

**NO
EXCUSES!**

FE-F2000

Projected Beam Detector

The system is comprised of a transmitter which projects a modulated infrared light beam to a receiver. The received signal is analyzed by a controller usually located at ground level. If smoke is present in the beam path for more than 8—10 seconds, a fire relay is activated in the controller. The system is designed to be mounted so that the beam will project between 1ft. (0.305 m) and 2ft. (0.61m) below and parallel to the ceiling. Lateral detection may be up to 30ft. (9.144m) either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (60ft. x 330ft. or 18.288m x 100m). The control unit must be located within 330ft. cable run of the receiver unit.

Smoke Detection:

If smoke is present in the beam's path, the received signal is reduced by a level determined by the density of the smoke. If the smoke reduces the signal strength to between the obscuration threshold and 93% for more than 8 to 10 seconds, the fire alarm relay is activated. The alarm threshold may be set to 25%, 35% or 50% to suit the installation.

Operation:

The infrared signal is sent from the transmitter via an optical system. At 330 ft. (100m) the diameter of this infrared signal is approximately 10 ft. (3.05m). The wide angle beam arrangement simplifies alignment and increases stability. It is important that the projected beam smoke detector is positioned correctly to minimize the detection time. A fire alarm condition occurs when the smoke obscures the infrared beam. The time to detect a fire condition depends on the location of the smoke beam within the premises, the volume of smoke produced, the construction of the roof, and ventilation considerations.



Standard Features:

- Separate Transmitter and Receiver Units
- Signal Strength indicating LED's
- Range 33ft. To 330ft. (10m to 100m)
- Easy set up and alignment
- Internal test switch
- Calibrated obscuration test filter included
- 3 selectable alarm thresholds:
25%, 35% or 50%
- Microprocessor controlled
- Alarm latching or auto reset
- Automatic gain control
- 12 VDC or 24 VDC operation
- Separate alarm and trouble contacts
- Ground Level Control Unit
- Alignment by Universal Bracket



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Specifications:

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a Nationally Recognized Testing Laboratory's Listed separately supplied 4-wire control panel. Unit shall be listed to U.L. 268 and shall consist of a transmitter, receiver and control box. The detector shall operate between a range of 33ft. to 330 ft. (10m to 100m). The temperature range of the beam shall be -4°F to +131°F (-20°C to +55°C). The beam detector shall feature automatic gain control which will compensate for gradual signal deterioration from dirt accumulation on the lenses. The unit shall include a wall mounting bracket. Testing shall be carried out by using a calibration test filter. The Projected beam type smoke detector shall be a Space Age Electronics, Inc. Fireray 2000.

Beam Detector Spacing:

On smooth ceilings, up to 60 ft. (18.288m) between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on ceiling height, airflow characteristics and response requirements. See NFPA 72 for further information.

Electrical Specifications:

Primary Input Power	Sensitivity:
10.2 to 30 VDC	25%, 35%, 50%
Protection:	Fire Alarm Thresholds:
100ma Fuse in Control unit	1.25dB (25%), 1.87dB (35%), 3dB (50%)
Standby Current	Beam tolerance to misalignment at 35%:
8.5mA @ 24VDC	Transmitter +/- 1°
Alarm Current	Receiver +/- 4°
16.5 mA @ 24 VDC	Weight-Controller:
Relay Contacts	4.00 lbs (1.8 kg)
2A at 30 VDC, resistive	Weight-Transmitter/Receiver:
Reset Time	12 oz. (650 gms.)
5 Seconds maximum	Dimensions-Controller:
Start Up Time (Automatic)	8.5" W x 10.5" H x 3.5" D
45 Seconds	(210mm W x 265mm H x 88mm D)
Optical Wavelength:	Dimensions-Transmitter/Receiver (including mounting brackets):
880nm.	4" W x 3.25" H x 3.75" D
Temperature Rating:	(83mm W x 95mm H x 101mm D)
-4°F to +131°F (-20°C to +55°C)	Unit shipping weight 8 lbs.
Relative Humidity:	
0% to 93% RH non-condensing	
Operational Range:	
33 ft.- 330 ft. (10m - 100m)	
RFI Immunity:	
10V/m @ KHz-1 GHz	
Field wiring size:	
14-24 AWG	

Approvals:

UL	UROX.S3417
ULC	UROXC.S3417
MEA	293-98-E
CSFM	7260-1508:101

This Product Manufactured by
Fire Fighting Enterprises

Ordering Information:

Part #	Description
FE-F2000	Projected beam smoke detector 33ft. to 330ft. (10m to 100m)

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