



# BEAM1224A(SA) Single-ended Reflected Type Beam Smoke Detector



*Model BEAM1224A 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



APPROVED  
3017888

**System Sensor Model BEAM1224A** 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 ULC 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 BEAM1224A is that it is listed for operation in temperatures ranging from  $-30^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ . 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.

BEAM1224A 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.

BEAM1224A 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.

BEAM1224SA 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 RTS151KEYA 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.

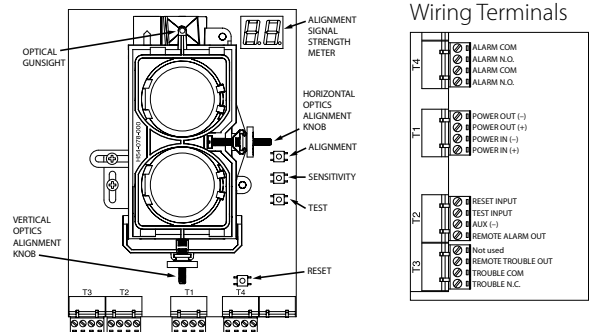
## BEAM1224A(SA) Specifications

Operational Specifications	
<b>Protection Range</b>	5m to 100m (16 ft. to 328 ft.)
<b>Adjustment Angle</b>	+/- 10 Degrees horizontal & vertical (The optics move independent of the unit)
<b>Sensitivity Levels</b>	Level 1 – 25% Level 2 – 30% Level 3 – 40% Level 4 – 50% Acclimate Level 1 – 30–50% Acclimate Level 2 – 40–50%
<b>Fault Condition (Trouble)</b>	96% or more obscuration blockage In alignment mode Improper initial alignment Self-compensation limit reached
<b>Alignment Aid</b>	Optical gunsight Integral signal strength indication 2-digit display
<b>Alarm Indicator</b>	Local red LED and remote alarm
<b>Trouble Indicator</b>	Local yellow LED and remote trouble
<b>Normal Indicator</b>	Local flashing green LED
<b>Test/Reset Features</b>	Integral Sensitivity Test Filter (BEAM1224AS only) Sensitivity filter (Incremental scale on reflector) Local alarm test switch Local alarm reset switch Remote test and reset switch (Compatible with RTS151KEYA test station)
<b>Smoke Detector Spacing</b>	On smooth ceilings, 9-18m (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 CAN/ULC S524.

Environmental Specifications	
<b>Temperature</b>	-30°C to 55°C (-22°F to 131°F)
<b>Humidity</b>	10–93% RH Noncondensing
Electrical Specifications	
<b>Voltage</b>	10.2 to 32 VDC (BEAM1224A) 15 to 32 VDC (BEAM1224AS) BEAM1224AS should not be used with 12V power sources
<b>Avg. Standby Current (24VDC)</b>	17mA Max
<b>Avg. Current During Testing</b>	500mA Max
<b>Avg. Alarm Current (24VDC)</b>	38.5mA Max
<b>Avg. Fault Current (24VDC)</b>	8.5mA Max
<b>Avg. Alignment Mode Current (24VDC)</b>	28mA Max
Mechanical Specifications	
<b>Detector Dimensions</b>	254mm H x 191mm W x 84mm D (10" H x 7.5" W x 3.3" D)
<b>Reflector Dimensions (16' to 230')</b>	200 x 230mm (7.9" x 9.1")
<b>Reflector Dimensions (beyond 230')</b>	400 x 460mm (15.7" x 18.1")
Electrical Specifications (BEAMHK)	
<b>Voltage</b>	15 to 32V
<b>Current</b>	92mA at 32V
<b>Power Consumption</b>	1.6W @ 24V; 3W @ 32V

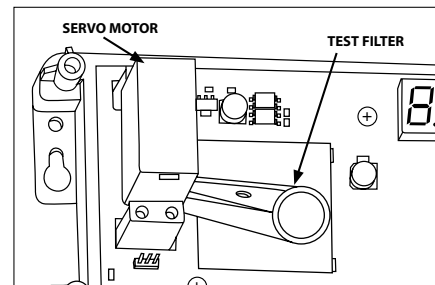
Electrical Specifications (BEAMHKR)	
<b>Voltage</b>	15 to 32V
<b>Current</b>	450mA Max at 32V (per reflector)
<b>Power Consumption</b>	7.7W @ 24V; 15W @ 32V (per reflector)

## BEAM1224A(SA) Parts



## Activated Test Feature

(BEAM1224SA only)



## Ordering Information

Part No.	Description
BEAM1224A	4-wire conventional beam smoke detector with 8" reflector
BEAM1224SA	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)
RTS151KEYA	Remote test station with key lock



6-6581 Kitimat Road • Mississauga ON, L5N 3T5  
Phone: 800-SENSOR2 • www.systemsensor.ca

©2011 System Sensor.  
Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.  
A05-0365-007-EN • 11/11 • #2453