

OSI-RI-FIK Intelligent Optical Beam Smoke Detector

The OSI-RI-FIK intelligent addressable reflector-type linear optical beam smoke detector is uniquely suited for protecting large open areas with high ceilings where spot-type smoke detectors are difficult to install and maintain. Ideal applications are warehouses, malls, aircraft hangers, arenas, and concert halls. The beam operates primarily on the principle of light obscuration using infrared. The OSI-RI-FIK detector is a combined transmitter/receiver and is compatible with the Fike FCP Series Fire Alarm Control Panels (FACPs).



Fast and Easy Alignment

Aligning the imager to the reflector is highly intuitive, fast, and accurate, thanks to the CMOS imager contained in a movable “eyeball” that can move vertically and horizontally. Four LED arrows help the user find the imager’s perfect alignment with the reflector. Once the optimum alignment is found, indicated by all green arrows, the lens is locked with a slide lever. A paintable cover is then placed over the front to secure the lever in the locked position.



Resistant to Building Movement, Sunlight, and Foreign Object Intrusion

The receiver imager automatically tracks the reflector in case of building movement or support structure movement. This allows the OSI-RI-FIK to be highly resistant to movement, eliminating the number one cause of false alarms and/or faults with traditional beam detectors.

Optical filtering, high-speed image acquisition, and intelligent software algorithms provide the system with highly improved resistance to false alarms from sunlight, reflected sunlight, or other very bright light sources. Advanced smoke imaging techniques allow the detector to avoid false alarms from partial and sudden blockage from foreign object intrusion.

Time-saving Automatic Sensitivity Setting

Unique in the market, the detector's sensitivity is selected and set automatically at the optimum sensitivity based on the size of the reflector measured in the field of view.

Drift Compensation

The detector will adjust its detection thresholds in line with any long-term signal reduction of the beam caused by dust or other optical surface contamination.

Equipped with Built-in Imager Heater

The imager ships standard with an internal heating option to prevent condensation on the optical surface. (External power supply required.)

FEATURES

- Combined transmitter/receiver unit
- Wide 12° field of view
- Fast, easy, and intuitive beam alignment indicated by LED directional arrows
- 50° horizontal and 20° vertical beam adjustment
- Long-range coverage of 16-328 ft (5-100m) is standard; no separate long-range kit required
- Automatic sensitivity threshold level setting
- Resistant to building movement; tolerates $\pm 1^\circ$ movement
- Resistant to strong light sources; does not alarm when saturated by sunlight
- Resistant to solid object intrusion
- Remote test station capable of electronic simulated smoke test from ground level
- Status LED indicators visible from the front and bottom
- Automatic drift compensation
- Paintable housing/cover
- Removable plug-in terminal blocks
- Built-in imager heater
- Optional reflector heater kit available

APPROVALS

- UL Listed
- Factory Mutual Approved
- CSFM

For exact certification listings, please reference the respective agency website.

ORDERING INFORMATION

Part Number	Description
OSI-RI-FIK	Intelligent imaging beam smoke detector (includes reflector)
OSP-002	Laser alignment tool
OSP-004	Test filter, ten-pack
RTS151	Remote test station
RTS151KEY	Test and reset station with key lock (flush mount)
BEAMHKR	Heater kit for the reflector
6500-MMK	Multi-mount accessory for ceiling or wall mounting with additional mounting adjustment

SPECIFICATIONS

PHYSICAL	
Detector Dimensions (HxWxD):	6" x 10" x 4.5" (152.4 x 254 x 114.3 mm)
Reflector Dimensions (HxW):	9.06" x 7.87" (230 x 200 mm)
Weight (installed):	2.48 lbs (1.12 kg)
Weight (shipping):	3.91 lbs (1.77 kg)
Wire Gauge for Terminals:	14 AWG (2.08 mm ²)
ELECTRICAL (OSI-RI-FIK)	
Operating Voltage:	Nominal: 24 VDC Minimum: 15 VDC Maximum: 32 VDC
Maximum Standby Current:	13 mA @ 32 VDC 14 mA @ 24 VDC 20 mA @ 15 VDC
Maximum Alarm Current (LED on):	22 mA @ 32 VDC 15 mA @ 24 VDC 22 mA @ 15 VDC
Maximum Devices per SLC Loop:	OSI-RI-FIK devices are limited due to SLC loop current draw restrictions. Standby current can be up to 20 mA per detector and alarm current of 22 mA. This limits customers to 5 detectors per loop on Fike panels. <ul style="list-style-type: none"> • 6700: 100 mA normal operating current • 6808: 150 mA normal operating current • 6820: 150 mA normal operating current
ELECTRICAL (BEAMHKR)	
Voltage Range:	15 to 32 V
Maximum Current:	450 mA max @ 32 V
Power Consumption:	7.7 W @ 24 V 15 W @ 32 V
ELECTRICAL (RTS151KEY)	
Voltage Range:	10.2 to 32 VDC
Current Range:	9 mA min to 11 mA max
ENVIRONMENTAL	
Operating Temperature Range:	32°F to 100°F (0°C to 37.8°C)
Application Temperature Range:	-4°F to 131°F (-20°C to 55°C)
Humidity:	0% to 95% RH, non-condensing
Mounting:	4-inch square electrical box with 2-1/8" min. depth SMB500 surface mount electrical box

OPERATIONAL SPECIFICATIONS

Protection Range:	16 ft to 328 ft (5 m to 100 m)
Adjustment Angle:	20 degrees vertical, 50 degrees horizontal
Sensitivity Levels:	Level 1 25%, Level 2 30%, Level 3 40%, Level 4 50%
Test/Reset Features:	Local alarm test switch, local alarm reset switch, remote test and reset switch (compatible with RTS151 and RTS151KEY test stations), OSID-R test filter.
Smoke Detector Spacing:	On smoke ceilings, 30 – 60 feet 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 the ceiling height, airflow characteristics, and response requirements. See NFPA 72.