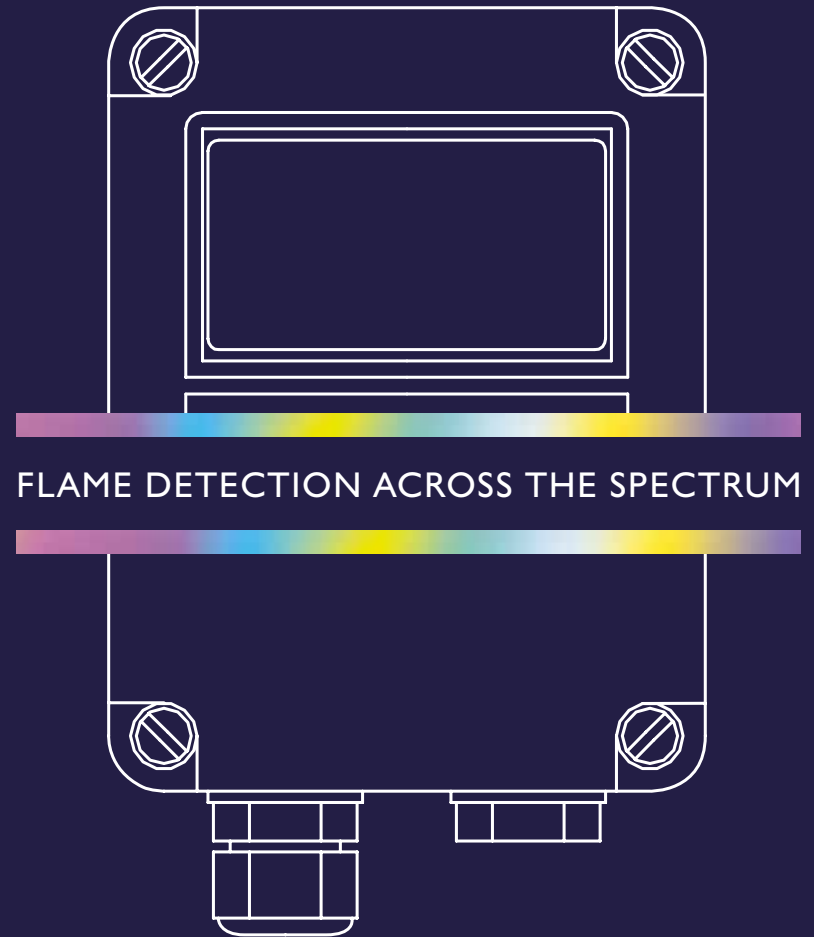


Rapid flame
detection for
high value
industries



F FE Ltd. A global innovator in the design and
manufacture of world class fire detection solutions.

FFEUK.COM



TALENTUM®

PROVIDES FLAME

DETECTION WHERE

YOU NEED IT MOST



WE STRIVE FOR
EXCELLENCE IN
EVERYTHING
WE DO

FFE is a global innovator in the design and manufacture of world class fire detection solutions. Trusted by installers, distributors and organisations for over 50 years, our Talentum®, Fireray®, Aviation Fire Extinguishers and Vibration Switches help to protect high value buildings and assets. Our commitment to fire detection and prevention led to the development of the world's most trusted smoke detection beam, Fireray® the favoured choice of many of the world's leading smoke detection distributors and installers. Our Talentum® range was developed to provide early detection for industries where fast flame detection is critical.

Our solutions are designed and manufactured in the UK and our customers are fully supported by our team of fire protection experts. We provide consultancy, training and full technical support, so that you always have peace of mind in knowing that your assets are given the best possible protection from fire.

CONTENTS

- 03 About FFE
- 04 Why use our flame detectors?
- 05 Talentum range of flame detectors

- 06 Flame detection
- 08 Talentum accessories
- 09 Talentum Test Torch

- 10 Technical specifications
- 14 Protecting lives worldwide

WHY USE OUR FLAME DETECTORS?

Specifying and installing fire protection technology carries significant levels of responsibility. With so many variable risks in so many different industries, it's critical that the chosen technology will offer the very best protection in any given circumstance.

History has taught us that early fire detection is by far the best way to minimise the risk and spread of fire damage.

Talentum is a high speed infrared device for flame detection designed specifically to detect a characteristic flicker of a flame, faster and more accurately than a smoke or heat detector. Even where dust, steam or smoke are commonplace, Talentum provides unmatched fire protection for high value industries.

If fast, accurate fire detection is critical, choose Talentum, because when it comes to fire detection, only the best will do.



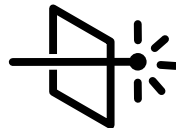
IMMUNE TO FILMS OF
OIL, WATER, ICE, DUST

Maintains detection capabilities in harsh environments



INGRESSION
PROOF

Protection against the ingress of dust, solid objects and moisture into an enclosure making Talentum suitable for the most extreme wet and dry conditions



DETECTS
THROUGH GLASS

Increased capabilities with Talentum looking into secure or hazardous areas



HIGH RESISTANCE
TO FALSE ALARMS

Talentum looks for the typical flickering movement of a flame before triggering an alarm

‘Precision flame detection
through the spectrum’

HOW DOES TALENTUM WORK

The Talentum infrared (IR) optical sensing technology can detect flames from almost all fuel types, from Hydrocarbon through to invisible fires such as hydrogen. By looking for characteristic flicker and energy, Talentum is able to detect a flame through dust, steam, smoke and even glass, or detect flickering, low frequency IR and UV radiation that is emitted by flames during combustion, while discounting false signals induced by wind, draughts and sunlight.

BENEFITS

Can detect a flicker in as little as 27 milliseconds (condition-dependant)

Use in outdoor or indoor applications

Internal self-test capability gives the high immunity to false-flame sources

Detects flames through dust, steam, smoke and even glass.

Flame-proof or explosion-proof and intrinsically safe options

Universal flame detection for all high risk, high value applications

Detects invisible flames from fuels such as hydrogen and other inorganic fuels

Immune to the effects of wind, draughts and sunlight

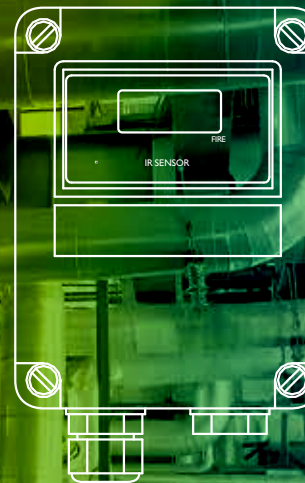
TALENTUM
FLAME
DETECTORS

See page 10 for complete
range of technical specifications

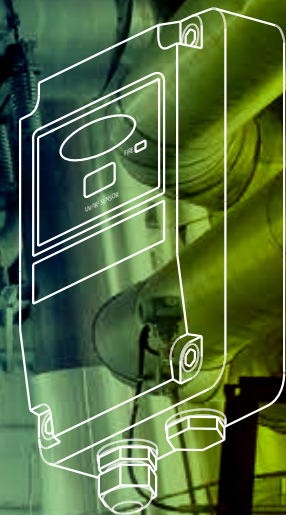
IR2



IR3



UV/IR2



FLAME DETECTION

IR2

These highly sensitive flame detectors can accurately detect low frequency IR radiation (1 to 15 Hz) that is emitted by flames during combustion. Using two IR sensors, the IR2 responds to different IR wavelengths, discriminating between flames and other radiation sources.

Offering a maximum ambient operating temperature of 55°C (FM: +60°C/140°F), IR2 offers users a choice of alarm currents, response times, latching or non-latching outputs and sensitivity. They also have internal self-test sources that check the detectors operation when used remotely.

KEY FEATURES

- High immunity to false sources
- Ideal for applications with visible light present
- Detects invisible flames from fuels such as Hydrogen and other inorganic fuels
- Selectable operating responses
- Remote self-testing
- Low power consumption
- Approved to EN54 - 10:2002

IDEAL APPLICATIONS

- Aircraft Hangars
- Coal Handling
- Fume Cupboards
- Printing
- Spray Booths
- Textile Manufacturing
- Waste Handling



DETECTS LOW FREQUENCY IR AND UV RADIATION FROM FLAMES DURING COMBUSTION



DETECTS LOW FREQUENCY RADIATION FROM FLAMES DURING COMBUSTION

UV/IR2

Offering the highest immunity to false alarms, the UV/IR2 is designed to accurately detect flickering, low frequency IR and UV radiation (1 to 15Hz) that is emitted by flames during combustion.

Offering a maximum ambient operating temperature of 55°C (FM: +60°C/140°F), the UV/IR2 detector has a UV sensor and two IR sensors that respond to different IR wavelengths from both the UV and the IR spectrum. False alarms from flickering sunlight, arc welding and lighting are eliminated by a combination of UV and dual IR signal processing techniques.

KEY FEATURES

- High immunity to false sources
- Ideal for applications with visible light present
- Detects invisible flames from fuels such as Hydrogen and other inorganic fuels
- Selectable operating responses
- Remote self-testing
- Low power consumption
- Approved to EN54 - 10:2002

IDEAL APPLICATIONS

- Aircraft Hangers
- Engine Rooms
- Engine Test Facilities
- Generators
- High Voltage Equipment
- Nuclear Industry
- Power Plants
- Storage Tanks

IR3

With high immunity to false flame sources, both indoors or out, these highly sensitive flame detectors can accurately detect low frequency IR radiation (1 to 15Hz) that is emitted by flames during combustion, even under the most difficult conditions. Ideal for indoor or outdoor applications, the IR3 has three sensors that respond to different IR wavelengths, discriminating between flames and other sources of radiation.

Offering a maximum ambient operating temperature of 55°C (FM: +60°C/140°F), IR3 offers users a choice of alarm currents, response times, latching or non-latching outputs and sensitivity. They also have internal self-test sources that check the detectors operation when used remotely.



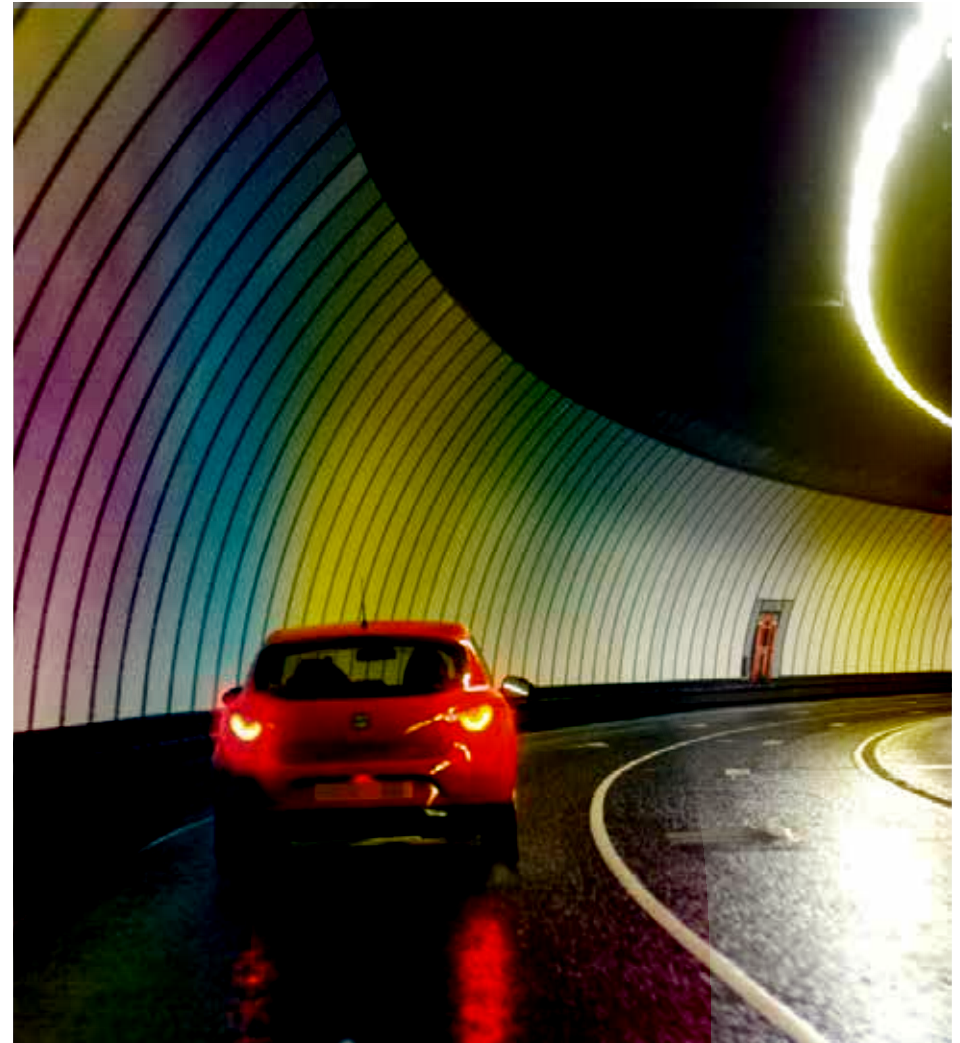
DETECTS LOW
FREQUENCY
RADIATION FROM
FLAMES DURING
COMBUSTION

KEY FEATURES

- High immunity to false sources
- Ideal for applications with visible light present
- Detects invisible flames from fuels such as Hydrogen and other inorganic fuels
- Selectable operating responses
- Remote self-testing
- Low power consumption
- Approved to EN54 - 10:2002

IDEAL APPLICATIONS

- Atria
- Coal Handling
- Pharmaceuticals
- Printing
- Spray Booths
- Nuclear Industry
- Waste reprocessing
- Storage Tanks
- Tunnels



QUALITY All of our Talentum Flame Detectors are backed with a 3-year warranty. We also provide on-going technical support, from specification and throughout the lifetime of your chosen product. Our solutions undergo rigorous testing procedures and comply with all relevant safety and quality regulations.



TALENTUM ACCESSORIES

To complement your Talentum installation, we also offer a comprehensive range of accessories and tools for your specialist application.

Our standard range of accessories include:



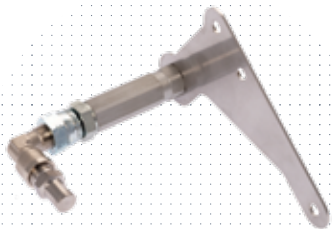
Adjustable Mounting
Bracket – PN: 07127



Weather Shield [SS]
PN: I2545



Weather Shield (Ex d) [SS]
PN: 07279



Air Purge Adapter
PN: I2556



Air Purge Adapter (Ex d)
PN: I2555



Talentum Test Torch

The Talentum Test Torch generates a wide range of optical output signals. It is a test and calibration unit explicitly designed to work with the full range of Talentum flame detectors

Most optical flame sensors respond to Ultra Violet (UV) and or InfraRed (IR) radiation emitted from flames during combustion. Many sensors also use flame flicker techniques to distinguish between flames and other optical false sources.

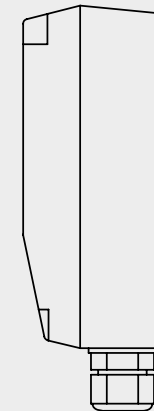
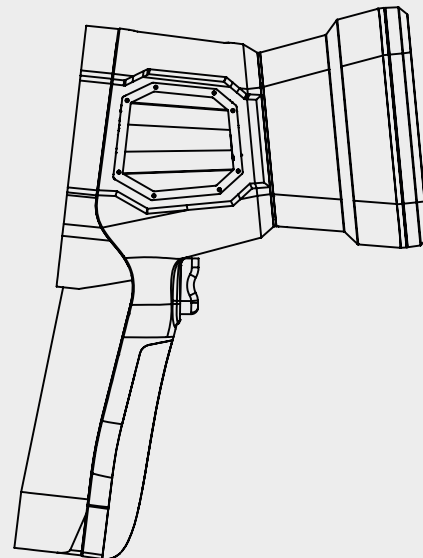
The Talentum Test Torch simulates a pan fire test by modulating the output of a filament lamp. The thermal time constant of a filament lamp prevents the generation of a perfect flame flicker signal. The slow response of the filament lamp will mean that some flame sensors may require more time to activate under test than they would with a real flame.

The unit is intended for service engineers to use, when performing commissioning and routine maintenance in safe areas only. The Talentum Test Torch is provided in a protective carry case.



KEY FEATURES

- Wide Spectral Output - UV, Visible, Near IR, Mid-IR
- Suitable to test all Talentum flame detectors
- Portable with lithium ion battery pack
- Selectable Optical Output Type
- Irregular Flickering Sources (Resembling Flames)
- Range typically 1-6 metres
- 30 Second Timeout on each test
- Lightweight ergonomic design
- Supports fast charging, lasts 50 test cycles per charge
- Intuitive menu structure
- Graphical LCD user interface
- Recalibrate Talentum flame detectors in-situ (requires optional Calibration Kit)



Talentum Test Torch
PN: 1800-101

TECHNICAL SPECIFICATIONS



IR2

	Flame Detector IR2 16581	Flame Detector IR2 (I.S.) 16571	Flame Detector IR2 (Ex d) 16511
MECHANICAL SPECIFICATION			
Housing material	Die cast zinc alloy	Die cast zinc alloy	Copper free aluminium alloy
Dimensions	142(h) x 108(w) x 79(d) mm (5½"(h) x 4¼"(w) x 3⅛"(d))	142(h) x 108(w) x 79(d) mm (5½"(h) x 4¼"(w) x 3⅛"(d))	158(h) x 149(w) x 134(d) mm (6"(h) x 5⅞"(w) x 5⅛"(d))
Weight	2 kg (4½ lbs)	2 kg (4½ lbs)	2.5 kg (5½ lbs)
Cable gland entries	2 x 20 mm (2 x ¾")	2 x 20 mm (2 x ¾")	3 x 20 mm (3 x ¾")
Wiring	1.0 to 4.0 mm ² (12-18 AWG)	1.0 to 4.0 mm ² (12-18 AWG)	1.0 to 4.0 mm ² (12-18 AWG)
ELECTRICAL SPECIFICATION			
Supply voltage	14 to 30 Vdc	14 to 30 Vdc	14 to 30 Vdc
Quiescent current	3 mA (min) to 8 mA (max)	3 mA (min) to 8 mA (max)	3 mA (min) to 8 mA (max)
Alarm current	9 mA (min) - 28 mA (max)	9 mA (min) - 28 mA (max)	9 mA (min) - 28 mA (max)
Relay outputs – Programmable	Normally open or normally closed Latching or non-latching	Normally open or normally closed Latching or non-latching	Normally open or normally closed Latching or non-latching
Rating: Current	1.0 A max.	1.0 A max.	1.0 A max.
Voltage	50 Vdc max.	50 Vdc max.	50 Vdc max.
Power	30 W max. (Note: resistive loads only)	30 W max. (Note: resistive loads only)	30 W max. (Note: resistive loads only)
ENVIRONMENTAL SPECIFICATION			
Operating temperature	-10°C to +55°C (+14°F to +131°F)	-10°C to +55°C (+14°F to +131°F)	-10°C to +55°C (+14°F to +131°F)
Storage temperature	-20°C to +65°C (-4°F to +149°F)	-20°C to +65°C (-4°F to +149°F)	-20°C to +65°C (-4°F to +149°F)
Relative humidity	95% non condensing	95% non condensing	95% non condensing
IP rating	IP66	IP66	IP66
PERFORMANCE			
Range – Class 1 / Class 3	12 m/25 m (39 ft/82 ft) (approved)	12 m/25 m (39 ft/82 ft) (approved)	12 m/25 m (39 ft/82 ft) (approved)
Field of view	90° min. cone	90° min. cone	90° min. cone
Operating wavelength band	IR - 1.0 - 2.7 μm	IR - 1.0 - 2.7 μm	IR - 1.0 - 2.7 μm
APPROVALS			
See key on opposite page	1, 2, 3	1, 2, 7	1, 2, 3, 8, 9



APPROVALS KEY:

STANDARD	SPECIALIST
1: CPR	7: BASEEFA
2: LPCB	8: BASEEFA ATEX
3: NF	9: BASEEFA IECEx
4: VdS	10: BAS02ATEX I001/3X
5: FM	
6: CSFM	

UV/IR2

	Flame Detector UV/IR2 16591	Flame Detector UV/IR2 (Ex d) 16521
MECHANICAL SPECIFICATION		
Housing material	Die cast zinc alloy	Copper free aluminium alloy
Dimensions	142(h) x 108(w) x 79(d) mm (5½"(h) x 4¼"(w) x 3⅛"(d))	158(h) x 149(w) x 134(d) mm (6"(h) x 5⅞"(w) x 5 ⅛"(d))
Weight	2 kg (4½ lbs)	2.5 kg (5½ lbs)
Cable gland entries	2 x 20 mm (2 x ¾")	3 x 20 mm (3 x ¾")
Wiring	1.0 to 4.0 mm ² (12-18 AWG)	1.0 to 4.0 mm ² (12-18 AWG)
ELECTRICAL SPECIFICATION		
Supply voltage	14 to 30 Vdc	14 to 30 Vdc
Quiescent current	3 mA (min) to 8 mA (max)	3 mA (min) to 8 mA (max)
Alarm current	9 mA (min) - 28 mA (max)	9mA (min) - 28 mA (max)
Relay outputs – Programmable	Normally open or normally closed Latching or non-latching	Normally open or normally closed Latching or non-latching
Rating: Current	1.0 A max.	1.0 A max.
Voltage	50 Vdc max.	50 Vdc max.
Power	30 W max. (Note: resistive loads only)	30 W max. (Note: resistive loads only)
ENVIRONMENTAL SPECIFICATION		
Operating temperature	-10°C to +55°C (+ 14°F to + 131°F) FM: -20°C to +60°C (-4°F to + 140°F)	-10°C to +55°C (+ 14°F to + 131°F)
Storage temperature	-20°C to +65°C (-4°F to + 149°F)	-20°C to +65°C (-4°F to + 149°F)
Relative humidity	95% non condensing	95% non condensing
IP rating	IP66	IP66
PERFORMANCE		
Range – Class 1/ Class 3	12 m/25 m (39 ft/82 ft) (approved)	12 m/25 m (39 ft/82 ft) (approved)
Field of view	90° min. cone	90° min. cone
Operating wavelength	UV - 185 - 260 nm IR - 1.0 - 2.7 μm	UV - 185 - 260 nm IR - 1.0 - 2.7 μm
APPROVALS		
See key to the right	1, 2, 4, 5, 6	1, 2, 4

TECHNICAL SPECIFICATIONS



IR3

	Flame Detector IR3 16589	Flame Detector IR3 (I.S.) 16579	Flame Detector IR3 (Ex d) 16519
MECHANICAL SPECIFICATION			
Housing material	Die cast zinc alloy	Die cast zinc alloy	Copper free aluminium alloy
Dimensions	142(h) x 108(w) x 79(d) mm (5½"(h) x 4¼"(w) x 3⅛"(d))	142(h) x 108(w) x 79(d) mm (5½"(h) x 4¼"(w) x 3⅛"(d))	158(h) x 149(w) x 134(d) mm (6"(h) x 5⅞"(w) x 5⅛"(d))
Weight	2 kg (4½ lbs)	2 kg (4½ lbs)	2.5 kg (5½ lbs)
Cable gland entries	2 x 20 mm (¾")	2 x 20 mm (¾")	3 x 20 mm (¾")
Wiring	1.0 to 4.0 mm ² (12-18 AWG)	1.0 to 4.0 mm ² (12-18 AWG)	1.0 to 4.0 mm ² (12-18 AWG)
ELECTRICAL SPECIFICATION			
Supply voltage	14 to 30 Vdc	14 to 30 Vdc	14 to 30 Vdc
Quiescent current	3mA (min) to 8 mA (max)	3 mA (min) to 8 mA (max)	3 mA (min) to 8 mA (max)
Alarm current	9 mA (min) - 28 mA (max)	9 mA (min) - 28 mA (max)	9 mA (min) - 28 mA (max)
Relay outputs programmable	Normally open or normally closed Latching or non-latching	Normally open or normally closed Latching or non-latching	Normally open or normally closed Latching or non-latching
Rating: Current	1.0 A max.	1.0 A max.	1.0 A max.
Voltage	50 Vdc max.	50 Vdc max.	50 Vdc max.
Power	30 W max. (Note: resistive loads only)	30 W max. (Note: resistive loads only)	30 W max. (Note: resistive loads only)
ENVIRONMENTAL SPECIFICATION			
Operating temperature	-10°C to +55°C (+14°F to +131°F) FM: -20°C to 60°C (-4°F to +140°F)	-10°C to +55°C (+14°F to +131°F)	-10°C to +55°C (+14°F to +131°F) FM: -20°C to 60°C (-4°F to +140°F)
Storage temperature	-20°C to +65°C (-4°F to +149°F)	-20°C to +65°C (-4°F to +149°F)	-20°C to +65°C (-4°F to +149°F)
Relative humidity	95% Non condensing	95% Non condensing	95% Non condensing
IP rating	IP66	IP66	IP66
PERFORMANCE			
Range – Class I/ Class 3	12 m/25 m (39 ft/82 ft) (approved)	12 m/25 m (39 ft/82 ft) (approved)	12 m/25 m (39 ft/82 ft) (approved)
Field of view	90° min. cone	90° min. cone	90° min. cone
Operating wavelength	IR - 1.0 - 2.7 μm	IR - 1.0 - 2.7 μm	IR - 1.0 - 2.7 μm
APPROVALS			
See key on page 13	1, 2, 4, 5, 6	1, 2, 4, 7	1, 2, 4, 5, 6, 8, 9



APPROVALS KEY:

- | | |
|-----------------|-----------------------|
| STANDARD | SPECIALIST |
| 1: CPR | 7: BASEEFA |
| 2: LPCB | 8: BASEEFA ATEX |
| 3: NF | 9: BASEEFA IECEx |
| 4: VdS | 10: BAS02ATEX I001/3X |
| 5: FM | |
| 6: CSFM | |

SPECIALIST APPLICATIONS

As manufacturers of high speed flame detection technology, our experts can provide you with fire protection technology for any type of application. In addition to our design consultation service, we can also provide you with a complete technical design service, along with drawings to assist you with your installation.

HELP FROM FFE

As additional support, we provide comprehensive training programmes for the Talentum range, tailored to suit your own specific requirements. We are happy to train individuals or your entire installation team.

Contact us at:
e technical@ffeuk.com

PROTECTING LIVES WORLDWIDE

TALENTUM CASE STUDIES

■ BURGAN CAPE TERMINALS, SOUTH AFRICA

Our IR3 Intrinsically safe Talentum units were chosen to protect Cape town's first independent oil storage and distribution terminal which offers a storage capacity of 122,000 m³ in 12 tanks.

■ GLADSTONE DOCKS, LIVERPOOL, UK

With such a large presence of combustible material in one place the biomass conveyor required a fire detection system that could quickly and efficiently detect fires. The FFE Talentum IR3 was chosen as the ideal detector for this environment due to its false alarm immunity and speed of flame detection.

■ HELICOPTER REPAIR FACILITY, RZESZOW POLAND

Helicopter support company Heli-One has installed FFE's Talentum flame detectors as part of a foam extinguishing system as its helicopter repair and overhaul facility in Rzeszow.

■ GUARDIAN JET CENTER, ONTARIO, USA

A fixed base operation located at the Ontario Intl Airport, FFE's Talentum units protects the 43,200 sq.ft. hangar.

■ MALTA INTERNATIONAL AIRPORT

With the increase in the number of aircraft landing in Malta, the demand for Jet A1 (kerosene) for jet engines use increased and three new tanks were built in order to supply and store fuel. FFE's IR3 Intrinsically safe Talentum units have been installed to protect these assets.

■ SENOKO POWER STATION, SINGAPORE

Being the largest and most technically advanced power station in Singapore, finding the right flame detector was crucial to protect the electrical capacitor units. FFE's Talentum IR3 Ex d Units were installed protecting a total of 8 capacitor units.





INSTALLATIONS

- **Trouw Nutrition**
Ireland
- **E.ON Energy Biomass Facility**
Shropshire
- **Rolls Royce Motor Cars**
Chichester
- **DP World**
Southampton Docks
- **Robinson Healthcare Limited**
Worksop, UK
- **Cambridge International Airport**
- **Ruwais Refinery,**
Al Ruwais, Abu Dhabi
- **DEWA**
Dubai
- **Qatar Petroleum Oil Refinery**
Qatar
- **The Department of Space**
Bangalore
- **Yen So Pumping station Hanoi**
Vietnam
- **Goodman Logistics**
Hong Kong
- **Wood River Power Station**
Illinois, USA
- **Pyco Cotton Seed Processing Plant**
Lubbock, TX
- **Sasolburg Refinery**
South Africa

TECHNICAL SUPPORT

FFE Ltd is proud to be able to offer a high level of technical support to all our customers, from distributors to end-users. We can advise with any aspect of our Talentum Flame Detectors and Fireray Optical Beam Smoke Detectors.

Our technical support includes:

- Reviewing and advising on correct installation and alignment of FFE flame detectors and beam detectors
- Troubleshooting problems during the operation of flame and beam detectors after correct installation and alignment
- Advising the attributes of various types of flame and beam detectors to suit different applications
- Explaining good installation and operation practice for flame and beam detectors.

On a proactive level, Talentum or Fireray product training is available to any FFE customer including installers, distributors and end users and can be arranged with your FFE Sales Manager or by contacting FFE directly. Each training course is modular and the duration can be agreed according to the customer's requirements.

These personalised training courses can be targeted to all levels; Directors, Sales & Marketing or Technical, and are tailored for mixed audiences too. They include information on technical support as well as troubleshooting for advanced users.

In the UK, courses are typically delivered at the FFE Headquarters in Hitchin, Herts. For other venues, including overseas, please discuss with your Sales Manager.

Certificates



OHSAS 18001:2017 OHS 580021

RMA Request

Should you need to return a product to us, please email warranty@ffeuk.com



A Halma company

Worldwide Technical Support

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