Simplex

Non-Addressable Initiating Peripherals

*UL, ULC, CSFM Listed**

End-to-End Infrared Optical Beam Smoke Detector;
Fire Fighting Enterprises **FIRE**RAY 3000

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 **FIRE**RAY 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.

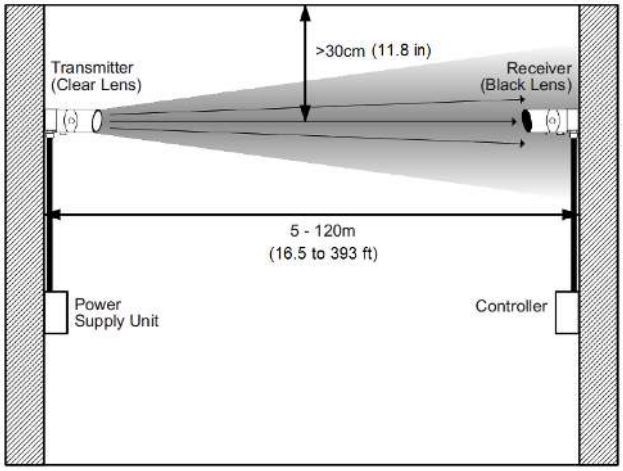
Application Guidance. The **FIRE**RAY 3000 is ideal for applications where line of sight for the IR (infra-red) detection path is narrow and where the building structure uses reflective surfaces. It has also been designed to be aesthetically pleasing and thus can equally suit modern architectural buildings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

Engineering Specification

The projected beam type smoke detector shall be listed to UL 268 and shall consist of up to two transmitters, two receivers and a single low level remote control unit. The detector shall operate between a range of 16.5 ft to 393 ft (5 m to 120 m). The temperature range of the system shall be -4° F to 131° F (-20° C to 55° C).The receiver shall include an integral built-in laser pointer to assist in optimum alignment.

* Listings are by Fire Fighting Enterprises. Refer to CSFM 7260-1508:105. This product was not approved by FM as of document revision date.

FIRERAY 3000 Controller shown with a Single Transmitter/Receiver Pair



FIRERAY 3000 Installation Reference

Engineering Specification *(Continued)*

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 **FIRE**RAY 3000.

Ordering Information

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

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

Specifications (See Installation Instructions shipped with product for additional information)

Mechanical Specifications

Housing Material; Control Unit, Transmitter, and Receiver		UL94V2 PC; IP rating = IP54
Dimensions and Weight	Control Unit	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)
	Transmitter and Receiver	3.07” W x 3.03” H x 6.33” D (78 mm x 77 mm x 131 mm); 0.456 lb (207 g)
Manufacturer		Fire Fighting Enterprises (A Halma Group Company); website: www.ffeuk.com/

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