LPB-700 / LPB-700T

Loop Powered Beam Sensor

Section: Intelligent/Addressable Devices

FEATURES

- **Combined transmitter and receiver unit**
- **Connects directly to the analogue addressable loop**
- **Range 10-100 metres**
- **4 fixed sensitivity/ threshold adjustment**
- **2 automatic variable sensitivity modes**
- **Numerical indicators to aid beam alignment**
- **Fault and alarm LED indicators**
- **Integral horizontal and vertical beam alignment**
- **Drift compensation**
- **Complies with EN54-12**
- **Unique servo operated test filter (LPB-700T)**
- **3 year warranty**

GENERAL

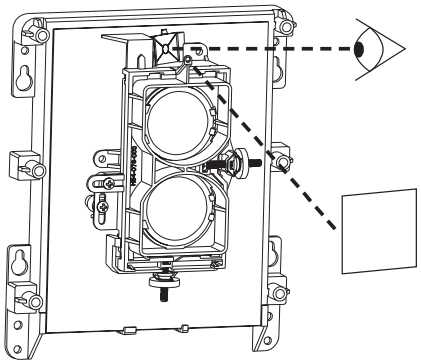
The LPB-700 and LPB-700T are intelligent reflector type linear optical beam smoke detectors designed to operate as a component of an intelligent fire alarm system. It operates primarily on the principle of light obscuration utilising infra-red light. Optical beam smoke detectors are particularly appropriate for protecting buildings with large open spaces such as warehouses, atriums etc.

The LPB-700 and LPB-700T detectors are combined transmitter/receiver units, which can be directly connected to an analogue addressable loop without the need of a separate local power supply (LPB-700T requires 24Vdc @ 0.5A when using the servo test feature). 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.

INSTALLATION

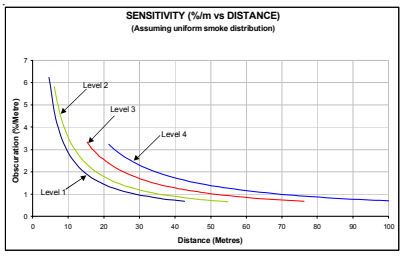
Each beam detector set is supplied with a reflector for up to 70 Metres measuring just 20cm's x 23cm's. A kit comprising of 3 additional reflectors is also available, extending the range to 100 Metres.

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.

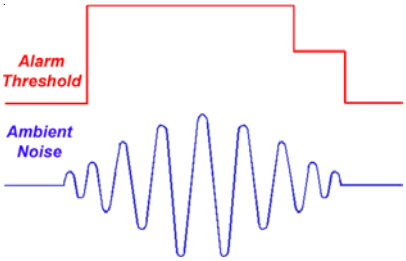


Testing of beam detectors when positioned at height presents some interesting challenges. The LPB-700T features a unique remote test capability that fully tests both the optics and the electronics of the device. An optical filter is automatically introduced in front of the optics, attenuating the returned beam and causing the unit to go into alarm. This allows a test facility to be placed at low level, negating the requirement to gain access to the typically high level beam to perform routine testing.

The sensitivity of the detector can be set to between 25% and 50% obscuration, providing application flexibility to suit the environment and protected distances in which the detector will be installed.



In addition to the four fixed value alarm thresholds, there are two variable thresholds that automatically compensate for changes in the environment. These changes, for which the beam detector adjusts, could otherwise result in unwanted alarms whilst it remains within a known sensitivity range. The beam detector uses advanced algorithms to sample the environment and to adjust its sensitivity and alarm thresholds automatically. This provides optimum sensitivity within an unstable environment.

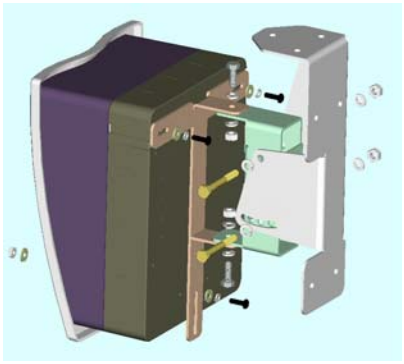


The detector incorporates automatic drift compensation, whereby the detector will adjust its detection thresholds in line with any long term signal reduction of the beam caused by contamination of the optical surface.

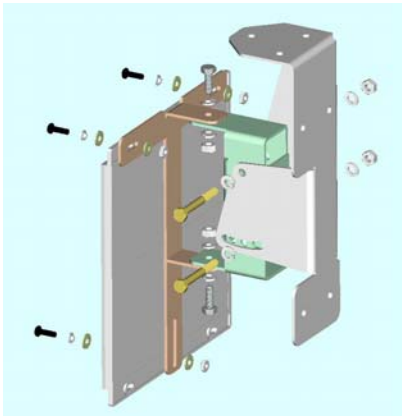
The beam detectors are supplied with optional in built isolation that may be selected on each individual device.

The detector can be adjusted up to 10° vertically and horizontally for alignment. Where greater angular adjustment is required, the multi-mount accessory enables the detector to be adjusted further. The Surface Mount Kit must also be used for this configuration.

Detector Mounting



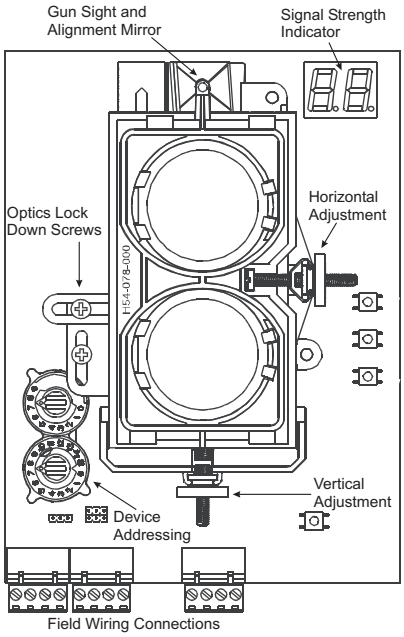
Reflector Mounting



SPECIFICATIONS

- **Dimensions**
  - ✓ Height: 254mm
  - ✓ Depth: 84mm
  - ✓ Width: 90mm
  - ✓ Weight: 1.77Kg
- **Current Consumption**
  - ✓ Typical Standby : 2mA @ 24Vdc (No communications, LED off)
  - ✓ Maximum Alarm Current (LED on) : 8.5mA
- **Operating Voltage**
  - ✓ Operating Voltage Range : 15 to 32Vdc (24Vdc Nominal)
- **Environmental Limits**
  - ✓ Operating Tempurature Range : -30°C to +55°C
  - ✓ IP Rating : IP54
  - ✓ Humidity : 0% to 95%, non-condensing relative humidity

KEY INTERNAL FEATURES



ORDERING INFORMATION

Part No.	Description
LPB-700	Loop powered reflective IR beam, complete with reflector for up to 70 metres. Use BEAM-LRK for 70 to 100 metres.
LPB-700T	Loop powered reflective IR beam with servo test feature, complete with reflector for up to 70 metres. Use BEAM-LRK for 70 to 100 metres.

Accessories:

BEAM-SMK	Surface Mount Kit for IR reflective beam. Allows direct surface cable entry.
6500-MMK	Multi Mount Kit for IR reflective beam. Provides ceiling and wall mount swivel bracket. Note : requires BEAM-SMK.
BEAM-LRK	Long range reflector kit for 70 to 100 metres.

BEAM-SMK

Wiring Diagram