

## CONVENTIONAL - Optical Smoke Beam Detector Model 6500R and 6500RS

### Overview

#### Features

- Combined transmitter and receiver unit
- Unique servo-operated test filter (6500RS)
- Range 5 – 100 metres
- 4 x fixed sensitivity/threshold levels
- 2 x automatic variable sensitivity modes
- Operates in the Infra-Red light spectrum
- Numerical indicators to aid beam alignment
- Standby, fault and alarm LED indicators visible from the front and bottom
- $\pm 10^\circ$  horizontal and vertical beam alignment
- Automatic drift compensation
- Complies to EN54 – 12:2002 (Amendment 1)
- Extended Warranty



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### Description

The 6500RS and 6500R are conventional reflector-type linear optical beam smoke detectors designed to operate as components of conventional fire alarm systems. They operate primarily on the principle of light obscuration utilising an Infra-Red beam. Optical beam smoke detectors are particularly appropriate for protecting buildings with large open spaces such as warehouses, atriums etc.

The 6500RS and 6500R detectors are combined transmitter/receiver units that can be directly connected to a conventional detector circuit. The Infra-Red transmitter generates a beam of light towards a high efficiency reflector. The reflector returns the beam to the receiver where an analysis of the received signal is made. The change in the strength of the received signal is used to determine the alarm condition. The 6500RS features Asuretest, the unique remote test capability that fully tests both the optics and the electronics of the device. An optical filter is automatically introduced in front of the optics, attenuating the returned beam and causing the unit to go into alarm.

Alignment of the detector is simplified with the aid of the detector's "gunsight" targeting device. Alignment of the detector with the reflector can then be "fine tuned" with the aid of a numerical signal strength indicator.

The sensitivity of the detector can be set to between 25% and 50% obscuration, providing application flexibility to suit the environment in which the detector will be installed. In addition to four fixed value alarm thresholds, there are two variable thresholds that automatically compensate for changes in the environment which could otherwise result in unwanted alarms while remaining within a known sensitivity range.

The detector incorporates automatic drift compensation, whereby the detector will adjust its detection thresholds in line with any long term signal reduction of the beam caused by contamination of the optical surfaces.

The detector can be adjusted up to  $10^\circ$  vertically and horizontally for alignment. Where greater angular adjustment is required, the multi-mount accessory enables the detector to move through  $28^\circ$  vertically and  $360^\circ$  horizontally when ceiling mounted or up to  $23^\circ$  vertically and  $90^\circ$  horizontally when wall mounted.

All System Sensor products are covered by our extended 3 year warranty.

## Architect/Engineer Specifications

6500R and 6500RS Conventional Optical Beam Smoke Detectors



### Installation Recommendations

Installation should be undertaken in accordance with recognised national or international standards and codes of practice. The recommendations detailed in our "Application Guide for Projected Beam Smoke Detectors" (A05-0095) should also be taken into consideration.

We would also recommend that simulated fire tests are conducted to ensure that the desired response time for a given

### Electrical Specifications

Operating Voltage Range	10.2 to 32VDC (12 or 24VDC nominal)*
Maximum Standby Current	17mA
Maximum Alarm Current (LED on)	38.5mA

### Environmental Specifications

Application Temperature Range	-30°C to +55°C
Humidity	0 to 95% Relative Humidity (non condensing)
IP Rating	IP54

### Mechanical Information

Height	254mm, BEAMSMK backbox 230mm
Diameter	84mm
Width	Detector 190mm, BEAMSMK backbox 178mm
Weight	1.77kg
Max Wire Gauge for Terminals	2.5mm <sup>2</sup>
Colour	White trim, black box
Material	Trim - Bayblend FR110, Lens cover - Lexan, Backbox - Noryl
Reflector	200 x 230mm (5 – 70m range, supplied as standard)

### Product Range

Accessories	
BEAMLRK	Long Range reflector kit (70 – 100m range).
BEAMMMK	Multi-mount accessory for ceiling or wall mounting with additional mounting adjustment (BEAMSMK also required).
BEAMSMK	Surface Mount accessory
BEAMHK	Heater kit for the beam
BEAMHKR	Heater kit for the reflector

\*6500RS requires 15V supply to operate Asuretest (Remote test capability)

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Installation information: in order to ensure full functionality, refer to the installation instructions as supplied.