



Range Brochure

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# Why use a Beam Smoke Detector?

Beam smoke detectors are the wide area smoke detection technology of choice, offering both excellent detection and value for money. With a high area of coverage per unit (as high as 1800 m<sup>2</sup> for some units), beam smoke detectors offer more simplified wiring, installation and maintenance than other detection types. As a result, beam smoke detectors are the best fire technology for wide area coverage.

## How does a beam smoke detector work?

A beam smoke detector works on the principle of obscuration. The beam detector sends out an invisible infra-red (IR) beam of light that the receiver measures. If smoke is present in the air then this obscures, or blocks, the light received by the receiver, lowering the amount of light. When enough smoke is in the air, the IR light level will drop below a set level, which then triggers an alarm signal.

# Why choose Fireray®?

Cost, accuracy and reliability are considerations that are crucial to making the right product choice. Our commitment to these factors drives customer decisions to choose Fireray®. Customers consistently find that Fireray® is more cost effective than other products on the market. You can be certain of our accuracy and reliability. All of our products are manufactured in the UK. As a result, we have a better depth of knowledge about the products we are selling and the insight to answer questions knowledgeably to help in selecting the appropriate Fireray® to meet your needs. Customers across numerous industries rely on Fireray® for their accuracy and ease of use and the end user trusts the Fireray® name when choosing a beam smoke detector. Choose Fireray® to take advantage of an accurate and reliable product, at the right price, backed by 40 years of experience.



## Installations

Fireray® products have been installed in many different buildings and establishments. Examples of the different applications that our products have been installed include:

- Derby Velodrome
- Doha Airport
- Neuschwanstein Castle

## Features

- Automatic alignment
- Building movement and contamination compensation
- Light Cancellation Technology (LCT)
- Condensation Heater
- 2 Wire cable from system controller to detector
- Allows for 2 detectors per system controller
- Working path for detector alignment

## Benefits

- Fast automatic beam alignment from ground level
- Compensates for building movement by realigning or lens contamination by readjusting the beam to achieve the correct received signal during its installed lifetime
- Minimises false alarms in applications where reflective surfaces or direct sunlight are present
- Raises the ambient temperature of a detector lens, making it hard for condensation to form
- Considerable savings in installation and cost
- Lowers installation costs
- Ensures precise alignment of the detector and the reflector in the optical path

# Product Range

Our Fireray® range is the perfect solution for areas that you want to protect that are open and have high ceilings such as auditoriums, warehouses, airports and historical buildings. With its easy first fix system, and knockout features, it allows for both ease of wiring and quick alignment.

**Fireray® 5000:**  
Motorised Reflective Auto-Aligning Beam Smoke Detector

**Fireray® 50R/100R:**  
Reflective Beam Smoke Detector

**Fireray® 3000:**  
End-to-End Beam Smoke Detector

**Fireray® 3000 Exd:**  
End-to-End Explosive Proof Beam Smoke Detector

**Reflective:** Most widely used and requires less wiring, which offers reduced installation cost and time.



**End-to-End:** Should typically be considered where there are reflective surfaces close to the beam's path, or where the beam path would be restricted due to fixed obstructions.



# Fireray® 5000

## Motorised Reflective Auto-Aligning Beam Smoke Detector



The Fireray® 5000 is one of the most advanced fire detection products in the world, combining a transmitter/receiver in the same detector head with an automatic alignment motor. This combination allows for quick, simple installation and requires wiring and power at only one side (the opposite side is covered by a reflector).

The Fireray® 5000 beam automatically compensates for environmental effects on the beam signal, keeping the unit in the best possible working order. This is achieved through the combination of software (automatic gain control) and motorised realignment of the beam.

Other installation aids include the detector and controller First-Fix systems, as well as a visible laser to aid the user in alignment which allows the reflective prism to be positioned quickly and with confidence. This device can be installed by a single engineer, thus offering further saving on installation and commissioning costs.

The system is fully customisable with both the alarm thresholds (sensitivity) and delay to Alarm/Fault being controlled from the ground level System Controller. The low level controller incorporates a LCD display, which offers a full icon-based, easy-to-use interface unit.

### Features

- Allows for 2 Detectors per System Controller
- Each Detector configurable from 8m to 100m
- Separate Fire and Fault relays per Detector
- Integral LASER alignment
- Auto-Align Fast Automatic Beam Alignment
- Contamination Compensation
- Low Level System Controller
- Logs the 50 most recent events per detector
- Programmable Sensitivity and Fire Thresholds
- 20mm Cable Gland Knockouts on System Controller
- 2-wire interface from System Controller to Detector
- Working optical path for detector alignment



Fireray® 5000 Accessories



# Fireray® 3000

## End-to-End Beam Smoke Detector



The Fireray® 3000 is our solution to the most technical and challenging of installation environments. The system uses a paired set of transmitter/receiver heads to cover the protected area. The unit emits a narrow beam of infra-red (IR) light in order to monitor for smoke and is controlled using a compact low level controller. Both detector heads (transmitter and receiver) have integral thumbwheels for ease of alignment. Using these thumbwheels provides a smooth and repeatable alignment process.

This model has been designed so that it can be installed by a single engineer. It also incorporates a visible laser as an alignment aid, with alignment LEDs offering a visual feedback.

The system is fully customisable, with both the alarm thresholds (sensitivity) and delay to Alarm/Fault being controlled from the low level controller. This 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.

### Features

- Range 5 to 120 metres, configurable per set of Detectors
- Light Cancellation Technology (LCT)
- Integral laser alignment in receiver
- 2-wire interface between controller and receiver
- Single and twin detector options
- Separate fire and fault relays per detector
- Low level controller with LCD display
- Programmable sensitivity and fire threshold
- Contamination Compensation
- First-Fix design for transmitter, receiver and controller
- Multiple cable gland knockouts for ease of wiring
- Optional transmitter powering from controller
- Working optical path for detector alignment



Fireray® 3000 Accessories

# Fireray® 50R/100R

## Reflective Beam Smoke Detector



The Fireray® 50R/100R beam smoke detector series provides economical and effective protection of large open spaces. It comprises of a single unit incorporating an infra-red (IR) transmitter and receiver, with a reflective prism. The system can be connected to a zone of a conventional fire alarm control panel, or interfaced to an analogue addressable system via an interface module. The Fireray® 50R/100R offers three selectable 'Alarm Thresholds' settings of 25%, 35% and 50%, which can be chosen to suit the environment.

The Fireray® 50R/100R beam smoke detector can monitor long-term degradation of beam signal strength caused by the build-up of dirt on its optical surfaces; this operates by regularly comparing the received infrared signal against a reference voltage.

To aid installations, a full range of accessories are available, for further details visit [www.ffeuk.com](http://www.ffeuk.com).

### Features

- Single compact housing
- Working optical path for detector alignment
- Two models available, a 50m and 100m version
- 12-24 Vdc Operation
- Low current consumption
- Robust construction
- Approved to EN54:12 and UL268



Fireray® 50R/100R Accessories



# Fireray® 3000 Exd

## End-To-End Explosive Proof Beam Smoke Detector



The Fireray® 3000 Exd is ideally suited for the protection of large areas, with potentially explosive atmospheres, against smouldering fires. Fireray® 3000 Exd comprises an infra-red 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
- Separate Fire and Fault Relays per Detector
- Range 5 to 100 metres, configurable per set of Detectors
- Integral Laser Alignment in Receiver
- 2-wire Interface between Controller and Receiver
- 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 and EN54:12
- Light Cancellation Technology



Fireray® 3000 Exd Accessories



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