


F2000 Projected Beam Smoke Detector

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
-  UL, ULC Listed, CSFM, MEA Approved



Description

The F2000 system comprises 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 maximum total coverage area of up to 19,000 sq. feet or 1829 sq. meters (60ft. x 330ft. or 18.29m x 100m). The control unit must be located within 330ft. cable run of the receiver unit. The F2000 detectors can interface with Faraday MPC-6000 and MPC-7000 fire alarm panels via the 8702 and 8705 modules.

Smoke Detection

If smoke is present in the beams 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% obscuration (% per foot) to suit the installation.

Engineering Specification

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a U.L. Listed separately supplied 4-wire control panel. Unit shall be listed to U.L. 268 and shall consist of an integrated transmitter and receiver. Unit shall be powered by any UL category UTRZ power supply such as the RSE-300. 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 (-30°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 Fire Fighting Enterprises 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.

Specifications

Housing-Controller: Double pressed sheet steel
Housing-Transmitter/Receiver: Zinc Alloy

Finish-Controller/Transmitter/Receiver: White enamel

Weight-Controller: 4.00 lbs (1.8 kg)

Weight-Transmitter/Receiver: 12 oz. (650 gms.)

Dimensions-Controller: 8.5" W x 10.5" H x 3.5" D
(210mm W x 265mm H x 88mm D)

Dimensions-Transmitter/Receiver (including mounting brackets): 4" W x 3.25" H x 3.75"D
(83mm W x 95mm H x 101mm D)

Electrical Specification

Primary Input Power: 10.2 to 30 VDC

Protection: 100ma Fuse in Control unit

Standby Current: 8.5mA @ 24VDC

Alarm Current: 16.5 mA @ 24 VDC

Relay Contacts: 2A at 30 VDC, resistive

Reset Time: 5 Seconds maximum

Start Up Time (Automatic) : 45 Seconds

Optical Wavelength: 880nm.

Sensitivity: 25%, 35%, 50%

Fire Alarm Thresholds: 25%, 35%, 50% obscuration (% per foot)

Beam tolerance to misalignment at 35%: Transmitter +/- 1° Receiver +/- 4°
-4°F to 131°F (-20°C to +55°C)
For UL Listed Installations,
32°F to 100°F (0°C to 38°C).

Temperature Rating:

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

Ordering Information

| Model | Part | Description |
|-------|------------|-------------------------------|
| F2000 | 500-050260 | Projected Beam Smoke Detector |
| 0201 | 500-050271 | Alignment tool for F2000 |
| 0209 | 500-050272 | Obscuration test filter |



Siemens Building Technologies, Inc.
 8 Fernwood Road • Florham Park, NJ 07932
 Tel: (973) 593-2600 • Fax: (973) 593-6670
 Web: www.faradayfirealarms.com