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

SYSTEM SENSOR®

Models Available

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. [70m])
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
RTS451	Remote test station used to initiate the NFPA sensitivity test function
RTS451KEY	Remote test station with key lock
BEAMHK	Heater kit for transmitter/receiver unit (See electrical requirements on back)
BEAMHKR	Heater kit for reflector (See electrical requirements on back)

Product Overview

16 to 328 foot protection range

Single-ended, reflective design

User friendly alignment procedure

6 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 optional

Paintable cover

Easiest alignment in the industry

System Sensor Model BEAM1224 is a 4-wire conventional projected beam smoke detector. It 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. Installation of the single-ended reflective design is much easier than the dual-ended projected beam detectors. Alignment is quickly accomplished via an optical sight and a 2-digit signal strength meter incorporated into the product. Listed for operation from –22°F to 131°F, BEAM1224 can be used in open area applications to provide early warning in environments where temperature extremes exceed the capability of other types of smoke detection.

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

BEAM1224 has four standard sensitivity selections along with two Acclimate settings. When either of the two Acclimate settings are selected the detector will automatically adjust its sensitivity using advanced software algorithms to select the optimum sensitivity for the specific environment.

BEAM1224S is equipped with an integral sensitivity test feature that consists of a test filter attached to a servo motor inside the detector optics. Using the remote test station RTS451, the motor is activated and moves the filter in the pathway of the light beam, thereby testing detector sensitivity. This integral sensitivity test feature allows the user to quickly and easily meet the annual maintenance and test requirements of NFPA 72.

UL LISTED S911 · FM APPROVED 3017888 · 7260-1209:228 · MEA approved 54-04-E · MSFM approved 2165

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 and RTS451KEY 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
(254mmH × 191mmW × 84mmD)

Reflector Dimensions (16′ to 230′)
7.9″ × 9.1″ (200 × 230mm)

Reflector Dimensions for (beyond 230′)
15.7″ × 18.1″ (400 × 460mm)

Electrical Specifications (BEAMHKR)

Voltage
15 to 32V

Current
450mA Max at 32V (per reflector)

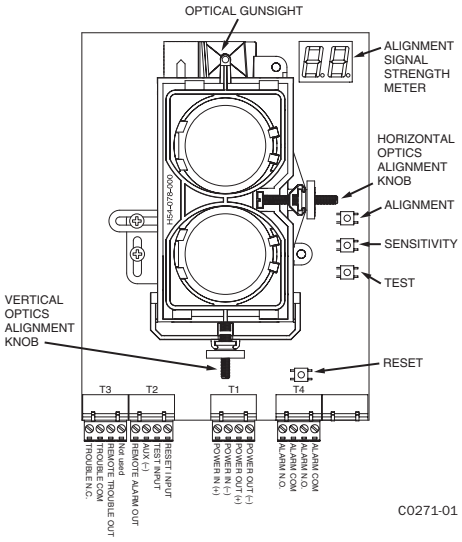
Power Consumption (Per reflector)
7.7W @ 24V; 15W @ 32V

Electrical Specifications (BEAMHK)

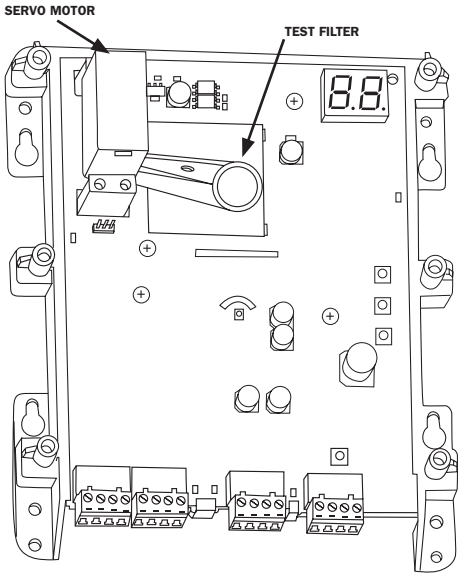
Voltage
15 to 32V

Current
92mA at 32V

Power Consumption
1.6W @ 24V; 3W @ 32V



Activated Test Feature (BEAM1224S only)



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