

Fireray One

Motorised Beam Detector

[EN] 6010-100 [UL/FM] 6010-300
[AS] 6010-500

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.



FEATURES	
Detection range	5 to 50 m (16½ ft to 164 ft). 50 to 120 m (164 ft to 394 ft) 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 ¹
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	850 nm near infrared (invisible)
Integrated laser – laser alignment	650 nm 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 (VFCO) 0.5 A @ 30 Vdc

APPROVALS	
Worldwide approvals include EN 54-12, UL 268, FM 3230 and AS7240.12	
Visit ffeuk.com for up-to-date approvals information.	

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 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 ²

ACCESSORIES	
1010-000	Fireray Prism (Long Range)
1150-000	Fireray Commissioning and Maintenance Kit
1170-000	Fireray Detector Adjustment Bracket
1100-000	Fireray One Protective Cage
1040-000	Fireray Prism Adjustment Bracket
1050-000	Fireray Prism Adjustment Bracket (Long Range)
1030-000	Fireray Prism Wall Bracket [White]
1031-000	Fireray Prism Wall Bracket [Black]
1060-000	Fireray One Detector Heater
1090-000	Fireray Prism Anti-condensation Heater [White]
1260-000	Fireray One Backbox

Patents:

Light Cancellation Technology™ Patent No. GB2513366

Dynamic Beam Phasing Patent No. GB2551546

Auto-Alignment™ Patent No. GB2551373

¹When mounted according to manufactures guidelines.

²Configured via the integrated user interface.

SCAN THE QR CODE
TO EXPLORE THE
FIRERAY PRODUCT RANGE



Fireray One Motorised Beam Detector

Datasheet

[EN] 6010-100 [UL/FM] 6010-300 [AS] 6010-500

DESIGN SPECIFICATION

Separation distance between Detector and Reflector	5 m to 50 m (16½ ft to 164 ft) 50 m to 120 m (164 ft to 394 ft) 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 (7"(h) x 5"(w) x 5¼"(d))
Reflector dimensions	Single Reflector: 100(h) x 100(w) x 9(d) mm (4"(h) x 4"(w) x ½"(d)) Four Reflectors in a square pattern 200(h) x 200(w) x 9(d) mm (8"(h) x 8"(w) x ½"(d))
Product weight	Detector: 0.7 kg (1½ lb) Reflector: 0.1 kg (¼ lb)
Housing colour	White RAL9016, UV stable
Cable gauge and type	2 core, dedicated, 0.5 to 1.6 mm (1/100" to 6/100") (24 to 14 AWG) System compatible with fireproof and non-fireproof cable meeting local installation standards
Cable entry	3 knock-out: M20, ½" or ¾" glands 4 drill-out: 21 mm (¾") diameter

ELECTRICAL SPECIFICATION

Operating voltage	14 to 30 Vdc
Operating current (constant) all modes	5 mA Fast alignment mode – 33 mA

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 (1150-000)

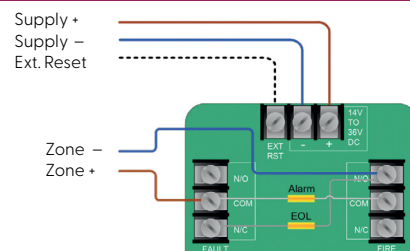
OPTICAL SPECIFICATION

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	$\pm 5^\circ$

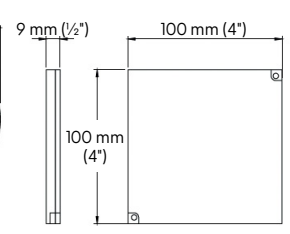
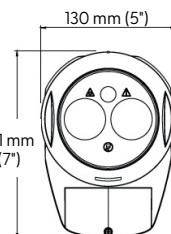
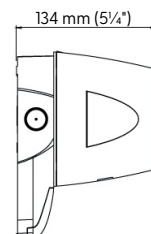
PROGRAMMABLE USER SETTINGS

Alarm response threshold levels	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 obstruction of the beam path
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.

EXAMPLE WIRING



FIRERAY ONE DIMENSIONS



REFLECTOR

INSTALLATION RECOMMENDATIONS

Please refer to our User Manual for mounting and wiring instructions. The installation of Fireray® beam detectors should be undertaken in accordance with recognised national or international standards and codes of practice.



FFE Limited, 9 Hunting Gate, Hitchin, Hertfordshire SG4 0TJ, UK
t: +44 (0) 1462 444 740 w: ffeuk.com

FFE Limited, 1455 Jamike Ave Ste 200, Erlanger, KY 41018-3147, USA
t: +1859 957 1570 w: ffeuk.com

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.
Document Part No: 24-0460-02