

# SHIELD<sup>®</sup>

TRUSTED WORLDWIDE

## BEAM DETECTOR

- ALPHA 1000
- ALPHA 3000
- ALPHA 5000



SIGNALING



LISTED



LISTED

S-C1050 / S-C1100

**Alpha 1000 Reflective Beam Detector**



**Description**

The system comprises of a single unit incorporating an infrared transmitter and receiver. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level is reached.

The system is designed to be mounted so the beam will project between 0.5 m and 0.6 m below and parallel to the ceiling. Lateral detection may be up to 9.144m on either side of the beam, providing a maximum total coverage area of up to 19,800 square feet (18.29 m x 100 m).

**Standard Features**

- Easy set up and alignment.
- Single compact housing.
- Calibrated obscuration test filter included.
- Microprocessor controlled.
- Alarm latching or auto reset.
- Automatic gain control.
- 12 V DC or 24 V DC operation.
- Separate alarm and trouble contacts.
- Remote Test Station available.

**Technical Data**

Primary Input Power	10.2 to 30 V DC
Standby Current	4 mA @ 24 V DC
Alarm Current	15 mA @ 24 V DC
Relay Contacts	1A at 30 V DC Resistive
Reset Time	5 Seconds Maximum
Start Up Time	10 Seconds
Optical Wavelength	880 nm
Relative Humidity	10% to 93% RH Non-condensing
Housing	Flame Retardant ABS
IP Rating	IP50
Finish	Grey/Black
Range	S-C1050 (5 m to 50 m) S-C1100 (50 m to 100 m)
Temperature Rating	-20°C to +55°C 0°C to +38°C
Sensitivity	25%, 35%, 50%
Dimensions (L x W x D)	210 mm x 126 mm x 120 mm
Weight	0.67 Kg

\*(UL approved continuous operating range)

**Ordering Information**

S-C1050	Reflective Beam Smoke Detector 50 m
S-C1100	Reflective Beam Smoke Detector 100 m
S-C1002	Surface Mount Back Box
S-C1003	Surface Mount Wall Bracket

Note: Specifications are subject to change without notice

**S-C3001**



**Alpha 3000 End to End Beam Detector**

**Description**

The SHIELD Alpha 3000 End to End infrared Optical Beam Smoke Detector (OBSD) has been designed using the latest optical technology, incorporating modern industrial, electronic and software techniques. This detector offers cost effective protection of large, open area spaces with high ceilings. It is also very suited to applications where access to ceiling mounted smoke detectors presents practical difficulties.

The SHIELD Alpha 3000 is ideal for applications where line of sight for the IR (infrared) detection path is narrow and where the building structure uses reflective surfaces. It has also been designed to be aesthetically pleasing and thus can equally suit modern architectural buildings as well as historical sites, particularly where ornate ceilings exist.

**Standard Features**

- Separate Transmitter and Receiver Heads.
- Range 5 m to 120 m, configurable per set of Detectors.
- Lateral Spacing per NFPA 72 is 18 m.
- Integral Laser Alignment in Receiver.
- 2-wire Interface between Controller and Receiver.
- Single and Twin Channel capability.
- Separate Fire and Fault Relays per Detector.
- Low Level Controller with LCD display.
- Programmable Sensitivity and Fire Threshold.
- Automatic Gain Control (AGC) for drift compensation.
- Built-in electronic UL/ULC obscuration-acceptance fire test.
- Knockouts for ease of installation and wiring .
- Optional Transmitter powering from Controller.

**Technical Data**

Operating Range	5 - 120 m
Operating Voltage Range	12 to 36 V DC
Operating Controller Current (with 1 or 2 receivers)	14 mA (constant)
Operating Transmitter Current	8 mA (per transmitter)
Power Down Reset Time	>20 Seconds
Fire and Fault Relay Contacts	Resistive VFCO 2A @ 30 V DC
Operating Temp. (non-condensing)	-20°C to +55°C
Optical Wavelength	850 nm
IP Rating	IP54
Relative Humidity (non-condensing)	93%
<b>Dimension (W x H x L) &amp; Weight</b>	
Control Unit	203 mm x 124 mm x 71 mm, 600 g
Transmitter & Receiver	78 mm x 77 mm x 161 mm, 200 g

**Ordering Information**

<b>S-C3001</b>	End To End Beam Detector Includes 1 x Transmitter, 1 x Receiver & 1 x System Control Unit
<b>S-C3002</b>	Additional Detector Pack (set of transmitter and receiver heads)
<b>S-C3003</b>	Alpha 3000 Adjustment Bracket
<b>S-C3004</b>	Alpha 3000 Surface Mount Adaptor

Note: Specifications are subject to change without notice

S-C5001



**Alpha 5000 Auto Align Beam Detector**

**Description**

The Alpha 5000 System is an auto-aligning, self-correcting infrared beam smoke detector. Upto 2 detector heads can report to a single ground level controller. In addition, each system controller houses two pairs of fire and trouble relays, one per detector. Once the detector head is installed, using the easyfit mounting system an integral LASER can be activated. This allows the reflective prism to be located quickly and with confidence.

The Auto-Align function ensures proper alignment and maximum signal during the beam installation. Auto Optimise automatically steers and maintains the beam in the optimum position for reliable performance. The signal generated in the transmitter element and reflected by the prism back to the receiver element is analyzed for the presence of smoke. The internal microprocessor determines an alarm condition when a predetermined level obscuration is reached.

**Standard Features**

- Upto 2 Detector Heads reporting to One Ground Level Controller.
- Built in Laser assisted prism mounting.
- Auto-Alignment 2 to 4 minutes per head.
- Auto Optimise: Auto-Correction due to building shift.
- Built-in electronic UL/ULC obscuration-acceptance fire test.
- Contamination compensation.
- Separate Trouble and Alarm relays for each of the 2 channels.
- Password protected settings.
- Programmable alarm thresholds: 10% - 60% in 1% increments.
- Programmable Fault and Alarm delay: 2-30 Seconds.

**Technical Data**

<b>Primary Input Power</b>	14 to 36 V DC
<b>Standby Current</b> <small>(depending on number of detector heads)</small>	Low Current : 5 mA to 8.5 mA @ 24 V DC High Current : 37 mA @ 24 V DC
<b>Alarm Current</b>	5 mA to 8.5 mA @ 24 V DC Depending On Number Of Detector Heads Used
<b>Relay Contacts</b>	1 A @ 30 V DC Resistive
<b>Reset Time</b>	5 Seconds Maximum
<b>Start Up Time</b>	45 Seconds
<b>Optical Wavelength</b>	850 nm
<b>Temperature Rating UL Listed</b>	0°C to 38°C
<b>IP Rating</b>	IP54
<b>Dimension (W x H x L) &amp; Weight</b>	
<b>Head</b>	134 mm x 134 mm x 131 mm, 1470 g
<b>Controller</b>	202 mm x 87 mm x 230 mm, 1470 g
<b>Prism</b>	100 mm x 9.5 mm x 105 mm

**Ordering Information**

<b>S-C5001</b>	Reflective Auto Align Beam Smoke Detector 8 m to 100 m ( 1 detector head, 1 controller and 1 prism )
<b>S-C5002</b>	Auto-aligning Optical Beam Smoke Detector 8-50 Range ( 1x TX/RX head, 1x system control unit & 1 prism )
<b>S-C5003</b>	Additional Detector Head TX/RX 100 m With 4 Prism
<b>S-C5004</b>	Additional Detector Head TX/RX 50 m With 1 Prism

Note: Specifications are subject to change without notice