sensitivity/threshold levels
- Selectable latching/non latching fire alarm
- LED indicators to aid the alignment process

**Approvals**

- Designed, manufactured and certified to EN54-12: 2002

**Specification**

<table>
<thead>
<tr>
<th>Operating range</th>
<th>5 to 50 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating voltage range</td>
<td>10.2 VDC to 30 VDC</td>
</tr>
<tr>
<td>Maximum quiescent current</td>
<td>4 mA @ 24 VDC</td>
</tr>
<tr>
<td>Maximum alarm current</td>
<td>15 mA</td>
</tr>
<tr>
<td>Power down reset time</td>
<td>5 seconds</td>
</tr>
<tr>
<td>Fire relay contacts</td>
<td>Normally open, VFCO 2A@30 VDC</td>
</tr>
<tr>
<td>Fault relay contacts</td>
<td>Normally closed, VFCO 2A@30 VDC</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C to +55°C (non-condensing)</td>
</tr>
<tr>
<td>Fire alarm thresholds</td>
<td>1.25 dB (25%), 1.87 dB (35%), 3.00 dB (50%)</td>
</tr>
<tr>
<td>Optical wavelength</td>
<td>880 nm</td>
</tr>
<tr>
<td>Detector dimensions</td>
<td>126 mm (W), 210mm (H), 120mm (D)</td>
</tr>
<tr>
<td>Prism dimensions</td>
<td>100mm (W), 100mm (H), 9.5mm (D)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.67 Kg</td>
</tr>
</tbody>
</table>
**LED indications**

Red LED indicates fire, continuous amber LED indicates fault, flashing amber LED once every 10 seconds indicates normal operating mode, flashing amber LED once every 2 seconds indicates the compensation function has reached its limit.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Alarm condition indicated by fire relay closing, fault condition indicated by fault relay opening. Alarm may be latching or non-latching (default).</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP rating</td>
<td>IP50</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>RH 0% to 93% (non condensing)</td>
</tr>
<tr>
<td>Housing construction</td>
<td>Flame retardant ABS, finish: grey/black</td>
</tr>
</tbody>
</table>

**Operation**

The infrared beam smoke detector has three selectable ‘Alarm Thresholds’ settings of 25%, 35% and 50% which can be selected to suite the environment. The 50% threshold is recommended for hostile and extreme environments. If the received infrared signal reduces to below the selected threshold for approximately 10 seconds, the fire relay is activated. There are two modes of operation for the fire relay. ‘Auto Reset Mode’ will reset the fire relay approximately 5 seconds after the received infrared signal has recovered to a level above the alarm threshold. ‘Latching Mode’ holds the fire relay active indefinitely after an alarm condition has occurred.

If the infrared beam is obscured rapidly to a level of 90% or greater for 10 seconds, the fault relay is activated. This condition can be achieved in a number of ways, for example an object being placed in the beam path, transmitter failure, loss of the prism, or sudden misalignment of the detector. The fault relay will reset within 5 seconds of the condition being rectified.

The Fireray 50RV beam smoke detector monitors long-term degradation of beam signal strength caused by the build up of dirt on its optical surfaces; this operates by comparing the received infrared signal against a reference voltage every 15 minutes.

**Mounting Instructions**

The installation of the infrared beam smoke detector should be undertaken in accordance with recognised national or international standards and codes of practice. We also recommend that simulated fire tests are conducted to ensure the desired response time is met for a given installation.

Specifications and wiring information are provided for information only and are believed to be accurate. Advanced assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

**Order Codes and Options**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-0206.09</td>
<td>FIRERAY 50RV Reflective Beam Detector</td>
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