

## Talentum® I6509

### Stainless Steel IR<sup>3</sup> Flame Detector

The triple Infra-Red (IR<sup>3</sup>) 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 IR<sup>3</sup> 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 IR<sup>3</sup> 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

#### FM Approved

Visit [www.ffeu.com](http://www.ffeu.com) for up to date approvals information.

Class I, Div. I, Groups A, B, C, D T4, IP66  
Class I, Zone I, AEx db IIC Gb T4, IP66  
Class II/III, Div. I, Groups E, F, G T4, IP66



#### 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 (304)

12545 Stainless Steel Weather Shield (304)

I6091 Portable Flame Detector Tester



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## Mechanical Specification

Housing Material	Stainless Steel 316
Housing Colour	Natural
Dimensions	5.59"H x 4.25"W x 3.23"D 142(H) x 108(W) x 82(D) mm
Weight	4.63 lbs (2.1kg)
Cable Gland Entries	2 x 0.79" (2 x 20mm)
Wiring	1.0 to 4.0mm <sup>2</sup>

## 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 - Ratings: Current Voltage Power	Normally Open or Normally Closed Latching or Non-latching 1.0A Max. 50Vdc Max. 30W Max. (Note: Resistive Loads Only)

## Environmental

Operating Temperature	14°F to 131°F (-10°C to +55°C)
Storage Temperature	-4°F to 149°F (-20°C to +65°C)
Relative Humidity	95% Non condensing
IP Rating I	IP66

## Performance

Range - Class 1* - Class 3	0.1m <sup>2</sup> n-heptane at 25m 0.1m <sup>2</sup> 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

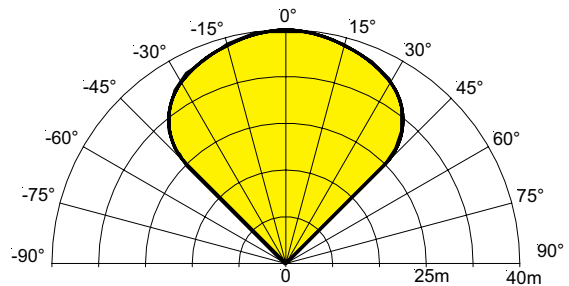
CPR	0832-CPR-0583
LPCB	729a/01
VdS	G212189
SIL 2	C127_CT003_(2.0)

## 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

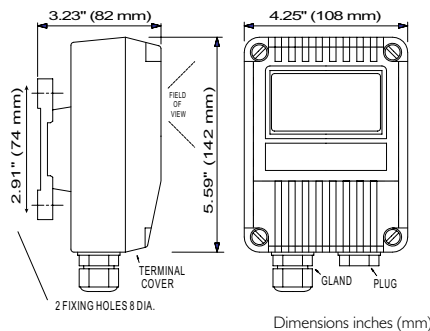
\* has been tested and approved at Class I

## Field of View

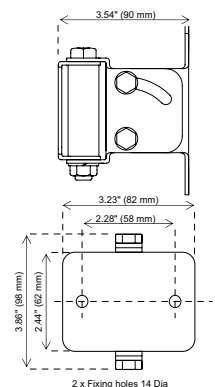


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

## 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.

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