FIRERAY HUB REFLECTIVE

OPTICAL BEAM SMOKE DETECTOR SYSTEM

PRODUCT DATASHEET

Features

- Allows for 3 reflective detectors per system controller
- Laser-assisted, motorised Auto-Alignment from the system controller (optional manual alignment)
- Compensates for natural shifts in alignment from building movement
- Compensates for gradual build-up of contamination on the optical surfaces
- Compensates for high levels of sunlight and artificial lighting
- Beam detectors can be mounted facing each other with the reflectors in the middle
- Approvals include EN54-12 and UL268 7th edition

Product overview

The Fireray Hub Reflective system is a modular beam detection system that can be specified to suit a variety of demanding applications.

With built-in laser and motorized auto-alignment function, the Fireray Hub Reflective is easy to install and maintain. It automatically compensates for environmental effects such as dust, sunlight and building movement to keep false alarms and faults to a minimum. Due to the high enclosure integrity of the hub (IP65) and detectors (IP55), the system can be operated in dusty or wet environments.

The system is fully customisable with both the alarm thresholds (sensitivity) and delay to alarm/ fault being controlled from the ground level system controller, with an easy-to-use interface unit and backlit LCD display.

You can connect to and monitor up to three detector heads with independent fire and fault signals for each detector.

To quickly check system operation, you can initiate alarm tests. The event log with time and date stamps makes it easy to diagnose system faults.

Applications

- Industrial units and warehousing
- Aviation hangars
- Glass atria in hotels and retail complexes
- Education and heritage establishments
- Storage facilities
- Sports facilities

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Technical specification

Detection range	One reflector: 8 m to 50 m * Four reflectors: 50 m to 120 m
Optical wavelength - smoke detection	850 nm near infrared (invisible)
Integrated laser - laser alignment	650 nm visible, class 3R <5 mW
Signal output	Individual alarm and fault relays (VFCO) max. 1 A @36 Vdc for each detector
Design specification	
Beam path clearance	0.5 m radius from center line between detector and reflector
Maximum number of detectors per system controller	3 reflective Fireray detectors
System controller dimensions	170 (h) x 274 (w) x 73 (d) mm
Detector dimensions	131 (h) x 134 (w) x 131 (d) mm
Reflector dimensions	Up to 50 m separation distance - single reflector: 100 (h) x 100 (w) x 9 (d) mm Up to 120 m separation distance – four reflectors: 200 (h) x 200 (w) x 9 (d) mm
Product weight	System Controller 1.05 kg Detector 0.57 kg Reflector 0.06 kg
Housing colors	White RAL9016, UV stable Grey RAL7001, UV stable
Electrical specification	
Operating voltage	14 to 36 Vdc to the system controller
Operating current in standard alignment mode	12.5 mA with one detector 15 mA with two detectors 17.5 mA with three detectors
Fast alignment mode current	33 mA (during alignment, or when LCD backlight is active)
Environmental specification	
Operating temperature	-10 °C to +55 °C
Storage temperature	-40 °C to +85 °C
Relative humidity	0 to 93% non-condensing or icing
IP rating	Controller – IP65 Detector – IP55
Housing flammability rating	UL94 V0 polycarbonate

* For UL-approved installations, the minimum separation between detector and reflector is 10 m.

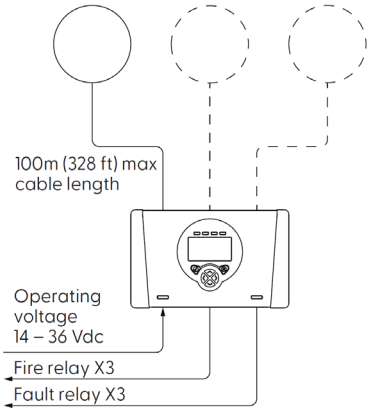
Optical specification	
Fault level	Signal dropping by >85% in <2 seconds
Max. angular alignment of detector	±4.5 ° (±70 ° with adjustment bracket accessory)
Max. angular misalignment of detector	±0.5 °
Max. angular misalignment of reflector	±5 °
Installation recommendations	
Wiring configurations (see diagrams)	Parallel mode – up to 3 detectors individually connected to the system controller Network mode – up to 3 detectors connected to the system controller on a single channel
Cable gauge and type	2-core, dedicated, 24 to 14 AWG (0.5 to 1.6 mm) System compatible with fireproof and non-fireproof cable meeting local installation standards
Maximum cable length between the system controller and detector	100 m maximum to furthest detector when in network mode
Cable entry – system controller	10 knock-out locations of 21 mm diameter for cable glands 10 drill-out locations of up to 21 mm diameter
Cable entry – detector	2 knock-out locations of 21 mm diameter for cable glands 2 drill-out locations of up to 21 mm diameter
Test and maintenance	
Alarm test	Remote detector fire test from the system controller
Event log with time and date stamps	Time and date stamped event log with event codes providing informed diagnostics of the system (128 per detector, 600 per system controller)

Part numbers

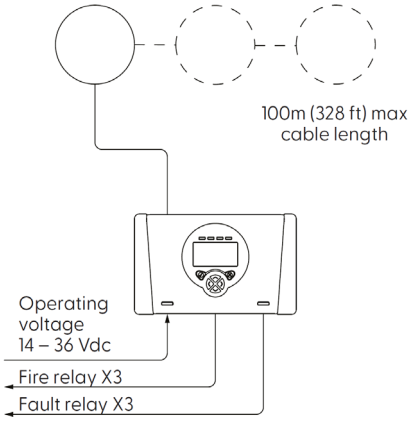
Part number	Description
116-6020-100	Fireray Hub Reflective System
116-6030-100	Fireray Hub Detector head

Example wiring

Parallel mode

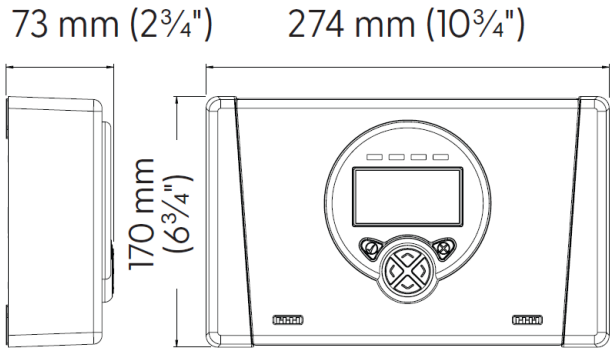


Network mode

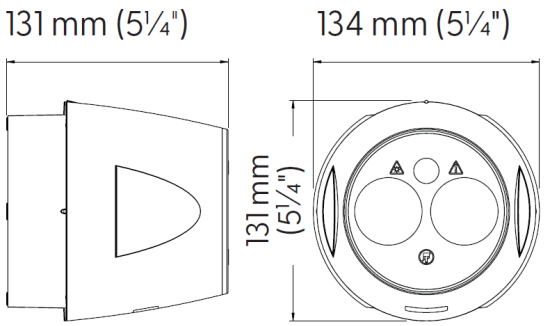


Dimension (mm)

System controller



Detector



Reflector