Features

- End-to-End Infrared Optical Smoke Detection with separate transmitter and receiver heads (up to two per controller)
- Transmitter to Receiver range is 16.5 to 393 ft (5 to 120 m), configurable per detector set
- Integral laser alignment in receiver for quick and accurate alignment
- Single 2-wire interface from controller to receiver and transmitter
- Separate fire and trouble relays per transmitter/receiver pair
- Controller with LCD display can be located at ground level for convenient access
- Sensitivity and fire threshold are programmable from the controller
- Automatic gain control (AGC) provides drift compensation
- Built-in electronic UL/ULC obscuration-acceptance fire test provides convenient testing
- Knockouts for ease of installation and wiring
- Optional transmitter powering from controller
- UL listed to Standard 268

Description

The FIRERAY 3000 End-to-End infrared Optical Beam Smoke Detector (OBSD) uses the latest optical technology, incorporating modern industrial, electronic and software techniques. This detector offers cost effective protection of large, open area spaces with high ceilings. It is also very well suited to applications where access to ceiling mounted smoke detectors presents practical difficulties.

Application Guidance. The FIRERAY 3000 is ideal for applications where line of sight for the IR (infra-red) detection path is narrow and where the building structure uses reflective surfaces. It has also been designed to be aesthetically pleasing and thus can equally suit modern architectural buildings as well as historical sites, particularly where ornate ceilings exist.

Engineering Specification

The beam detector shall feature automatic gain control, which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The receiver heads shall incorporate a Wide Field of View to ensure the unit is always receiving maximum signal available.

The system shall include a low level remote display and control unit with LCD read-out for set-up, reporting and testing of up to 2 separate sets of heads. The system shall be capable of sending separate Trouble and Alarm signals for each of the sets of heads. The system shall be capable of programming alarm thresholds of 25% to 60% in 1% increments. The system shall be capable of programming delay to fault and delay to alarm from 2 seconds to 30 seconds in 1 second increments.

Test and acceptance of the system shall be carried out by using the UL/ULC approved internal electronic obscuration fire test. The projected beam type smoke detector shall be a 4-wire 24VDC device to be used with a Nationally Recognized Testing Laboratory’s Listed and separately supplied 4- wire control panel. The End-to-End beam type smoke detector shall be a Fire Fighting Enterprises FIRERAY 3000.
## Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000-103</td>
<td>End-to-End Beam Smoke Detector; includes (1) Transmitter, (1) Receiver, and (1) System Control Unit; order (1) 3000-016 for additional transmitter/receiver</td>
</tr>
<tr>
<td>3000-016</td>
<td>Additional Detector Pack, includes (1) Transmitter and (1) Receiver</td>
</tr>
<tr>
<td>3000-201</td>
<td>Adjustment Bracket</td>
</tr>
<tr>
<td>3000-202</td>
<td>Surface Mount Adapter</td>
</tr>
<tr>
<td>3000-203</td>
<td>4&quot; Square Cover Plate</td>
</tr>
<tr>
<td>5000-011</td>
<td>Surface Mount Detector Back Box, requires one 3000-202 Surface Mount Adaptor for each head, ordered separately</td>
</tr>
<tr>
<td>3000-209</td>
<td>Control Back Box</td>
</tr>
<tr>
<td>3000-210</td>
<td>Semi-flush Trim Plate</td>
</tr>
<tr>
<td>1000-018</td>
<td>Wire Cage, requires 5000-011 Detector Back Box and 3000-202 Surface Mount Adaptor (ordered separately)</td>
</tr>
</tbody>
</table>

Internal Ordering Note: These products can be found in Job Design under Fire Fighting Enterprises, OP category OPFFE.

## Specifications

**Mechanical Specifications**

<table>
<thead>
<tr>
<th>Housing Material; Control Unit, Transmitter, and Receiver</th>
<th>UL94V2 PC; IP rating = IP54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions and Weight</td>
<td></td>
</tr>
<tr>
<td>Control Unit</td>
<td>7.99” W x 4.88” H x 2.81” D (203 mm x 124 mm x 71.5 mm); 1.34 lb (606 g)</td>
</tr>
<tr>
<td>Transmitter and Receiver</td>
<td>3.07” W x 3.03” H x 6.33” D (78 mm x 77 mm x 131 mm); 0.456 lb (207 g)</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Fire Fighting Enterprises (A Halma Group Company); website: <a href="http://www.ffeuk.com/">www.ffeuk.com/</a></td>
</tr>
</tbody>
</table>

**Electrical Specifications**

| Input Voltage                                             | 12 to 36 VDC +/- 10%; from a compatible and agency listed fire alarm power supply |
| Controller Current                                        | 14 mA, with one or two receivers                                               |
| Transmitter Current                                       | 8 mA per Transmitter                                                          |
| Alarm and Trouble Relays                                  | Dedicated, separate Form C relays, rated 2 A @ 30 VDC resistive; selectable with 2 to 30 s delay to activate, individually selectable |
| Controller to Receiver                                    | 18 to 14 AWG, twisted pair; 330 ft (100 m) maximum distance                   |
| Optical Wavelength                                        | 880 nm                                                                       |

**Operating Specifications**

| Power Down Reset Time                                      | > 20 s                                                                       |
| Sensitivity                                               | 25% to 60% obscuration selectable in 1% increments; major selectable increments are 25, 35, and 50% |
| Operating Distance                                        | 16.5 ft to 393 ft (5 m to 120 m)                                             |
| Status Indicators                                         | Control Unit: Alarm = Red LED; Trouble = Amber LED; System OK = Green LED    |
|                                                          | Receiver: Alarm = Red LED; plus Alignment LEDs for single person alignment   |
| UL Listed Temperature Range                               | -4° F to 131° F (-20° C to 55° C); non-condensing                                |
| Relative Humidity                                         | 93%, non-condensing                                                          |