

Fire detection and evacuation solutions that save lives.

Fireray One Motorised Beam Detector

Description

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

Using the Fireray One, it couldn't be easier to bring the benefits of beam detection to your application;

- Auto-aligns – just steer the laser onto the Reflector, then at the flick of a switch, it aligns itself. Eight 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.



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Features

Detection Range	5 to 50m 50 to 120m with Reflective Long Range Kit.
Alignment Method	Laser Assisted, Auto-Alignment™. Manual alignment 3 lines.
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 TM	Compensates for gradual build-up of contamination on the optical surfaces.
Optical wavelength - smoke detection	850nm near infrared (invisible)
Integrated laser - laser alignment	650nm visible. Class 3R <5 mW
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 (VFC00 0.5 A @ 30 VDC)

Application

Challenge

Fireray One

Small Warehouses	Cost effective protection	A standalone beam detector with all the benefits of Fireray Reflective beam detection.
	Simple Installation	Single point of writing 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*

Approvals

Worldwide approvals include AS7240.12:2018, EN54-12, and UL268 certification

Item Numbers

4109-1005	Fireray One (EN)
220-0010	Long Range Reflective Prism Kit

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Electrical Specification

Operating Voltage	14 to 30 VDC
Operating current (constant) all modes	5 mA Fast alignment mode - 3mA

Environmental Specification

Operating Temperature	-20°C to +55°C (-4°F to +131°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Relative Humidity	0 to 93% non condensing or icing
IP Rating	IP55
Housing flammability rating	UL94 V0 polycarbonate

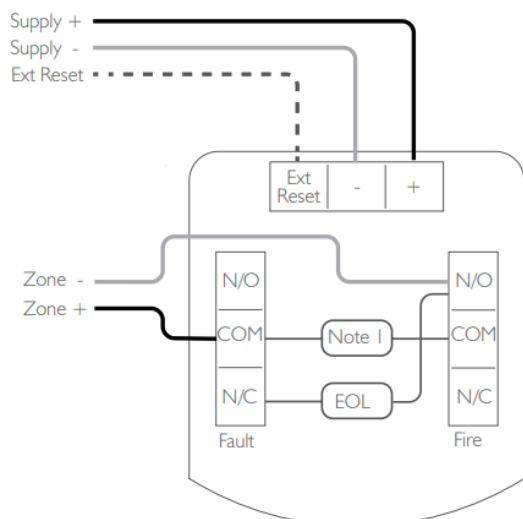
Test and Maintenance

Alarm test: Optical alarm test using Commissioning and Maintenance Kit accessory.

Optical Specification

Fault level/Rapid Obscuration ($\Delta \leq 2$ seconds)	$\geq 85\%$
Maximum angular alignment of Reflective Detector	$\pm 4.5^\circ$ ($\pm 70^\circ$ with adjustment bracket accessory)
Maximum angular misalignment of Reflective Detector	$\pm 0.5^\circ$
Maximum angular misalignment of Reflector	$\pm 5^\circ$

Example Wiring



Design Specification

Separation distance between Detector and Reflector	5 m to 50 m 50 m to 120 m with Long Range Kit
Beam path clearance	0.5 m radius from centre line between Detector and Reflector
Detector dimensions	181(h) x 130(w) x 134(d)mm
Reflector dimensions	Single reflector: 100(h) x 100(w) x 9(d) mm Four reflectors in a square pattern: 200(h) x 200(w) x 9(d) mm
Product weight	Detector: 0.7 kg Reflector: 0.1 kg
Housing colour	White RAL9016, UV stable
Cable gauge and type	2 core, dedicated, 0.5 to 1.6 mm System compatible with fireproof and non-fireproof cable meeting local installation standards
Cable entry	3 knock-out: M20, or glands 4 drill-out: 21 mm diameter

Programmable User Settings

Alarm Response Threshold	25% (1.25 dB) Fastest response to smoke 35% (1.87 dB) Default value 55% (3.46 dB) High immunity to false alarms, slow response to smoke 85% (8.23 dB) Highest immunity to false alarms, slowest response to smoke *Configured via the integrated user interface
Delay to alarm	10 seconds for momentary partial
Delay to fault	10 seconds for momentary obstruction of the beam path.
Integrated User Interface	Alignment mode switch, alignment directional buttons and configuration switches for alarm response threshold
Alignment Status Indication	2 Green LEDs and 1 Amber LED
System Status Indication	Normal – Green LED flashing every 10 seconds Alarm condition – Red LED flashing every 10 seconds Fault condition – Amber 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.