

## ▪ 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:

- 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	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

## ■ Technical Specifications

<b>Detection performance</b>	
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
<b>Programmable user settings</b>	
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
<b>User features</b>	
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 fl ashing every 10 seconds Alarm condition - Red LED fl ashing every 10 seconds Fault condition - Yellow LED fl ashing 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
<b>Design parameters</b>	
Seperation distance between Detector and Reflector	5 to 50m
	50 to 120m with Refl ective 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 refl ector 100mm x 100mm x 9mm 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
<b>Electrical specifications</b>	
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 fi reproof and non-fi reproof 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 ( $\Delta \leq 2$ 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	0 to 93%
Maximum angular misalignment of Reflector	$\pm 5^\circ$

## ■ Ordering Information

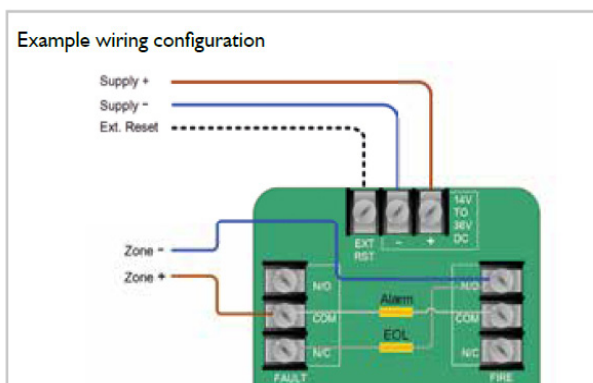
Part number	Description
VDOT-6010-100	Fireray One - 50m detection range
VDOT-1010-000	Reflective Long Range Kit - 120m detection range
Accessories	
VDOT-1150-000	Commissioning and Maintenance Kit
VDOT-1170-000	Reflective Detector adjustment bracket
VDOT-1100-000	Fireray One Protective cage
VDOT-1040-000	Single Reflector Adjustment Bracket
VDOT-1050-000	4 Reflector Adjustment Bracket
VDOT-1030-000	Reflector wall bracket - white
VDOT-1031-000	Reflector wall bracket - black
VDOT-1060-000	Fireray One Anti-condensation heater
VDOT-1090-000	Reflector Anti-condensation heater
VDOT-1260-000	Fireray One Back Box

## Approvals

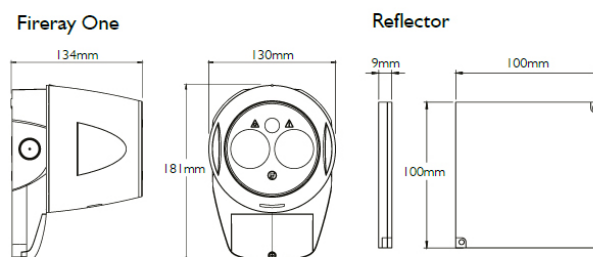
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## ■ Dimensions



All specifications are subject to change without any notice.  
For more information, contact with VELOCITY.



Zeta Alarms Limited  
72-78 Morfa Road, Swansea  
SA1 2EN  
Tel: +44 1792 455 175 FAX: +44 1792 455 176

Distributed By

<http://www.velocitydetection.com>

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