TECHNICAL DATA SHEET

Alpha 2000

With no specialist tools or knowledge needed for installation and operation, the Alpha 2000 is a standalone beam detector that prioritises ease of installation.

Using the Alpha 2000, it couldn't be easier to bring the benefi ts of beam detection to your application:

- One Minute Auto-Alignment™ – just steer the laser onto the Reflector, then at the flick of a switch, it aligns itself. 8 times faster than previous detectors
- One person installation – everything can be done by one person
- One standalone product – no specialist tools required; minimal prior knowledge and training needed

Application	Challenge	Alpha 2000
Small warehouses	Cost effective protection	A standalone beam detector with all the benefits of Alpha 3000 Reflective beam detection
	Simple installation	Single point of wiring and commissioning
New buildings	Settling of the building can cause other beam detectors to misalign and result in nuisance alarms	Building Movement Tracking™ automatically compensates for natural building movement to continuously maintain alignment*

SIGNALING UL LISTED

Technical specification

Detection performance	
Detection range	0 to 50m 0 to 120m with Reflective Long Range Kit
Alignment method	Laser assisted, Auto-Alignment™. Manual alignment – optional setting
Auto-Alignment™ protocol	Background check, Box search, Adjust and Centre
Building Movement Tracking™	Compensates for natural shifts in alignment from building movement*
Contamination Compensation	Compensates for gradual build-up of contamination on the optical surfaces
Light Cancellation Technology™	Compensates for high levels of sunlight and artificial lighting
Optical wavelength – smoke detection	850nm near infrared (invisible)
Integrated laser – laser alignment	650nm visible. Class IIIa <5mW
Dynamic Beam Phasing	Allows beam detectors to be mounted facing each other with the reflectors in the middle. Eliminates false alarms caused by crosstalk between beams
Signal output	Individual Alarm and Fault relays (VFCO) 2A @ 30 VDC
Programmable user settings	
Alarm response threshold levels	25% (1.25dB) – Fastest response to smoke 35% (1.87dB) – Default value 55% (3.46dB) – High immunity to false alarms, slow response to smoke 85% (8.23dB) – Highest immunity to false alarms, slowest response to smoke Configured via the integrated user interface
Delay to Alarm	10 seconds, for momentary partial obstruction of the beam path
Delay to Fault	10 seconds, for momentary obstruction of the beam path
User features	
Integrated user interface	Alignment mode switch, alignment directional buttons and configuration switches for alarm response threshold
Alignment status indication	2 Green LEDs and 1 Yellow LED
System status indication	Normal operation – Green LED flashing every 10 seconds Alarm condition – Red LED flashing every 10 seconds Fault condition – Yellow LED flashing every 10 seconds for obscuration or every 5 seconds for contamination
Cleaning	Flat front face with enclosed optics. Cleaning the optics does not affect alignment

Design parameters	
Separation distance between Detector and Reflector	5 to 50m
	50 to 120m with Reflective Long Range Kit
Beam path clearance	1m in diameter from centre line between Detector and Reflector
Detector dimensions	Width 130mm x Height 181mm x Depth 134mm (see diagram)
Reflector dimensions	Up to 50m separation distance – Single reflector 100mm x 100mm x 9mm
Monitoring width	15m
Monitoring Length	120m
Monitoring Area	1800 sqm
	Up to 120m separation distance – Four reflectors arranged in a square pattern 200mm x 200mm x 9mm
Product weight	Detector – 0.7kg; Reflector – 0.1kg
Multi-detector arrangement	Dynamic Beam Phasing allows for Detectors to face each other with the reflectors in the middle
Housing colour	White RAL9016, UV stable
Lateral spacing between detectors	60ft (18.3m) maximum as per NFPA 72
Installation Height from floor level	25 to 40m

Electrical specifications	
Operating voltage	14 to 36 VDC
Operating current (constant) all operational modes	All operational modes – 5mA; Fast alignment mode – 33mA

Field wiring	
Cable gauge and type	2 core, dedicated, 0.5 to 1.6mm (24 to 14 AWG) System compatible with fireproof and non-fireproof cable meeting local installation standards
Cable entry	3 knock-out locations capable of accepting M20, ½" or ¾" glands 4 drill-out locations capable of accepting glands up to 21mm diameter
Test and maintenance Alarm test	Optical alarm test using Commissioning and Maintenance Kit accessory

Environmental specifications	
Operating temperature	-20 to+55°C
Storage temperature	-40 to+85°C
Relative humidity (non-condensing or icing)	0 to 93%
IP rating	IP55
Housing flammability rating	UL94 V0 polycarbonate

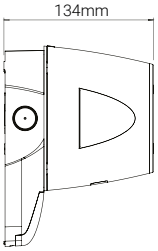
All figures are quoted for 25°C

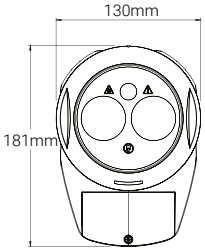
Optical specifications	
Fault level / Rapid obscuration (Δ ≤ 2 seconds)	≥85%
Maximum angular alignment of Reflective Detector	±4.5° (±70° with adjustment bracket accessory)
Maximum angular misalignment of Reflective Detector	±0.5°
Maximum angular misalignment of Reflector	±5°

Ordering information	
Part number	Description
Alpha 2000	120 m detection range beam detecter

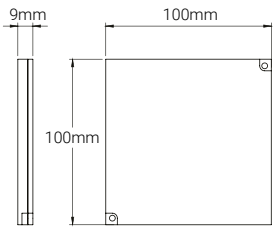
Dimensions

Alpha 2000

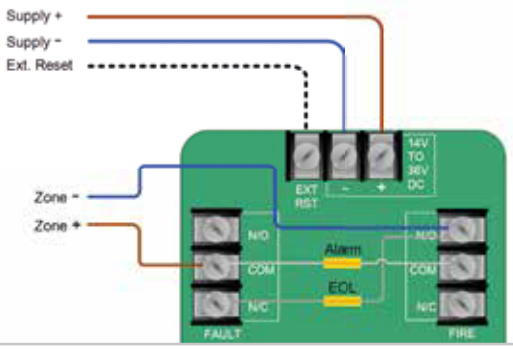




Reflector



Example wiring configuration



SHIELD FIRE, SAFETY & SECURITY LTD
Unit 3, Endeavour Drive, Basildon-Essex, SS14 3WF, United Kingdom
Tel: +44 1708 377731 Fax: +44 1708 347637, E-mail: Shielduk@shieldglobal.com www.shieldglobal.com