Reflective Beam

Smoke Detector



Description

Gamewell's reflective beam smoke detectors (72223-160 or 72223-330) are a single infrared transceiver and a reflective prism. 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 is reached. The system is designed to be mounted so that the beam will project between 1 foot (0.305 m) and 2 feet (0.61 m) below and parallel to the ceiling. Lateral detection may be up to 30 feet (9.144 m) to either side of the beam, providing a maximum total area coverage of up to 19,800 square feet (60' x 330' or 18.288 m x 100 m).

Engineer's Specifications

The projected beam type smoke detector shall be a four-wire 12/24 VDC device to be used with UL-Listed, separately supplied, four-wire control panels only. 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 to 330 ft. (4.572 to 100 m). The temperature range of the beam shall be –22°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 lenses. The unit shall include a wall-mounting bracket. Testing shall be carried out using a calibrated test filter. The projected beam type smoke detector shall be Gamewell model 72223-160 (160 ft./18.288 m) or 72223-330 (330 ft./100 m).

Smoke Detector Spacing

On smooth ceilings, up to 60 ft. (18.288 m) 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.

Features

- Models for ranges of:

  15 to 160 ft. (4.572 to 48.768 m)

  160 to 330 ft. (48.768 to 100 m)
- Easy alignment.
- Calibrated obscuration test filters included.
- Selectable alarm thresholds: 25%, 35%, 50%.
- Microprocessor controlled.
- Low current draw.
- Selectable automatic reset.
- Automatic gain control.
- 12 VDC or 24 VDC operation.
- Status LEDs.
- Separate trouble contacts.

Listings

Listings and approvals below apply to the Reflective Beam Smoke Detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL Listed:

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Operational Specifications

Fault condition (trouble).

90% or more obscuration.

Automatic gain control limit.

Improper initial alignment.

Integral alignment aid: prism targeting mode.

Alarm indicator: red LED.

Trouble indicator: green LED.

Ordering Information

72223-160	Reflective beam smoke detector, 160 ft. (48.768 m) (50R).
72223-330	Reflective beam smoke detector, 330 ft. (100 m) (100R).
72224	Replacement prism.

Specifications

Primary input power
10 to 30 VDC maximum.

Standby
0.004 A maximum.

Alarm current
0.014 A maximum.

Relay contacts
0.5 A at 30 VAC/VDC.

Reset time
5 seconds maximum.

Standby current
0.040 A.

Start-up time
10 seconds.

Optical wavelength
880 nm.

Temperature rating
–22°F to 131°F (–30°C to 55°C).

Relative humidity
10 to 93% RH non-condensing.

Dimensions
8.25" H x 4.5" W x 4.75" D (cm: 21.0 H x 11.43 W x 12.065 D).

Finish
Gray/black.

Weight
1.5 lbs. (0.68 kg).

Range
15 ft. to 330 ft. (m: 5 to 100).

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The Gamewell Company
12 Clintonville Road
Northford, CT 06472-1610
Phone: 203-484-7161
Fax: 203-484-7118
www.gamewell.com

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