Simplex

Non-Addressable Initiating Peripherals

UL, ULC, CSFM Listed;
*MEA (NYC) Acceptance**

Reflective Beam Smoke Detectors
Fire Fighting Enterprises Models 50RU and 100RU

Features

Photoelectric transmitter and receiver are combined in a single, compact housing:

- An infrared beam is reflected from a matching prism with the reflected light analyzed by an on-board microprocessor providing area smoke detection
- Two models are available:
  – Model 50RU is for 15 ft to 160 ft (5 m to 50 m)
  – Model 100RU is for 160 ft to 330 ft (50 m to 100 m)
- Each model includes the matching prism reflector(s), a wall mounting bracket, and a calibrated test filter
- UL listed to Standard 268

Microprocessor controlled operation includes:

- Easy setup and alignment with three selectable alarm thresholds of 25%, 35%, or 50% beam obscuration (can be mounted horizontally or vertically)
- Operation at either 12 VDC or 24 VDC
- Alarm latching or alarm auto-reset
- Automatic gain control
- Separate alarm and trouble contacts

Applications:

- Open areas where ceiling height exceed 25ft (7.6 m) (warehouses, hotel atriums, industrial plants, and school gymnasiums)
- Public areas where cosmetics are of prime importance and detector heads need to be small and unobtrusive (shopping malls, libraries, theaters, and churches)

Benefits:

- Reduces installation costs where 6 or more spot detectors are required in a single area
- Optional remote test station mounts at ground level and reduces service time by testing without site disruption

Optional Accessories:

- Surface mount matching backbox
- Extended alignment bracket
- Remote Test Station

Description

Single Unit Design. A single unit houses both an infrared transmitter and receiver. The transmitter signal is reflected by a matching prism back to the receiver where the internal microprocessor analyzes it for the presence of smoke. An alarm condition is determined when the selected sensitivity level is reached.

Mounting. Detectors are mounted with the beam projecting between 1 ft (305 mm) and 2 ft (610 mm) below, and parallel to the ceiling. Lateral detection may be up to 30 ft (9.144 m) on either side of the beam, providing a maximum total coverage area of up to 19,800 ft^2 (60 ft x 330 ft or 18.288 m x 100 m).

50RU/100RU Reflective Beam Detector (shown without wall mount bracket) and LLC Remote Test Station

Description *(Continued)*

Application Note. Reflective beam smoke detectors may not be suitable for areas with highly reflective surfaces. Separate transmitter/receiver models may be required.

Engineering Specification

The projected beam type smoke detector shall be a 4-wire 12/24 VDC device to be used with a UL Listed separately supplied 4-wire control panel. Unit shall be listed to UL 268 and shall consist of an integrated transmitter and receiver. The detector shall operate between a range of 15 ft to 330 ft (5 m to 100 m). The temperature range of the beam shall be -4° F to 131° F (-20° C to +55° C) [UL 268 listed temperature range is 32° F to 100° F (0° C to 38° 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 calibrated obscuration test filter. The Reflective beam type smoke detector shall be a Fire Fighting Enterprises 50RU (160 ft/50 m) or 100RU (330 ft/100 m).

Beam Detector Spacing

On smooth ceilings, up to 60 ft (18.288 m) between reflective beams and not more than one-half the spacing between a reflective beam and a sidewall. Other spacing may be used depending on ceiling height, airflow characteristics, and response requirements.

Refer to NFPA 72 and Installation Instructions supplied with unit for further information.

* Listings are by Fire Fighting Enterprises. Refer to CSFM 7260-1508:102; and MEA 70-02-E. This product was not approved by FM as of document revision date.

Ordering Information

Ordering Number	Model	Description
0206.02	50RU	Reflective beam smoke detector; 160 ft (50 m) maximum distance
0206.03	100RU	Reflective beam smoke detector; 330 ft (100 m) maximum distance
0400-01	LLC	Remote Test Station/Low Level Controller (0400); single gang mount; provides remote Power-on LED, Alarm LED, and remote Alarm Test
23901.01	23901	Replacement Prism; Note; Model 100RU uses 4 prisms, Model 50 RU uses 1 prism
0608.01	0608	Surface mount matching backbox
0893.01	0893	Extended Alignment Bracket, allows up to +/- 45° adjustment for either detector or prism
1000-020	NA	Optional Protective Wire Cage

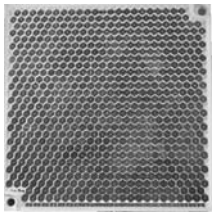
Internal Ordering Note: These products can be found in Job Design under the Air Products OP category OPFFE.

Additional Product Details (not shown to scale)

Beam Detector on Surface Mount Backbox, shown with optional 1000-020 Wire Cage

Extended Alignment Bracket

Prism Reflector



Specifications

Construction Specifications

Housing	Flame Retardant ABS; IP rating = IP50
Finish	Grey/Black
Dimensions, housing only	8-1/4” H x 4-3/4” W x 4-1/2” D (210 mm x 121 mm x 114 mm)
Dimensions, with bracket	8-1/4” H x 5” W x 4-3/4” D (210 mm x 126 mm x 121 mm)
Prism Dimensions	3-15/16” square x 3/8” D (100 mm x 9.5 mm) each; one is used by the Model 50RU; four are used by the Model 100RU
Manufacturer	Fire Fighting Enterprises (A Halma Group Company); website: www.ffeuk.com/

Electrical Specifications

Input Voltage	10.2 to 30 VDC
Standby Current	4 mA @ 24 VDC
Alarm Current	15 mA @ 24 VDC
Alarm and Trouble Relays	Dedicated, separate Form C relays, rated 1 A @ 30 VDC resistive
Wiring Method	Pluggable connector with attached wire leads
Optical Wavelength	880 nm

Operating Specifications

Startup Time		10 seconds
Reset Time		5 seconds maximum
Sensitivity		25%, 35%, or 50% obscuration
Operating Distance	50RU	15 ft to 160 ft (5 m to 50 m)
	100RU	160 ft to 330 ft (50 m to 100 m)
Status Indicators		Alarm = Red LED
		Trouble = Amber LED
Alarm Types		Select latching or non-latching operation
Trouble Conditions		Improper setup alignment; 90% or more obscuration
UL Listed Temperature Range		32° F to 100° F (0° C to 38° C)
Operating Temperature Range		-4° F to 131° F (-20° C to 55° C)
Relative Humidity		10 to 93% RH, non-condensing