PERTRONIC INDUSTRIES LTD

DATASHEET

Fireray Hub Reflective

Overview

The Fireray Hub Reflective builds on the Fireray One technology, with the ability to align from ground level without the need for access equipment. Worldwide approvals include EN 54-12:2015 certification.

- The hub monitors up to three detector heads with fire and fault signals for each detector

- Auto-Aligns – just steer the laser onto the Reflector, which then aligns witht the flick of a switch

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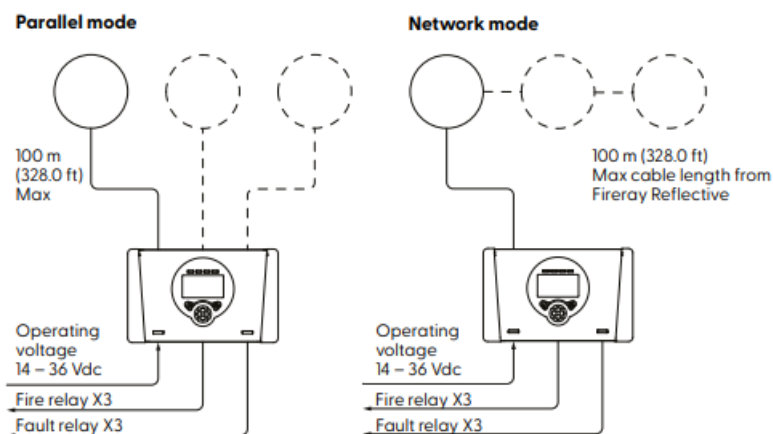
The Fireray Hub Reflective system

Features

- » A standalone beam detector with all the benefits of Fireray Reflective beam detection
- » Building Movement Tracking automatically compendates for natural building movement to continuously maintain alignment
- » Integrated user interface - Alignment mode switch, alignment directional buttons and configuration switches for setting the 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 5 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

Specification

Detection Performance	
Detection Range	0 to 50m
	50 to 120m with four reflectors
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 3R <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) 0.5A @ 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
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	131(h) x 134(w) x 131(d) mm
System Controller dimensions	170(h) x 274(w) x 73(d) mm
Reflector dimensions	Up to 50m separation distance – Single reflector 100mm x 100mm x 9mm
	Up to 120m separation distance – Four reflectors arranged in a square pattern 200mm x 200mm x 9mm
Product weight	System Controller - 1.05kg; Detector – 0.57kg; Reflector – 0.06kg
Housing colour	White RAL9016, UV stable; Grey RAL7001, UV stable
Electrical specifications	
Operating voltage	14 to 36 VDC
Operating current (constant) all operational modes	12.5 mA with one detector, 15 mA with two, 17.5 mA with three; Fast alignment mode – 33 mA (during alignment or when LCD backlight is active)
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 - System Controller	10 knock-out locations of 21mm diameter for cable glands. 10 drill-out locations of up to 21mm diameter
Cable entry - detector	Two knock-out locations of 21mm diameter for cable glands. Two drill-out locations of up to 21mm diameter
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

Wiring example

Dimensions
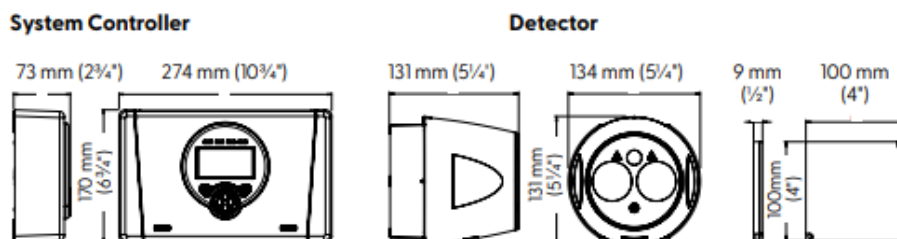
Ordering Information

Analogue Addressable Kit		
Product Code	**Description**	**FPANZ Listing**
FRHUBSYS	Fireray Hub System - includes one beam smoke detector, reflective prism and system controller	
FRHUBDET	Fireray Hub beam smoke detector head	
FRLRK	Fireray Long Range Reflector Kit (3 addtional reflectors) For 50m to 120m range	
FRLI	Fireray Loop Interface board to connect to M210EA-CZR	
M210EA-CZR	Analogue Addressable Interface Module	PI/672
M200E-SMB	Box to house FRLI and M210EA-CZR. To be mounted beside Fireray One	
FRTST	Test Filter. Graduated to test from 0% to 100% obscuration	

Conventional Zone Kit		
Product Code	**Description**	**FPANZ Listing**
FRLRK	Fireray Long Range Reflector Kit (3 addtional reflectors) For 50m to 120m range	
FRHUBSYS	Fireray Hub System - includes beam smoke detector, reflective prism and system controller	
FRHUBDET	Fireray Hub Auxialiary beam smoke detector	
FRTST	Test Filter. Graduated to test from 0% to 100% obscuration	

Additional Accessories	
Product Code	**Description**
FRDAB	Detector Adjustment Bracket
FRPRC	Protective Cage
FRSBB	Surface Black Box
FRACH	Anti-Condensation Heater