

Talentum® I6219

Flameproof (Exd) IR³ Flame Detector Extended Temperature

The Talentum® flameproof triple Infra-Red (IR³) Flame Detector is designed to protect hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Extended temperature applications
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX & IECEx certified:
 I 1 2GD Ex d IIC T4 Gb
 Ex tb IIIC T135°C Db IP66 A21
 [Zones 1, 21, 2 and 22]



Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage And Handling
- LNG/LPG Production
- Coal Handling

Accessories

07127 Adjustable Mount Stainless Steel
 07279 Weather Shield Stainless Steel



Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.5kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current Voltage Power	1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-30°C to +55°C
Storage Temperature Short Term Operation	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range	- Class 1* - Class 3	0.1m ² n-heptane at 25m 0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View		90° min. Cone
Operating Wavelength Band - IR		0.75 to 2.7µm

Approvals

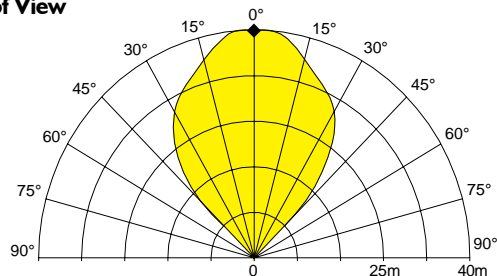
FM Approved	Cert. No. 3059453
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	Factory Tested Distance m (ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	50 (164)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)		12
Hydrogen (non- visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)		16

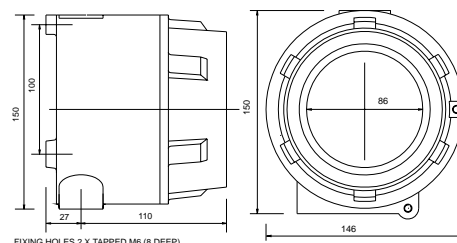
* has been tested and approved at Class I

Field of View

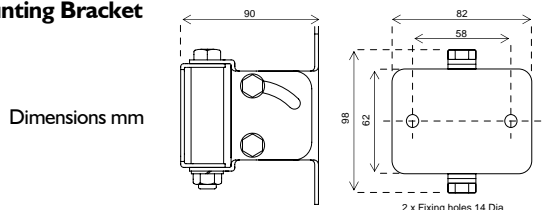


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0272-02

Talentum® I6221

Flameproof (Exd) UV/IR² Flame Detector Extended Temperature

The Talentum® flameproof Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques. The Talentum® UV/IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Highest immunity to false sources
- Solar blind
- Extended temperature applications
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX:

II 2GD Ex d IIC T6

[Zones 1, 21, 2 and 22]

Visit www.ffeu.com for up to date approvals information.



Applications

- Chemical Plants
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage and Handling
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount

07279 Stainless Steel Weather Shield



Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.5kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current Voltage Power	1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-20°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
- Class 3	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	1.0 to 2.7µm

Approvals

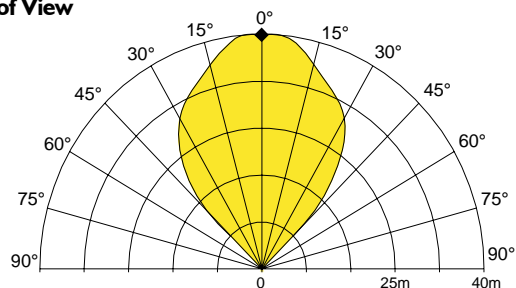
FM Approved	Cert. No. 3059453
ISSeP ATEX	ISSeP03ATEX012X

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	FFE Factory Tested Distance m(ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	50 (164)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	50 (164)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

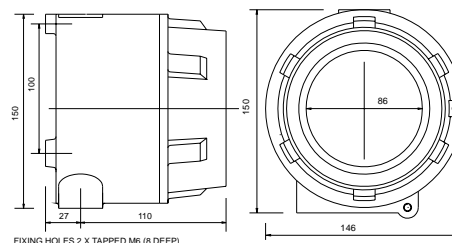
* has been tested and approved at Class I

Field of View

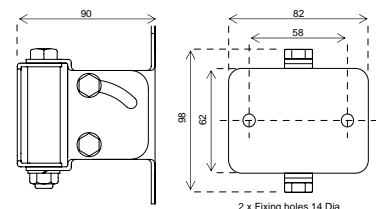


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Dimensions mm

Installation Recommendations

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Document Part No: 24-0257-02



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Talentum® I6289

IR³ Flame Detector Extended Temperature

The Talentum® triple Infra-Red (IR³) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1–15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard..

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

CCCF

Visit www.ffeu.com for up to date approvals information.



Applications

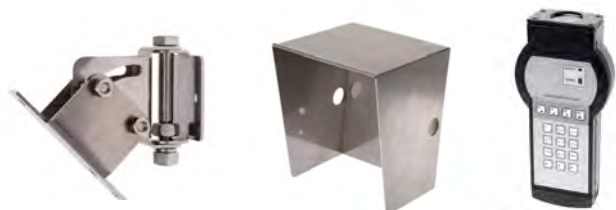
- Refineries
- Compressor Stations
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Waste Recycling
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Coal Handling
- Printing
- Petrochemical Offshore/ Onshore
- LNG/LPG Production
- Biomass Storage and Handling

Accessories

07127 Stainless Steel Adjustable Mount

12545 Stainless Steel Weather Shield

16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-30°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

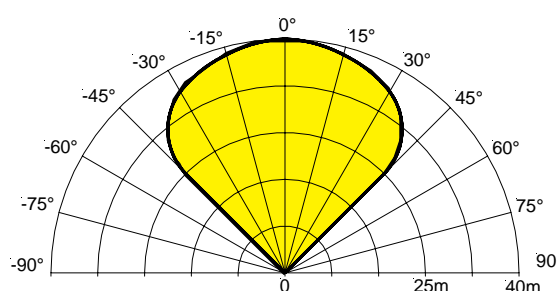
Range - Class 1*	0.1m ² n-heptane at 25m
	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	Factory Tested Distance m (ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	50 (164)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)		12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)		16

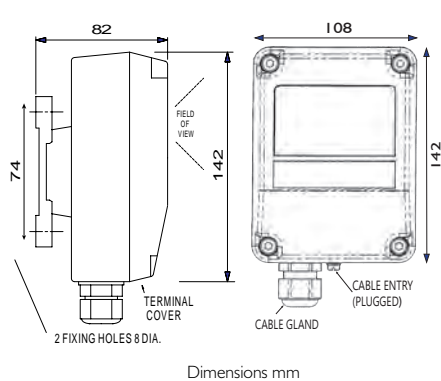
* has been tested and approved at Class I

Field of View



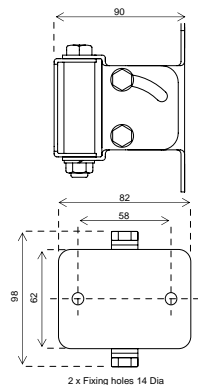
To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Dimensions mm

Mounting Bracket



2 x Fixing holes 14 Dia

Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.



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Document Part No: 24-0273-02

Talentum[®] 16291

UV/IR² Flame Detector Extended Temperature

The Talentum[®] Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect areas where open fires may be expected and detects most flames from hydrocarbon fires with 4.3 μ m emissions through to invisible fires such as hydrogen.

The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation along with ultra-violet emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques.

The Talentum[®] UV/IR² detector has selectable output options of relay contacts or 4 to 20mA signal as standard.

Features

- Highest immunity to false sources
- Solar blind
- Extended temperature applications
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

Visit www.ffeu.com for up to date approvals information.

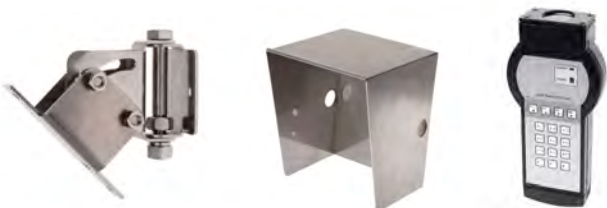


Applications

- Refineries
- Generators
- Compressor Stations
- High Voltage Equipment
- Power Plants
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Petrochemical Offshore/Onshore
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount
12545 Stainless Steel Weather Shield
16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current Voltage Power	1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-20°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

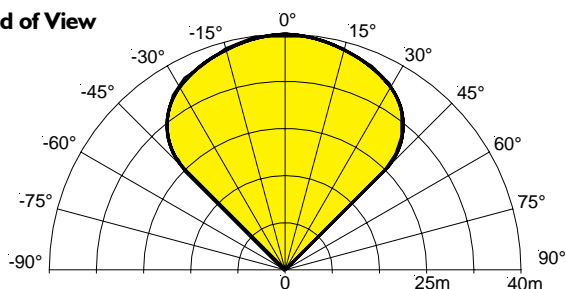
Range - Class 1*	0.1 m ² n-heptane at 25m
- Class 3	0.1 m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	1.0 to 2.7µm

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	16

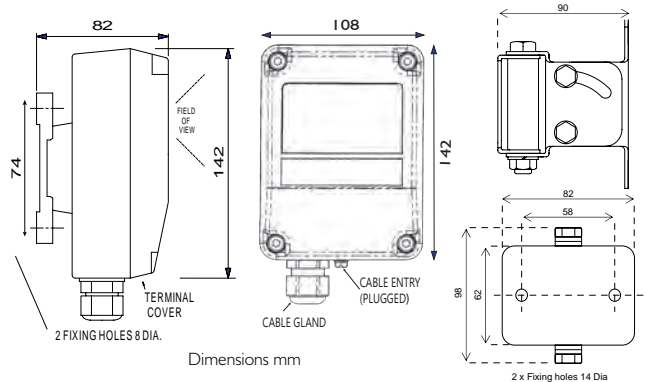
* has been tested and approved at Class I

Field of View



To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.



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Document Part No: 24-0259-02

Talentum® I650I

IR² Flame Detector Stainless Steel

The Talentum® dual Infra-Red (IR²) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has two IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- High immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

Worldwide approvals include EN54:10, with LPCB certification.

Visit www.ffeu.com for up to date approvals information.



Applications

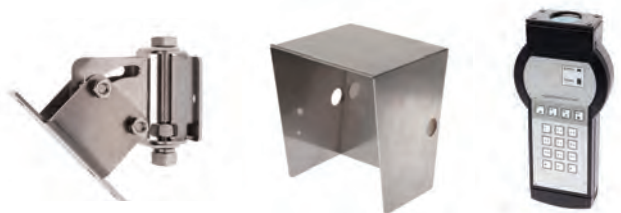
- Compressor Stations
- Chemical Plants
- Tunnels
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Coal Handling
- Printing
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount (304)

12545 Stainless Steel Weather Shield (304)

16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Stainless Steel 316 Housing
Housing Colour	Natural
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2.1kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed
- Programmable	Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range	- Class 1* - Class 3	0.1m ² n-heptane at 25m 0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone	
Operating Wavelength		
Band - IR		0.75 to 2.7µm

Approvals

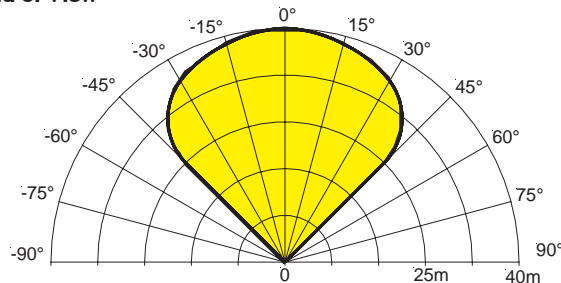
CPR	0832-CPR-F0582
LPCB	1204a/10

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

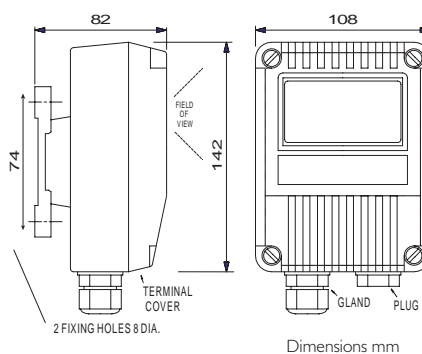
* has been tested and approved at Class I

Field of View

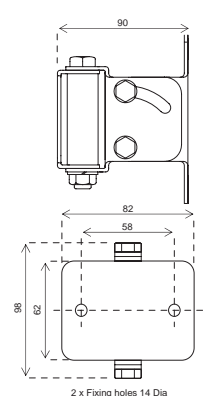


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

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Talentum® I6509

Stainless Steel IR³ Flame Detector

The Talentum® triple Infra-Red (IR³) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

Worldwide approvals include EN54: I0, with Vds and LPCB certification,.

Visit www.ffeu.com for up to date approvals information.



Applications

- Refineries
- Compressor Stations
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Waste Recycling
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangers
- Coal Handling
- Printing
- Petrochemical Offshore/Onshore
- LNG/LPG Production
- Biomass Storage and Handling

Accessories

- 07127 Stainless Steel Adjustable Mount (316)
- 12545 Stainless Steel Weather Shield (304)
- 16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Stainless Steel 316 Housing
Housing Colour	Natural
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2.1 kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed Latching or Non-latching 1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)
- Programmable	
- Ratings: Current Voltage Power	

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range	- Class 1* - Class 3	0.1 m ² n-heptane at 25m 0.1 m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone	
Operating Wavelength		
Band - IR		0.75 to 2.7µm

Approvals

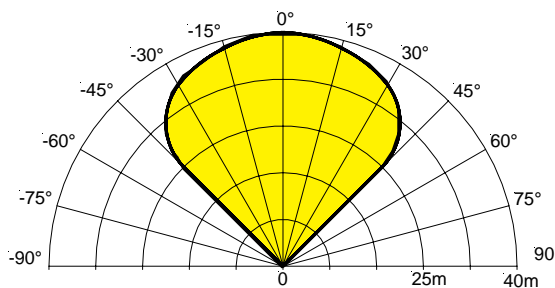
CPR	0832-CPR-0583
LPCB	729a/01
VdS	G212189

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

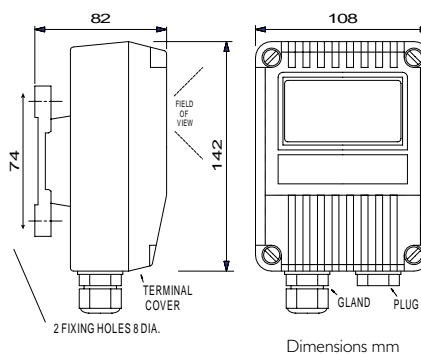
* has been tested and approved at Class I

Field of View

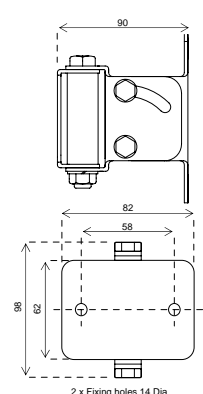


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0254-03



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Talentum® I6511

Flameproof (Exd) IR² Flame Detector

The Talentum® IR² Flameproof Dual Infra-Red (IR²) Flame Detector is designed to protect hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has two IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- High immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

ATEX & IECEx certified:
 Ex II 2GD Ex d IIC T4 Gb
 Ex tb IIIC T1 35°C Db IP66 A2I
 [Zones 1, 21, 2 and 22]



Worldwide approvals include EN54:10, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.

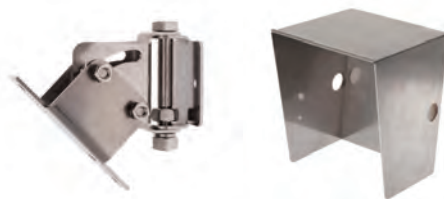


Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Coal Handling
- Printing
- LNG/LPG Production

Accessories

- 07127 Adjustable Mount Stainless Steel (316)
- 07279 Weather Shield Stainless Steel (304)
- 07310 Weather Shield Stainless Steel (316)



Talentum® I6511

Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.5kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed Latching or Non-latching 1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
- Class 3	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Approvals

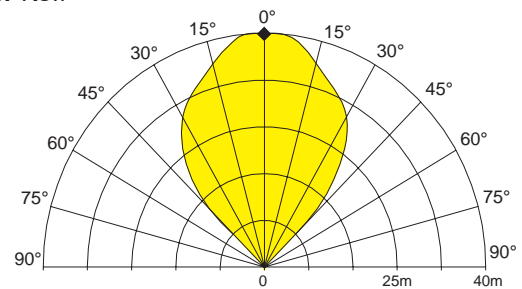
CPR	0832-CPR-F0577
LPCB	1204a/05
AFNOR	LIR 009 B2
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

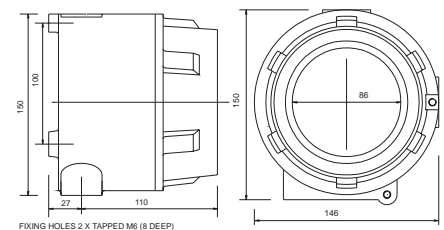
* has been tested and approved at Class I

Field of View

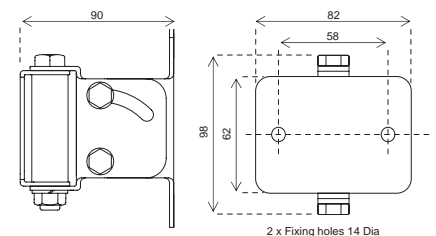


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points. Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Dimensions mm

Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

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Document Part No: 24-0246-03

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Talentum® I6519

Flameproof (Exd) IR³ Flame Detector

The Talentum® flameproof triple Infra-Red (IR³) Flame Detector is designed to protect hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1 - 15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX & IECEx certified:
 Ⓜ I 2GD Ex d IIC T4 Gb
 Ex tb IIIC T135°C Db IP66 A21
 [Zones 1, 21, 2 and 22]



Worldwide approvals include EN54:10, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.

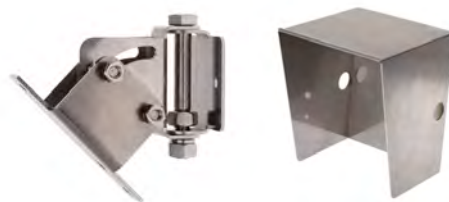


Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage and Handling
- LNG/LPG Production
- Coal Handling

Accessories

- 07127 Adjustable Mount Stainless Steel (316)
- 07279 Weather Shield Stainless Steel (304)
- 07310 Weather Shield Stainless Steel (316)



Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.5kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed
- Programmable	Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
- Class 3	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

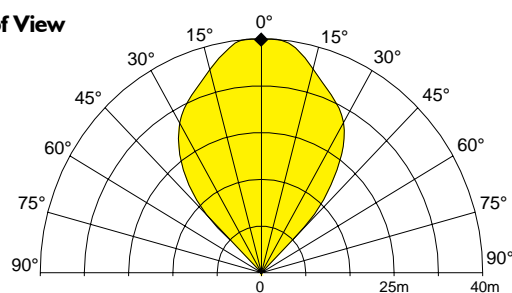
Approvals

FM Approved	Cert. No. 3059453
CPR	0832-CPR-F0578
LPCB	1204a/06
VdS	G212189
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

Response Characteristics – High Sensitivity

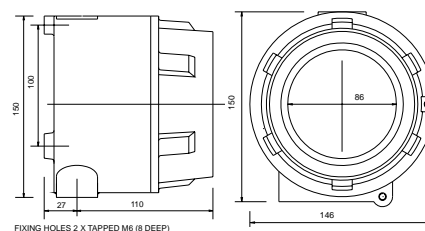
Fuel	Flame Size m (ft)	Distance m (ft)	FFE Factory Tested Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

Field of View

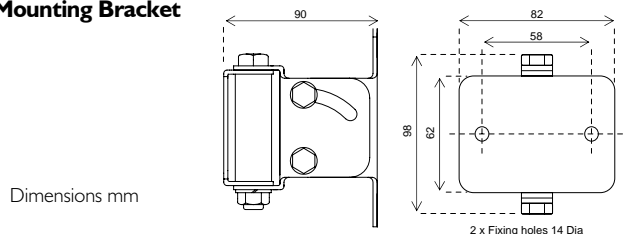


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points. Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0253-03



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Talentum[®] I6521

Flameproof (Exd) UV/IR² Flame Detector

The Talentum[®] Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μ m emissions through to invisible fires such as hydrogen.


The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques. The Talentum[®] UV/IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Highest immunity to false sources
- Solar blind
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

ATEX certified:
 II 2GD Ex d IIC T6 Gb
 [Zones 1, 21, 2 and 22]



Worldwide approvals include EN54:10, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.

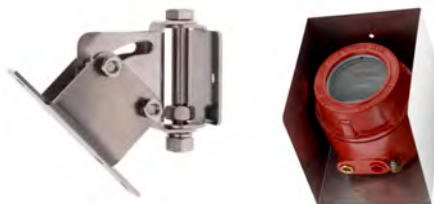


Applications

- Chemical Plants
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage and Handling
- LNG/LPG Production

Accessories

- 07127 Adjustable Mount Stainless Steel
- 07279 Weather Shield Stainless Steel



Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.5kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed
- Programmable	Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
- Class 3	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	0.75 to 2.7µm

Approvals

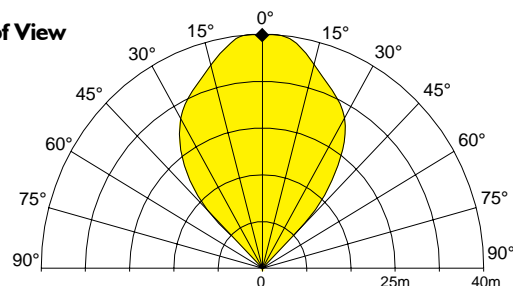
CPR	0832-CPR-F0579
LPCB	1204a/07
VdS	G212190
ISSEP ATEX	ISSEP03ATEX012X

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	FFE Factory Tested Distance m(ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	50 (164)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	50 (164)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

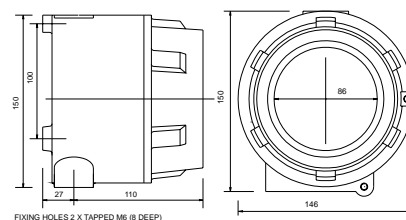
* has been tested and approved at Class I

Field of View

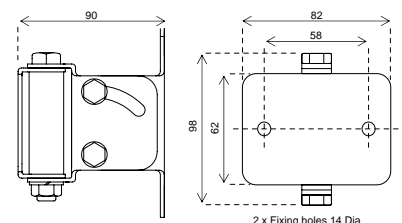


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points. Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Dimensions mm

Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

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Document Part No: 24-0263-04



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Talentum[®] I653I

Stainless Steel UV/IR² Flame Detector

The Talentum[®] Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect areas where open fires may be expected. Talentum detects all flames, from hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation along with ultra-violet emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques.

The Talentum[®] UV/IR² detector has selectable output options of relay contacts or 4 to 20mA signal as standard.

Features

- Highest immunity to false sources
- Solar blind
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

Worldwide approvals include EN54:10, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.



Applications

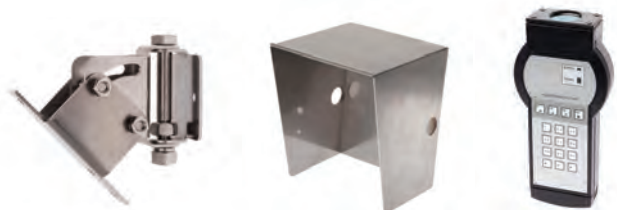
- Applications
- Refineries
- Generators
- Compressor Stations
- High Voltage Equipment
- Power Plants
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Petrochemical Offshore/Onshore
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount (316)

12545 Stainless Steel Weather Shield (304)

16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Stainless Steel 316
Housing Colour	Natural
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2.1kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current Voltage Power	1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1* - Class 3	0.1m ² n-heptane at 25m 0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	1.0 to 2.7µm

Approvals

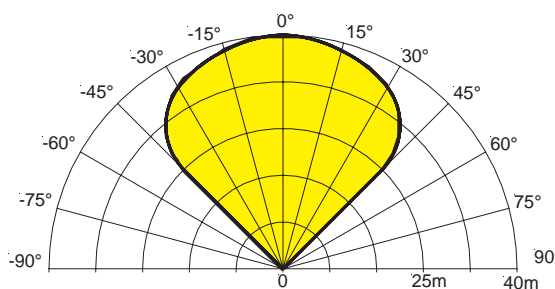
CPR	0832-CPR-0584
LPCB	729a/12
VdS	G212190

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Factory Tested Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

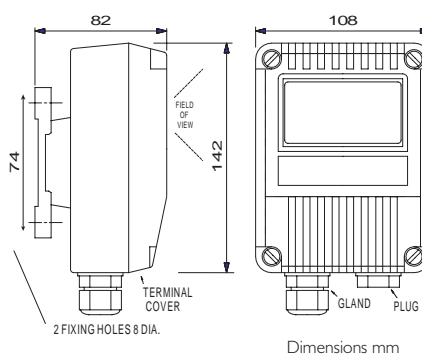
* has been tested and approved at Class I

Field of View

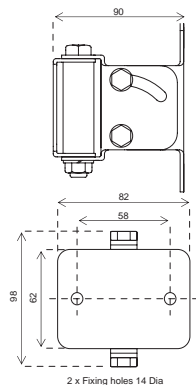


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points $D_{max} : D_{min}$ should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed $\pm 30^\circ$.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0261-04



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Talentum® I654I

Stainless Steel Flameproof (Exd) IR² Flame Detector

The Talentum® flameproof dual Infra-Red (IR²) Flame Detector is designed to protect specialist hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has two IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Highest immunity to false sources
- Increased environmental protection
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX & IECEx certified:
 II 2GD Ex d IIC T4 Gb
 Ex tb IIIC T1 35°C Db IP66 A21
 [Zones 1, 21, 2 and 22]

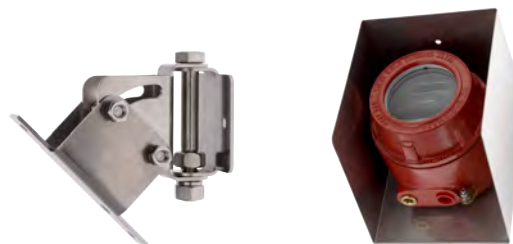


Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Coal Handling
- Printing
- LNG/LPG Production

Accessories

07127 Adjustable Mount Stainless Steel (316)
 07279 Stainless Steel Weather Shield (316)



Mechanical Specification

Housing Material	Stainless Steel 316
Housing Colour	Natural
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	6kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max.
	(Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1*	0.1 m ² n-heptane at 25m
- Class 3	0.1 m ² n-heptane at 12m
	(see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength Band - IR	0.75 to 2.7µm

Approvals

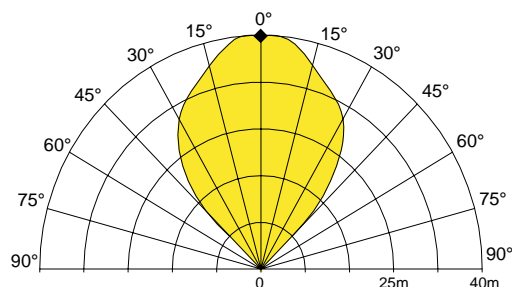
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	FFE Factory Tested Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	8

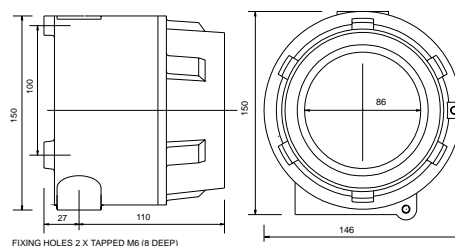
* has been tested and approved at Class I

Field of View

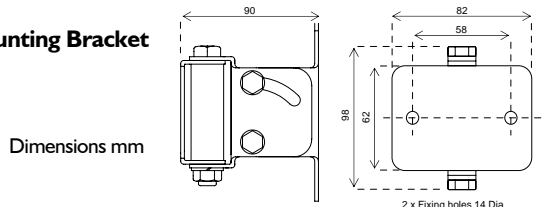


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0249-03



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Talentum® I6549

Stainless Steel Flameproof (Exd) IR³ Flame Detector

The Talentum® flameproof triple Infra-Red (IR³) Flame Detector is designed to protect specialist hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Increased environmental protection
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX & IECEx certified:
 I I 2GD Ex d IIC T4 Gb
 Ex tb IIIC T1 35°C Db IP66 A21
 [Zones 1, 21, 2 and 22]



Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage and Handling
- LNG/LPG Production
- Coal Handling

Accessories

- 07127 Mounting Bracket (316)
- 07279 Stainless Steel Weather shield (304)



Mechanical Specification

Housing Material	316 Stainless Steel
Housing Colour	Natural
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	6 kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max.
	(Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range	- Class 1* - Class 3	0.1 m ² n-heptane at 25m 0.1 m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View		90° min. Cone
Operating Wavelength		
Band - IR		0.75 to 2.7µm

Approvals

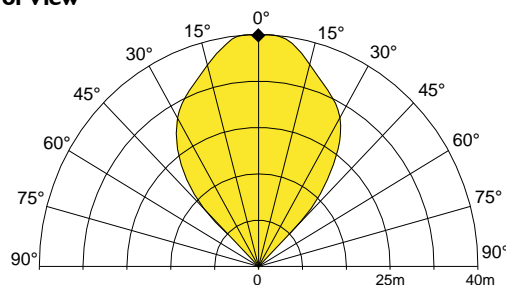
FM Approved	Cert. No. 3059453
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	FFE Factory Tested Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	8

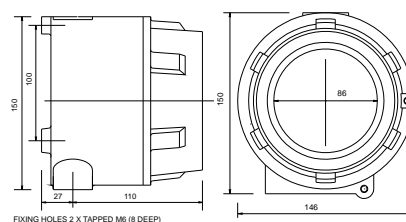
* has been tested and approved at Class 1

Field of View

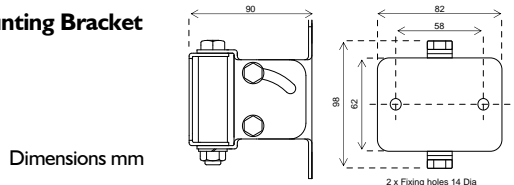


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0256-03

Talentum® I6559

Intrinsically Safe (IS) IR³ Flame Detector

The Talentum® Intrinsically Safe (IS) triple Infra-Red (IR³) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 µm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for use in Zone 0, 1 or 2
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

ATEX System Approvals:

ATEX
 II 1G EEx ia IIC T4



SIL 2 rated.

Visit www.ffeu.com for up to date approvals information.



Applications

- Refineries
- Fuel Loading Racks
- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Coal Handling
- Printing
- Petrochemical Offshore/ Onshore
- LNG/LPG Production
- Biomass Storage and Handling

Accessories

07127 Stainless Steel Adjustable Mount (316)
 12545 Stainless Steel Weather Shield



Mechanical Specification

Housing Material	316 Stainless Steel
Housing Colour	Silver
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP65

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Approvals

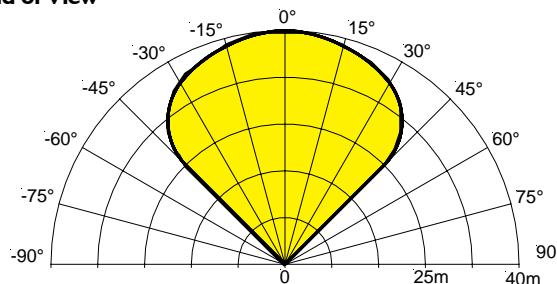
SIL 2	C127_CT003_(3.0)
BASEEFA	BAS02ATEX1001

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	Factory Tested Distance m (ft)	Average Response time (sec)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	12
Hydrogen (non- visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

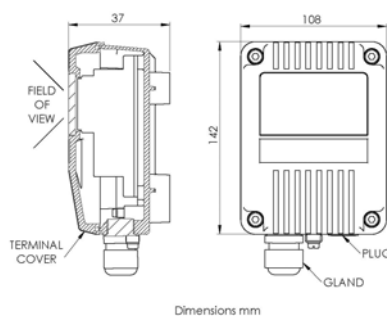
* has been tested and approved at Class I

Field of View

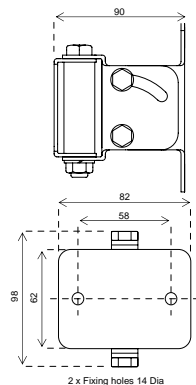


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0054-04

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Talentum® I6561

Stainless Steel Flameproof (Exd) UV/IR² Flame Detector

The Talentum® flameproof Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect specialist hazardous areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The UV/IR Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques. The Talentum® UV/IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Highest immunity to false sources
- Increased environmental protection
- Solar blind
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals

ATEX:

Ex II 2GD Ex d IIC T6
[Zones 1, 21, 2 and 22]

Visit www.ffeu.com for up to date approvals information.



Applications

- Chemical Plants
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Printing
- Refineries
- Fuel Loading Racks
- Storage Tanks
- Aircraft Hangers
- Petrochemical Onshore/Offshore
- Biomass Storage and Handling
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount (316)

07310 Stainless Steel Weather Shield (316)



Talentum® I 656 I

Mechanical Specification

Housing Material	Stainless Steel
Housing Colour	Natural
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	6kg
Cable Gland Entries	3 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised 4mA, current loop, RL2 off 3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised 20mA, current loop, RL1 & 2 off 9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max.
	(Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating	IP66

Performance

Range - Class 1*	0.1 m ² n-heptane at 25m
- Class 3	0.1 m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	1.0 to 2.7µm

Approvals

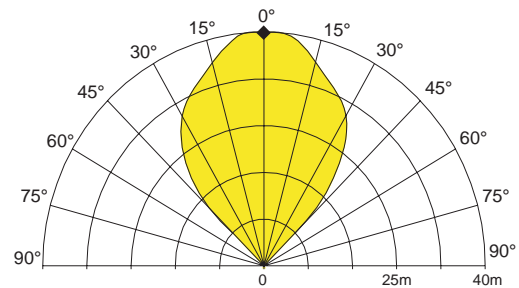
ISSeP ATEX	ISSeP03ATEX012X
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Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

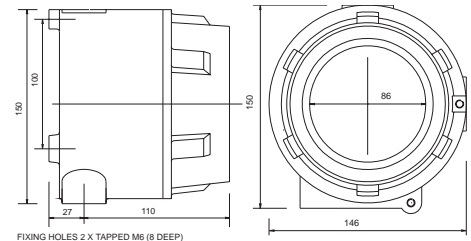
* has been tested and approved at Class I

Field of View

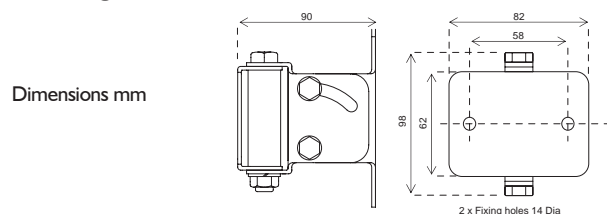


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with the recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0264-03

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Talentum® I6571

Intrinsically Safe (IS) IR² Flame Detector

The Talentum® Intrinsically Safe (IS) dual Infra-Red (IR²) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has two IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR² detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- High immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for use in Zone 0, 1 or 2
- Suitable for indoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

ATEX certified:




Worldwide approvals include EN54:10, with LPCB certification.
 Visit www.ffeu.com for up to date approvals information.

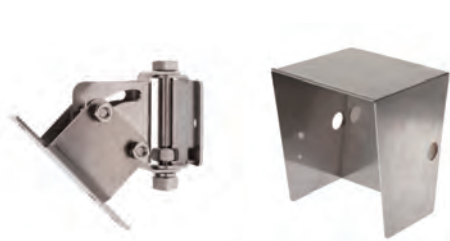


Applications

- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Coal Handling
- Printing
- LNG/LPG Production

Accessories

- 07127 Stainless Steel Adjustable Mount (316)
- 12545 Stainless Steel Weather Shield (304)



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed
	Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max.
	(Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
	0.1m ² n-heptane at 12m
- Class 3	(see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Approvals

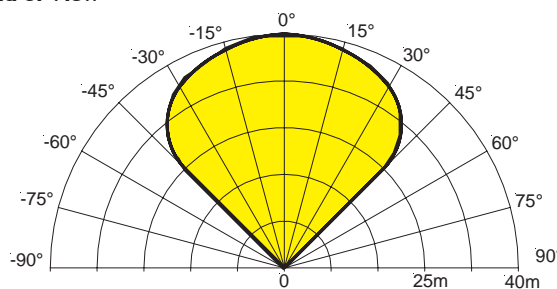
CPR	0832-CPR-F0580
LPCB	1204a/08
BASEEFA	BAS02ATEX1001

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

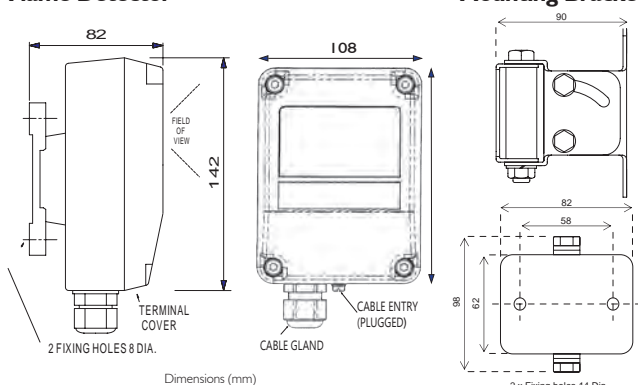
* has been tested and approved at Class I

Field of View



To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0245-04



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Talentum® I6579

Intrinsically Safe (IS) IR³ Flame Detector

The Talentum® Intrinsically Safe (IS) triple Infra-Red (IR³) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard.

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for use in Zone 0, 1 or 2
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

ATEX certified:
 II IG EEx ia IIC T4



Worldwide approvals include EN54: I0, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.



Applications

- Refineries
- Fuel Loading Racks
- Chemical Plants
- Waste Recycling
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Coal Handling
- Printing
- Petrochemical Offshore/ Onshore
- LNG/LPG Production
- Biomass Storage and Handling

Accessories

07127 Stainless Steel Adjustable Mount (316)
 12545 Stainless Steel Weather Shield (304)



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Approvals

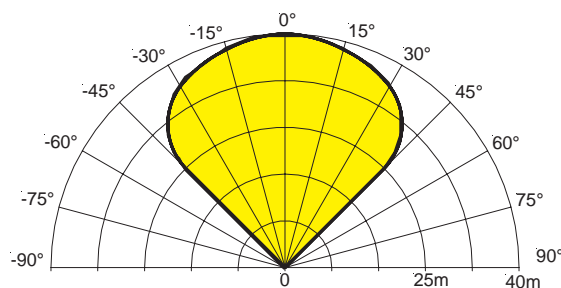
CPR	0832-CPR-F0581
LPCB	1204a/09
VdS	G212189
BASFEFA	BAS02ATEX1001

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	12
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	25
Hydrogen (non- visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	8

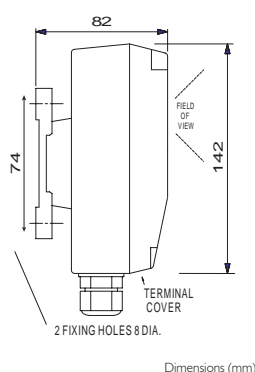
* has been tested and approved at Class I

Field of View



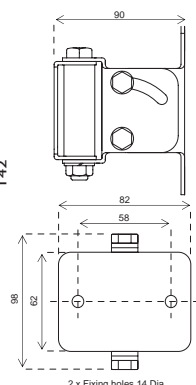
To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Dimensions (mm)

Mounting Bracket



Dimensions (mm)

Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum[®] flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0252-04



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Talentum® I6589

IR³ Flame Detector

The Talentum® triple Infra-Red (IR³) Flame Detector is designed to protect areas where open fires may be expected and detects almost all flames, including hydrocarbon fires with 4.3 μm emissions through to invisible fires such as hydrogen.

The IR³ Flame Detector is sensitive to flickering, low frequency (1- 15Hz) infra-red radiation emitted by flames during combustion even if the lens is contaminated by a layer of oil, dust, water, vapour or ice.

This detector has three IR sensors which respond to different IR wavelengths in order to discriminate between flames and spurious sources of radiation. False alarms from flickering sunlight are avoided by a combination of filters and signal processing techniques.

The Talentum® IR³ detector has selectable output options of relay contacts or 4-20mA signal, as standard..

Features

- Excellent immunity to false sources
- Tolerant of fumes, vapours, dust and mist
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

Worldwide approvals include EN54:10, with VdS and LPCB certification.

Visit www.ffeu.com for up to date approvals information.



Applications

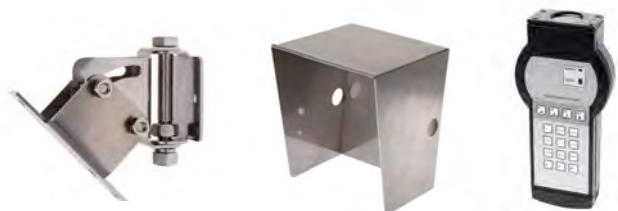
- Refineries
- Compressor Stations
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Waste Recycling
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Spray Booths
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Coal Handling
- Printing
- Petrochemical Offshore/ Onshore
- LNG/LPG Production
- Biomass Storage and Handling

Accessories

07127 Stainless Steel Adjustable Mount

12545 Stainless Steel Weather Shield

16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	
- Programmable	Normally Open or Normally Closed Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Operating Wavelength	
Band - IR	0.75 to 2.7µm

Approvals

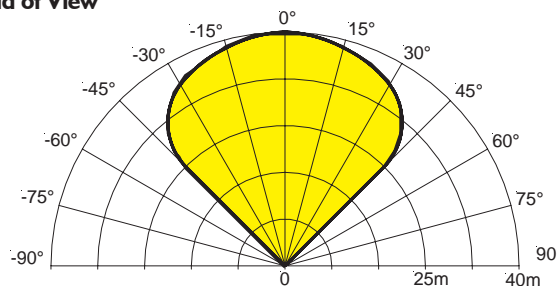
FM Approved	Cert. No. 3059453
CPR	0832-CPR-F0583
LPCB	1204a/11
VdS	G212189

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Certified Distance m (ft)	Factory Tested Distance m (ft)	Average Response time @ 25m (Seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	50 (164)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)		12
Hydrogen (non- visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)		16

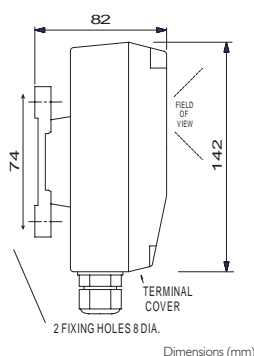
* has been tested and approved at Class I

Field of View

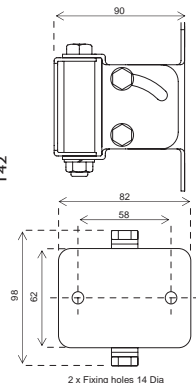


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0251-04



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Talentum® I659I

UV/IR² Flame Detector

The Talentum® Ultra-Violet, Dual Infra-Red (UV/IR²) Flame Detector is designed to protect areas where open fires may be expected and detects most flames from hydrocarbon fires with 4.3µm emissions through to invisible fires such as hydrogen.

The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation along with ultra-violet emitted by flames during combustion.

This detector has a UV sensor and two IR sensors which respond to different wavelengths of both the ultra-violet and the infra-red spectrum. The signals from these sensors are processed by the detector and checked for characteristics of a flame. The simultaneous detection of both the UV and the IR light by the sensors will signal an alarm. False alarms from flickering sunlight, arc welding and lightning are eliminated by a combination of UV and dual IR signal processing techniques.

The Talentum® UV/IR² detector has selectable output options of relay contacts or 4 to 20mA signal as standard.

Features

- Highest immunity to false sources
- Solar blind
- High ambient temperature applications
- Suitable for indoor and outdoor areas
- Unaffected by convection currents, draughts or wind
- Proven response to multiple fuel types
- Multi-spectrum detection
- Selectable output options
- Selectable response speed
- Selectable sensitivity levels
- Built in auto and manual test
- Low current consumption
- Fast response to fire

Approvals:

Worldwide approvals include EN54:10, with AFNOR and LPCB certification.

Visit www.ffeu.com for up to date approvals information.



Applications

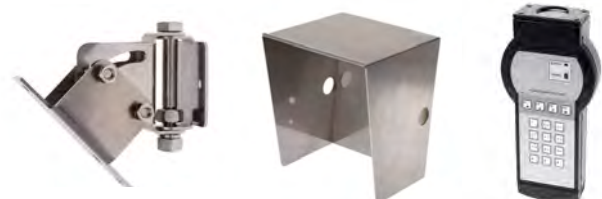
- Refineries
- Generators
- Compressor Stations
- High Voltage Equipment
- Power Plants
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Nuclear Power Sites
- Storage Tanks
- Engine Rooms
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Petrochemical Offshore/Onshore
- LNG/LPG Production

Accessories

07127 Stainless Steel Adjustable Mount (316)

12545 Stainless Steel Weather Shield (304)

16091 Portable Flame Detector Tester



Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142(H) x 108(W) x 82(D) mm
Weight	2kg
Cable Gland Entries	2 x 20mm
Wiring	1.0 to 4.0mm ²

Electrical Specification

Supply Voltage	14 to 30Vdc
Quiescent Current	8mA, RL2 energised
	4mA, current loop, RL2 off
	3mA, RL2 off
Alarm Current	28mA, RL1 & RL2 energised
	20mA, current loop, RL1 & 2 off
	9mA, RL1 energised
Power Up Time	2 seconds max.
Test Signal Voltage	14 to 30Vdc
Relay Outputs	Normally Open or Normally Closed
- Programmable	Latching or Non-latching
- Ratings: Current	1.0A Max.
Voltage	50Vdc Max.
Power	30W Max. (Note: Resistive Loads Only)

Environmental

Operating Temperature	-10°C to +55°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating I	IP66

Performance

Range - Class 1*	0.1m ² n-heptane at 25m
- Class 3	0.1m ² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response	
- UV	185 to 260nm
- IR	1.0 to 2.7µm

Approvals

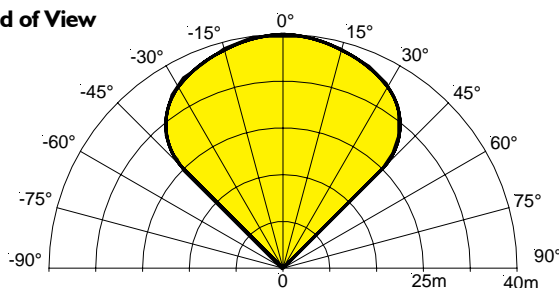
FM Approved	Cert. No. 3059453
CPR	0832-CPR-F0584
LPCB	1204a/12
VdS	G212190

Response Characteristics – High Sensitivity

Fuel	Flame Size m (ft)	Distance m (ft)	FFE Factory Tested Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	60 (196)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	30 (98)	16

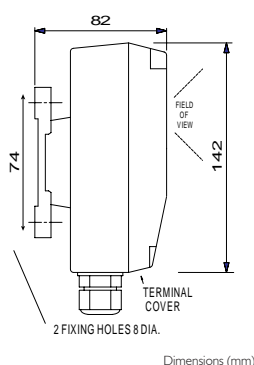
* has been tested and approved at Class I

Field of View

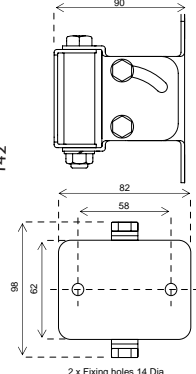


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points $D_{max} : D_{min}$ should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed $\pm 30^\circ$.

Flame Detector



Mounting Bracket



Installation Recommendations

Please refer to our User Manual for mounting and wiring instructions. The installation of Talentum® flame detectors should be undertaken in accordance with recognised national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. FFE Ltd assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document Part No: 24-0266-04



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Talentum[®] I6091

Flame Sensor Test Unit

The test unit has been designed to generate a wide range of optical output signals, for the testing of Talentum flame detectors.

The test unit simulates the flickering flame signal 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 many 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. This unit has been designed for use with Talentum flame detectors, but may be compatible with other devices.

Features

- Wide Spectral Output - UV, Visible, Near IR, Mid-IR
- Tests many Flame Sensors Types UV, UV/IR, UV/IR², IR³, IR², IR
- Portable with Rechargeable NiCd Battery Pack and Charger
- Selectable Optical Output Type
 - Constant Illumination
 - Regular Flashing Sources (Range of Frequencies)
 - Irregular Flickering Sources (Resembling Flames)
- Selectable Optical Output Intensity with LED Bar Graph Indication
- Range typically 3 metres and beyond
- 30 Second Timeout on Each Test
- Auxiliary 24Vdc Supply for Testing



Mechanical Specification

Housing Material	Test unit: ABS and Noryl Charger: 94V-O polycarbonate
Housing Colour	Black
Dimensions	260(H) x 90/128(W) x 60(D) mm
Weight	1kg

Electrical Specification

Charger Input Voltage	85Vac to 265Vac @ 47Hz to 440Hz
Test Unit Battery Voltage	24Vdc (Ni-Cd)
Test Unit Auxiliary 24Vdc Output Current	0.1Amp. max.

Light Source Performance

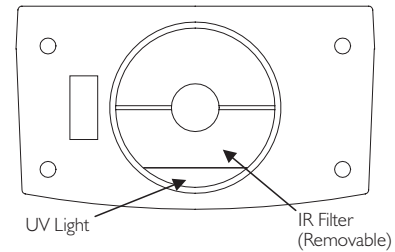
Light Source Power	20W max
Beam Angle	8° Cone
Spectral Response	UV Visible Near IR Mid-IR
Test Range	200nm to 4.3µm 5m typical

Environmental

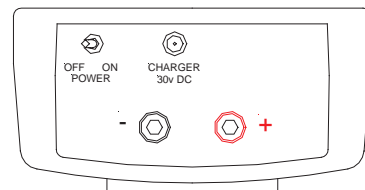
Operating Temperature	-15°C to +50°C
Charger Temperature	0°C to +50°C
Relative Humidity	95% Non condensing
IP Rating	IP54
RFI/EMC: Test Unit	EN61000-6-1, EN61000-6-2 EN61000-6-3, EN61000-6-4
Charger	EN 50130-4, EN 55022 FCC 20780 Level B EN 55022 Level B
Charger Safety Standards	Approved according to UL 1950, CSA A22.2 no 234, IEC950, EN 60950, TÜV file No S9954870, S9954887 and S9954856

Transport Case

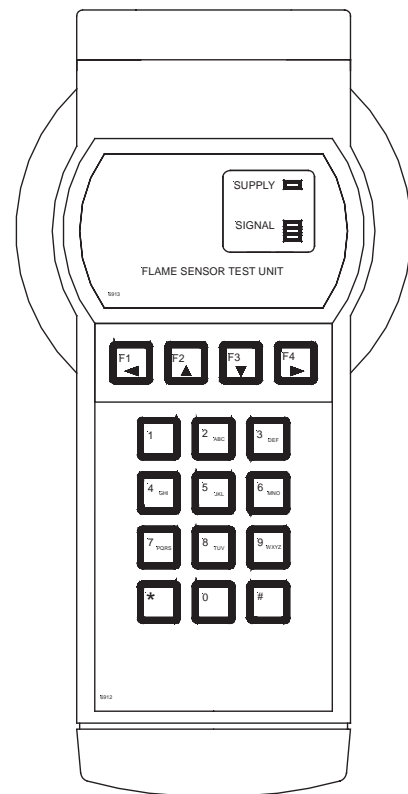
Colour	Bright Blue
Dimensions	375(L) x 295(W) x 75(D) mm



Test Unit Top View of Light Source



Test Unit with Base Cover Removed



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Document Part No: 24-0271-01