

# FIRERAY® 5000

## Reflective Beam Smoke Detector

The **FIRERAY® 5000** System is an auto-aligning, self-correcting infrared beam smoke detector. Up to 2 detector heads can report to a single ground level controller. In addition, each system controller houses two pairs of fire and trouble relays, one per detector. Once the detector head is installed, using the easyfit mounting system an integral LASER can be activated. This allows the reflective prism to be located quickly and with confidence.

The Auto-Align function ensures proper alignment and maximum signal during the beam installation. AutoOptimise automatically steers and maintains the beam in the optimum position for reliable performance. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level obscuration is reached.

The system is designed to be mounted so the beam will project between 19" (0.5m) and 24" (0.6m) below the ceiling. Lateral detection may be up to 30ft. (9.144m) on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.29m x 100m).

### Engineering Specification

The projected beam type smoke detector shall be listed to U.L. 268 and shall consist of up to two integrated transmitter, receiver detector heads and single low level remote control unit. The detector shall operate between a range of 26.25 ft. to 330 ft. (8m to 100m). The temperature range of the system shall be -4°F to 131°F (-20°C to 55°C). The beam detector heads shall include an integral built-in laser pointer to assist prism mounting. The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses and prisms. The beams detector heads shall include AutoOptimise self-correcting motorized head feature to ensure unit is always receiving maximum signal available, and shall automatically compensate for building shift. The unit 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 detector heads. The System shall have separate Trouble and Alarm relays for each of the 2 channels. The system shall be capable of programming alarm thresholds of 10% 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.



### Features

- Up to 2 Detector Heads reporting to One Ground Level Controller
- Range of 26.25 ft. to 330 ft. (8m to 100m)
- Built in Laser assisted prism mounting
- Auto-Alignment 2 to 4 minutes per head
- AutoOptimise: Auto-Correction due to building shift
- Built-in electronic UL/ULC/FM obscuration-acceptance fire test
- Contamination compensation
- Separate Trouble and Alarm relays for each of the 2 channels
- Password protected settings
- Low current draw 5 to 8.5mA
- Built-in 1/2"/M-20 conduit knock-outs on the system controller
- Programmable alarm thresholds: 10% - 60% in 1% increments
- Programmable Fault and Alarm delay: 2-30 Seconds

Test and acceptance of the system shall be carried out by using the UL/ULC/FM 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 separately supplied 4-wire control panel. The Reflective beam type smoke detector shall be a Fire Fighting Enterprises **FIRERAY® 5000**.



**FIRERAY® 5000**  
Accessories

# FIRE RAY® 5000

## Construction Specification

Housing: Flame Retardant ABS  
IP Rating: IP54  
Finish: Light Grey/Black  
Knock Outs: Controller: 7-1/2"/M-20  
Detector Head: 1-1/2"/M-20  
Weight: Head & Controller 3.24 lbs (1.47 kg)  
Dimensions: Head: 5.28" H x 5.16" L x 5.28" W  
(134mm H x 131mm L x 134mm W)  
Controller: 3.43" H x 9.06" L x 7.95" W  
(87mm H x 230mm L x 202mm W)  
Prism: 0.37" H x 4.13" L x 3.94" W  
(9.5mm H x 105mm L x 100mm W)

## Electrical Specification

Primary Input Power: 14 to 36 VDC  
Standby Current: Low Current Mode: 5mA to 8.5mA @ 24VDC depending on number of detector heads used  
High Current Mode: 37mA @ 24VDC  
Alarm Current: 5mA to 8.5mA @ 24VDC depending on number of detector heads used  
Relay Contacts: 1A @ 30VDC Resistive  
Reset Time: 5 Seconds maximum  
Start Up Time: 45 Seconds  
Optical Wavelength: 850nm  
Alarm Threshold: 10% - 60% (35% Default)  
Temperature Rating: -4°F to 131°F (-20°C to 55°C)  
For UL Listed Installations: 32°F to 100°F (0°C to 38°C)  
Relative Humidity: 0% to 93% RH non-condensing  
Range: 26.25ft. to 330ft. (8m to 100m)  
Cabling Between each Detector & Controller: 18-14 AWG 1-Pair

Specifications and wiring information are provided for information only and are believed to be accurate. Fire Fighting Enterprises 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.

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**FIRE**  
FIGHTING  
ENTERPRISES

**Fire Fighting Enterprises**  
1455 Jamike Ave Ste 200, Erlanger  
KY 41018-3147 USA

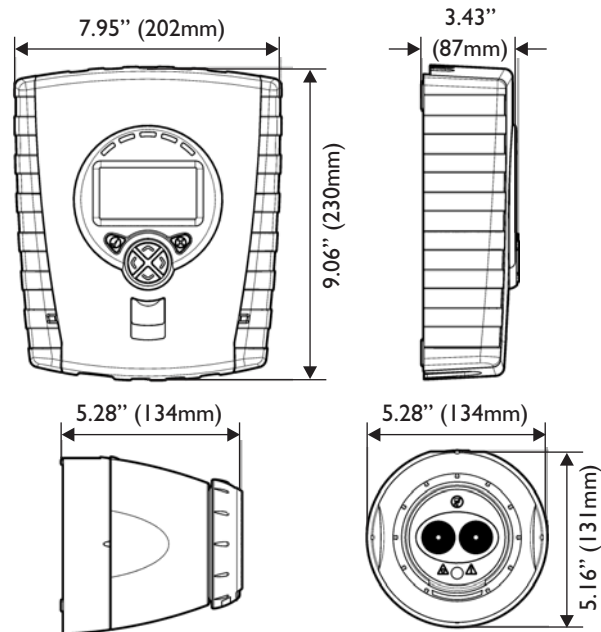
T 940 271 0435  
F 972 534 1526  
E america@ffeuk.com  
W www.ffeuk.com

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## Listings

- UL - S3417
- ULC - S3417
- MEA - 22-08-E
- CSFM - 7260-1508-104
- FM Approved
- Maryland - 2243

## Dimensions



## Ordering Information

- 5000-103 Reflective Auto Align beam smoke detector 27ft. to 330ft. (8m to 100m). System includes 1 Detector Head, 1 Controller and 1 Prism.
- 5000-031 Additional Detector Head and 1 Prism - Use up to one additional head per 5000-103
- 5000-004 Long Range Prism Kit - 3 Additional Prisms for installations between 160ft. and 330ft. (50m -100m)
- 5000-005 Universal Alignment Bracket - Used with F-5000 Detector Head, 5000-007 and 5000-008
- 5000-201 Universal 130° Alignment Bracket - Used with F-5000 Detector Head, 5000-007 and 5000-008
- 5000-006 Wall Bracket Mounts 1 or 4 Prisms
- 5000-007 4 Prism Alignment Adaptor Plate
- 5000-008 1 Prism Alignment Adaptor Plate
- 5000-009 Controller Back Box
- 5000-010 Semi-Flush Trim Plate for 5000-009
- 5000-011 Detector Surface Mount Uni-Box
- 5000-012 Detector 2 gang Mounting Plate
- 5000-014 Ceiling Pendant Mount Bracket
- 1000-018 Wire Protective Cage for Detector
- 1000-019 Wire Protective Cage for Controller
- 23901 Replacement Prism

