Fireray® 3000 Exd

Flameproof Optical Beam Smoke Detector

The Fireray® 3000 Exd is ideally suited for the protection of large areas, with potentially explosive atmospheres, against smoking fires. Fireray® 3000 Exd comprises an infrared transmitter and a receiver, both of which are ATEX-certified for use in Group 2 hazardous areas. There is a separate, safe area, wall-mounted remote/low level control unit to allow adjustment and testing from a convenient non-hazardous location.

The product is designed for large enclosures within oil rigs, refineries, ordnance stores and similar premises. It provides an early warning of smouldering or strongly smoke-generative fires, which may not be picked up by flame detectors installed in many hazardous areas.

Features

- Separate transmitter and receiver unit certified to Exd
- Allows for 2 Detectors per System Controller
- Range 10 to 80 metres, (33ft to 262ft) configurable per set of Detectors
- Integral Laser Alignment in Receiver
- 2-wire Interface between Controller and Receiver
- Separate Fire and Fault Relays per Detector
- Remote/low Level Controller with LCD display (Safe Area)
- Programmable Sensitivity and Fire/Fault delay
- Contamination Compensation for dust and building movement
- Multiple cable gland knockouts for ease of wiring
- Transmitter can be powered from Controller
- Complies with ATEX
- Light Cancellation Technology

Operation

The Transmitter head emits a narrow beam of infra-red light to an associated Receiver head. Once smoke crosses through and thus obscures the IR beam path, the signal strength at the Receiver drops below a preset level which in turn results in an alarm condition.

The Fireray® 3000 Exd has been designed so that it can be installed by one operator, with its laser assisted alignment method combined with easy to use alignment LEDs offering visual feedback. Integrated laser alignment aid can be activated at the Controller.

The Fireray® 3000 Exd also has a feature which allows for the Transmitter to be powered from the Controller by wiring directly, thus reducing the number of power supplies required.

The low level system Controller incorporates a LCD display, which offers a full icon-based, easy-to-use interface unit. This Controller enables ease of commissioning, testing and maintenance of the beam detection system. During commissioning the detector's fire sensitivity thresholds can be selected, along with the user variable time to fire and time to fault settings.

The system is fully compliant with the requirements of RoHS and WEEE.

The Fireray® 3000 Exd comes with a 5 year warranty as standard. With continued servicing and maintenance, the lifetime of the beam can exceed 10 years.

The Fireray® 3000 Exd comes supplied with a Cable Gland Type E (Double Compression for Armoured Cables), approved by VdS.

The "E" type double compression gland is a certified Flameproof Ex d, providing a controlled Exd seal on the cable inner sheath, an environmental seal on the outer sheath and a detachable armour specific clamping system for the wire armoured cables.

Approvals:

The Fireray® 3000 Exd complies with the ATEX directive.
Ex II 2GD   Ex db op is IIC T6 Gb
                 Ex tb IIIC T85°C Db
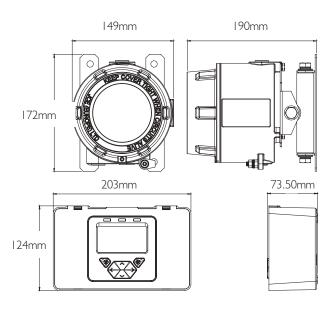
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Fireray® 3000 Exd

Technical Specification

Operating Range:	10 to 80 metres, (33ft to 262ft)
Operating Voltage Range:	12 to 36V DC ±10%
Operating Controller Current (with 1 or 2 Receivers):	14mA (constant)
Operating Transmitter Current:	8mA (per Transmitter)
Power Down Reset Time:	>20 seconds
Fire and Fault Relay Contacts:	VFCO 2A @ 30 Volts DC resistive
Operating Temp. (non-condensing):	-10°C to +55°C, (14°f to 131°f)
Optical Wavelength:	850nm
LED Indications:	
Control Unit -	Red = Fire
	Amber = Fault
	Green = System OK
Receiver -	Alignment LEDs for single person alignment.
IP Rating:	IP54 (Controller) IP66 (Transmitter/Receiver)
Relative Humidity (non-condensing):	93%
Parts List (System):	1 x Transmitter (clear lens)
	1 x Receiver (dark lens)
	1 x Control Unit
	1 x Fixing Kit
	2 x Brackets
Parts List (Additional Detector):	1 x Transmitter (clear lens)
	1 x Receiver (dark lens)
	1 x Fixing Kit
	2 x Brackets
Housing Material	
(Controller):	UL94 V2 PC
(Transmitter/Receiver):	Copper Free
	Aluminium Alloy LM25, red
(Bracket):	Steel, red
Cable Gland Entries:	3 x 20mm
Peppers E3WBF Exd Cable Gland	E - Type of gland featuring armour specific clamping
	3 - Silicone
	W - SWA
	B - Brass
	F - Multiple Certification
ATEX Approval	SIRA 15ATEX1260

All figures are quoted for 25°C

Alarm & Operation Thresholds

	Min	Type	Max
Delay to Alarm/Fault (selectable in 1 sec steps):	2s	10s	30s
Laser Time-out (selectable in 1 min steps):	1min	5min	59min
Response Sensitivity/Threshold (selectable in 1% steps):	25%	35%	60%

Weight

Control Unit:	606g
Transmitter & Receiver (Inc. Brackets):	3.7kg

149mm   190mm

172mm

203mm   73.50mm

124mm

Fireray 3000 Exd - PN: **3000-115N**
Fireray 3000 Exd Detector Pack - PN: **3000-026N**
Wall Bracket - PN: **0061-001-01**

Installation Recommendations

Please refer to the User Guide (UG) for mounting, wiring and commissioning instructions . The installation of the 3000 Exd infrared optical beam smoke detector should be undertaken in accordance with the recognised national, or international, standards and Codes of Practice (COP).

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