

Range brochure

# Beam detection

others look up to



# FFE, the independent fire detection company, is raising the bar in beam detection with the new Fireray range.

The new Fireray range is a cleverly designed modular beam detection system that can be specified to suit a variety of demanding applications. It contains unique technology developed by FFE to provide the best protection and ease of ownership for the end-user.

## What makes the new Fireray different?

With the option of a standalone beam detector or a modular system to suit simple and complex applications, Fireray is the perfect partner for your fire system.

The Fireray One is a standalone unit for simple applications such as small warehouses. The Fireray Hub system offers an option of three types of beam detection (Reflective, End-to-End and Exd), and the Fireray Hub itself enables excellent accessibility and user-configurable settings for long-term ease of maintenance and ownership.

### One Minute Auto-Alignment™

All Fireray Reflective beam detectors can self-align in just one minute.

### Building Movement Tracking™

Fireray Reflective beam detectors can automatically track building movement to maintain optimum alignment throughout its life. Nuisance alarms are minimised.

### Light Cancellation Technology™

Fireray's patented technology actively cancels ambient light from the sun or artificial sources, and allows beam detectors to be installed in skylights and glass atria without causing nuisance alarms.

## The Fireray One



- One Minute Auto-Alignment™
- One person installation
- One standalone product

## The Fireray Hub



- Choice of detection
- Tailor system to unique applications
- Event log

### Reflective



- One Minute Auto-Alignment™
- Building Movement Tracking™
- Light Cancellation Technology™

### End-to-End



- Operates through narrow gaps
- One person alignment
- Light Cancellation Technology™

### Exd



- Operates in potentially explosive atmospheres
- Can be tested in-situ to minimise disruption
- Detection range up to 100m

# Quality through technology

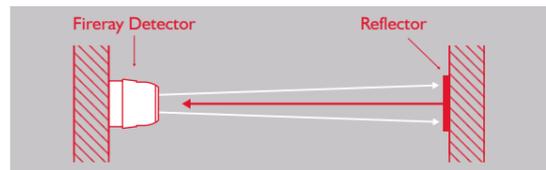
## Working principle

An optical beam smoke detector projects a beam of invisible infrared light from a Transmitter to a Receiver. When smoke particles partially block the beam and reduce the signal, the detector triggers a fire alarm.

## Beam detectors: Reflective vs End-to-End

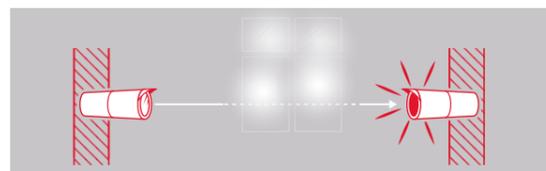
### Reflective

A reflective beam detector has both the Transmitter and Receiver in one unit and only requires wiring on one end. All Fireray reflective beam detectors are auto-aligning and track building movement continuously.



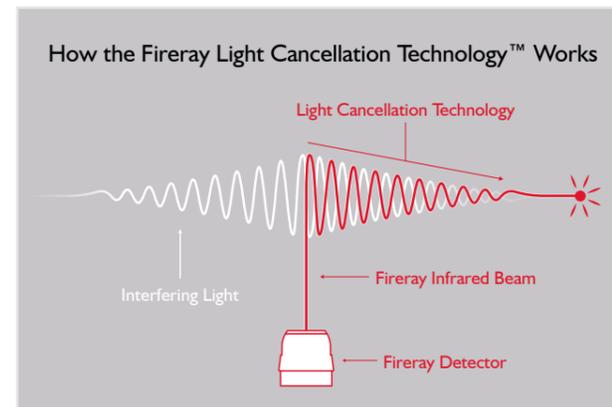
### End-to-End

An End-to-End beam detector has a separate Transmitter and Receiver. The infrared beam only needs to make one pass, and can pass through a gap as narrow as 15cm, perfect for applications with obstructed ceiling space and multiple reflective surfaces.



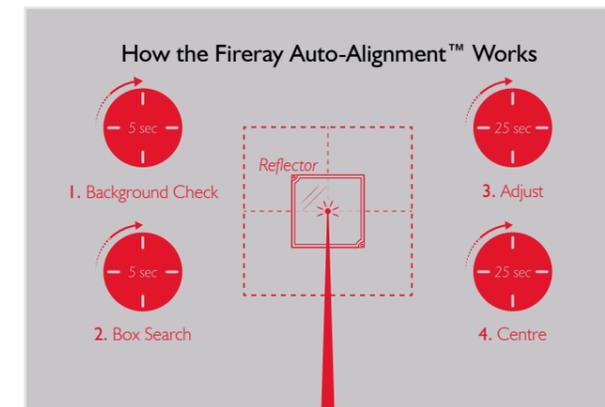
## Light Cancellation Technology™

Prevent nuisance alarms from sunlight with Light Cancellation Technology™. Our Fireray beam detectors will never go into an alarm condition because of ambient light; they will actively cancel the ambient light and only indicate a fault condition when its cancellation capacity is exceeded.



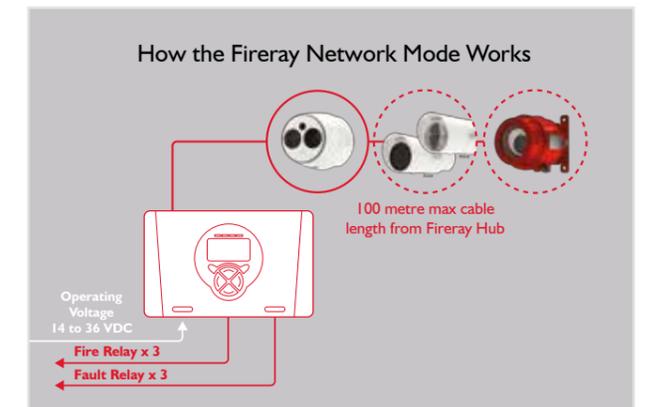
## One Minute Auto-Alignment™

Perfect alignment every time as the infrared beam is always centred on the Reflector, automatically. Alignment is simple – just steer the integrated laser onto the Reflector and flick a switch to initiate the One Minute Auto-Alignment™.



## Network mode

Using the Fireray Hub you can connect and monitor up to 3 detector types: Reflective, End-to-End, Exd or a mixture of all three, from the ground. Detectors can be wired on a single cable run, saving space, wiring cost and labour.



## The FFE difference

As an independent fire detection company, FFE prides itself in developing the best technical solutions to fire protection challenges as well as providing long-term value for the end-user. We design and manufacture all our products in the UK, and test and calibrate 100% of what we produce. We actively invest in R&D to continually deliver industry-leading technology in the field of specialist fire detection.

FFE's beam detectors are now installed in many iconic buildings worldwide including Windsor Castle, the White House, Doha Airport and Pinewood Studios.

**500,000**  
BEAM DETECTORS  
INSTALLED SINCE 1994

**5 YEARS**  
WARRANTY  
ON FIRERAY  
PRODUCTS

**120 YEARS**  
OF EXPERIENCE  
IN R&D TEAM

**8% REVENUE**  
INVESTED IN  
**R&D**

**ONE UK-BASED LOCATION**  
FOR R&D, MANUFACTURE  
AND CUSTOMER SUPPORT

**100% TESTING**  
AND CALIBRATION  
OF DETECTORS

**FIVE SALES OFFICES**  
DISTRIBUTED  
GLOBALLY

## Reliable detection to suit your specific application



### Education and Heritage Establishments

- Unique architecture can be discreetly protected using the Fireray End-to-End Detector with a footprint of only 8cm in diameter.
- Where disruption to the protected space must be kept to a minimum, the Fireray Hub allows you to easily monitor and test detectors from an accessible location without shutting down the area.

The Fireray range stretches the capability of beam detection for challenging applications with its complete range of Reflective, End-to-End and Exd beam detectors and cleverly designed modular system centred on the Fireray Hub.



### Industrial Units and Warehousing

- For the easiest installation with the minimum amount of wiring, choose the Fireray One Reflective beam detector.
- If access to the detectors is restricted due to height or round-the-clock activities in the building, the Fireray Hub system allows testing and maintenance from an accessible location.
- For installations where space is restricted by ducts or false ceilings, the Fireray End-to-End Detector is the ideal solution as the beam can pass through a gap as narrow as 1.5cm in diameter.



### Glass Atria in Hotels and Retail Complexes

- Patented Light Cancellation Technology™ allows all Fireray beam detectors to cope with the varying sunlight levels in glass atria, avoiding nuisance alarms compared to other systems.
- Where the height of atria makes access to the detectors challenging, the Fireray Hub provides easy electronic access and control of detectors from ground level, control room, or a central location.
- Fireray's auto-aligning reflective beam detectors enable very quick installation and continuous tracking of building movement throughout its operational life.



### Aviation Hangers

- Fireray detectors protect distances of up to 120m.
- Fireray detectors can be installed directly facing each other to cover longer distances, or arranged in irregular configurations, thanks to our Dynamic Beam Phasing technology which automatically prevents our beams from interfering with each other.
- For tall buildings, use the Fireray Hub to monitor and configure multiple detectors from ground level.



### Chemical Processing and Storage Facilities

- Explosion-proof Exd Detectors are approved to be safely used in potentially explosive atmospheres.
- Contamination Compensation allows reliable operation to continue even in dusty environments.
- The Fireray Hub allows testing and maintenance to be carried out from a safe area without requiring shut-down of the protected area. (NB: adhere to local work regulations).

## The Fireray One

The beam detector that aligns itself

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™ using the integrated user interface - 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

### Key Benefits:

- Integrated visible laser and auto-alignment for ultimate ease of alignment
- Integrated user interface
- Prevent nuisance alarms with Light Cancellation Technology™ which compensates for sunlight and artificial light sources
- Building Movement Tracking™ continuously maintains alignment when buildings settle or flex due to temperature variations
- Contamination Compensation to correct for gradual build-up of dust on optics
- Clean detectors quickly and easily without affecting alignment
- Low power consumption; can be powered from the loop
- Prevent interference between beams with Dynamic Beam Phasing; install beams facing each other or in irregular configurations
- Detection range of up to 120m



## The Fireray Hub

Customised beam detection for your application

- ✓ Do you need control from the ground for beam detectors mounted at height?
- ✓ Do you need to use different types of beam detector for specific areas?
- ✓ Do you want to control different beam detectors from a single location?

Achieve all of these using the Fireray Hub. The cleverly designed modular structure and complete range of Reflective, End-to-End and Exd beam detectors allow you to specify a bespoke system to suit the particular needs of your application.

### Key Benefits:

- Connect to and monitor up to three detectors with independent fire and fault signals for each detector
- Install systems in 25% less time using network mode
- Quickly check system operation by initiating alarm tests using the Fireray Hub
- Easily diagnose system faults using the event log with date and time stamp
- View the backlit LCD screen easily, even in unlit areas
- Operate in dusty or wet environments due to high enclosure integrity (IP65) of the Fireray Hub

### The Fireray Hub can be connected to three types of beam detector in any combination:

- **The Fireray Reflective Detector** – the simplest to install, benefits from Auto-Alignment™ and Building Movement Tracking™
- **The Fireray End-to-End Detector** – perfect for discreet installations where aesthetics are important, or for cluttered environments where beam path clearance is at a premium
- **The Fireray End-to-End Exd Detector** – for operation in potentially explosive atmospheres



Reflective<sup>+</sup>



End-to-End<sup>+</sup>



Exd<sup>+</sup>



## Which Fireray do I need?



The Fireray One



The Fireray Hub system

Standalone product	✓	
One Minute Auto-Alignment™	✓	✓ with Reflective
One person installation	✓	✓
Building Movement Tracking™	✓	✓ with Reflective
Light Cancellation Technology™	✓	✓
Power from the loop	✓	✓
Integrated visible laser	✓	✓
Integrated user interface	✓	✓
Water and dust protection	✓	✓
Easy clean optics	✓	✓
Operating range   20m	✓	✓
Dynamic Beam Phasing	✓	✓ with Reflective
Independent signalling for each detector	✓	✓
Control from ground level		✓
Relay connections at low level		✓
Different detector types		✓
Network mode		✓
Configurable system settings		✓
LCD display with backlight		✓
Event log with date and time stamp		✓
Alarm test from ground level/safe area		✓
Operates through narrow gaps		✓
Operates in potentially explosive atmospheres (Detector)		✓ with Exd
Can be tested in-situ to minimise disruption		✓

## Help from FFE

Looking to include fire detection in your building design?

Need more information on system integration?

Searching for advice on installing Fireray detectors?

Interested in recommending FFE's products to your customers?

Contact us at:

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