BEAM1224(S) Conventional Single-ended Reflected Type Beam Smoke Detector



Model BEAM1224 (S) is uniquely suited for protecting open areas with high ceilings — areas where other methods of smoke detection are difficult to install and maintain.

Features

- 16- to 328-foot protection range
- Single-ended, reflective design
- User-friendly alignment procedure
- Six user selectable sensitivity levels
- Optional integral NFPA 72 sensitivity test feature
- Removable plug-in terminal blocks
- Digital display for easy alignment
- Built-in automatic gain control compensates for signal deterioration from dust build-up
- Remote test station option
- Paintable cover
- Easiest alignment in the industry
- Heater kits for transmitter/receiver and reflector option

Agency Listings

CS308

79.1

S911

APPROVED 3017888

7260-1653:0168

MSFM approved 2165

System Sensor Model BEAM1224 is a four-wire conventional reflected beam smoke detector, which is uniquely suited for protecting open areas with high ceilings, where other methods of smoke detection are difficult to install and maintain. It is to be used with UL Listed compatible control panels only. An advantage of this single-ended reflective design is that it is much easier to install than the dual-ended projected beam detectors. Alignment is quickly accomplished via an optical sight and a two-digit signal strength meter incorporated into the product. Another advantage of the BEAM1224 is that it is listed for operation in temperatures ranging from –22°F to 131°F. This means it can be used in open areas to provide early warning in environments where temperature extremes may exceed the capability of other types of smoke detectors.

BEAM1224 consists of a transmitter/receiver unit and a reflector. When smoke enters the area between the unit and the reflector, the smoke causes a reduction in the signal. When the smoke level reaches the predetermined threshold, an alarm is activated.

BEAM1224 has four standard sensitivity selections, along with two Acclimate™ settings (adjustable sensitivity). When one of the two Acclimate settings is selected, the detector will automatically adjust its sensitivity using advanced software algorithms to choose the optimum sensitivity for the specific environment.

BEAM1224S is also equipped with an integral sensitivity test feature, which consists of a test filter attached to a servo motor inside the detector optics. When the remote test station RTS451 /RTS151 is used, the motor is activated and moves the filter into the pathway of the light beam, to test the detector's sensitivity. This integral sensitivity test feature allows the user to quickly and easily meet the annual maintenance and test requirements of NFPA 72.

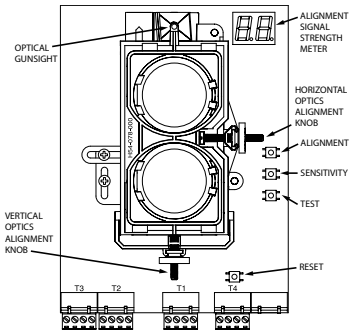
BEAM1224(S) Specifications

Operational Specifications	
Protection Range	16 ft. to 328 ft. (5m to 100m)
Adjustment Angle	+/– 10 Degrees horizontal & vertical (The optics move independent of the unit)
Sensitivity Levels	Level 1 – 25% Level 2 – 30% Level 3 – 40% Level 4 – 50% Acclimate Level 1 – 30–50% Acclimate Level 2 – 40–50%
Fault Condition (Trouble)	96% or more obscuration blockage In alignment mode Improper initial alignment Self-compensation limit reached
Alignment Aid	Optical gunsight Integral signal strength indication 2-digit display
Alarm Indicator	Local red LED and remote alarm
Trouble Indicator	Local yellow LED and remote trouble
Normal Indicator	Local flashing green LED
Test/Reset Features	Integral Sensitivity Test Filter (BEAM1224S only) Sensitivity filter (Incremental scale on reflector) Local alarm test switch Local alarm reset switch Remote test and reset switch (Compatible with RTS451 /RTS151 and RTS451KEY /RTS151KEY test station)
Smoke Detector Spacing	On smooth 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 ceiling height, airflow characteristics, and response requirements. See NFPA 72.

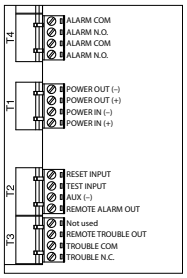
Environmental Specifications	
Temperature	–22°F to 131°F (–30°C to 55°C)
Humidity	10–93% RH Noncondensing
Electrical Specifications	
Voltage	10.2 to 32 VDC (BEAM1224) 15 to 32 VDC (BEAM1224S) BEAM1224S should not be used with 12V power sources
Avg. Standby Current (24VDC)	17mA Max
Avg. Current During Testing	500mA Max
Avg. Alarm Current (24VDC)	38.5mA Max
Avg. Fault Current (24VDC)	8.5mA Max
Avg. Alignment Mode Current (24VDC)	28mA Max
Mechanical Specifications	
Detector Dimensions	10″H × 7.5″W × 3.3″D (254mm H × 191mm W × 84mm D)
Reflector Dimensions (16′ to 230′)	7.9″ × 9.1″(200 × 230mm)
Reflector Dimensions (beyond 230′)	15.7″ × 18.1″(400 × 460mm)
Electrical Specifications (BEAMHK)	
Voltage	15 to 32V
Current	92mA at 32V
Power Consumption	1.6W @ 24V; 3W @ 32V

Electrical Specifications (BEAMHKR)	
Voltage	15 to 32V
Current	450mA Max at 32V (per reflector)
Power Consumption	7.7W @ 24V; 15W @ 32V (per reflector)

BEAM1224(S) Parts

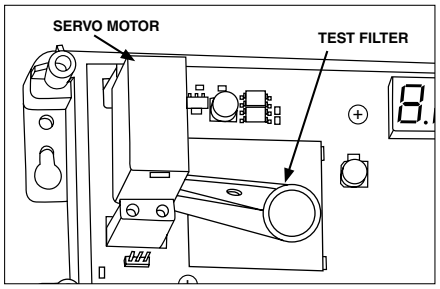


Wiring Terminals



Activated Test Feature

(BEAM1224S only)



Ordering Information

Part No.	Description
BEAM1224	4-wire conventional beam smoke detector with 8″reflector
BEAM1224S	4-wire conventional beam smoke detector with 8″reflector and integral sensitivity test
Accessories	
BEAMLRK	Long range accessory kit (3) additional reflectors (Required for applications in excess of 230 ft [70 m])
BEAMMMK	Multi-mount kit (Provides ceiling or wall mount capability with increased angular adjustment for either the beam or the reflector. When installed with the transmitter/receiver unit, BEAMSMK must be used as well)
BEAMSMK	Surface mount kit for use with BEAMMMK
6500-MMK	Heavy duty multi-mount kit (for installations prone to vibration or where there is difficulty in maintaining the set angle. When installed with the transmitter/receiver unit, 6500-SMK must be used as well)
6500-SMK	Surface mount kit for use with the 6500-MMK
BEAMHK	Heater kit for transmitter/receiver unit (See electrical requirements above)
BEAMHKR	Heater kit for reflector (See electrical requirements above)
RTS451KEY / RTS151KEY	Remote test station with key lock
RTS451 /RTS151	Remote test station

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