

## Talentum® I6221

### Flameproof (Exd) UV/IR<sup>2</sup> Flame Detector Extended Temperature

The Talentum® flameproof Ultra-Violet, dual Infra-Red (UV/IR<sup>2</sup>) 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/IR<sup>2</sup> 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/IR<sup>2</sup> 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](http://www.ffeu.com) for up to date approvals information.



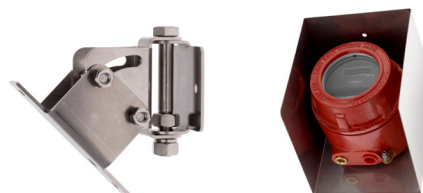
#### Applications

- 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 <sup>2</sup>   |

## Electrical Specification

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

## Environmental

|                       |                    |
|-----------------------|--------------------|
| Operating Temperature | -20°C to +55°C     |
| Storage Temperature   | -20°C to +85°C     |
| Relative Humidity     | 95% Non condensing |
| IP Rating             | IP66               |

## Performance

|                   |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| Range - Class 1*  | 0.1m <sup>2</sup> n-heptane at 25m                                           |
| - Class 3         | 0.1m <sup>2</sup> n-heptane at 12m<br>(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

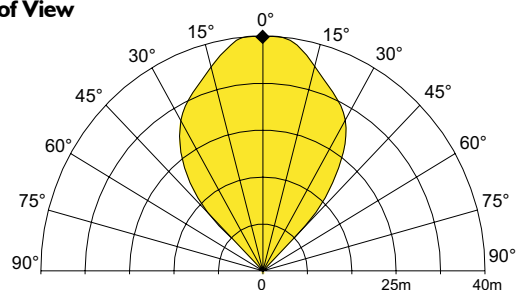
|             |                   |
|-------------|-------------------|
| FM Approved | Cert. No. 3059453 |
| ISSEP ATEX  | ISSEP03ATEX012X   |

## Response Characteristics – High Sensitivity

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

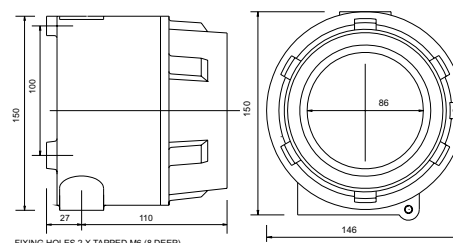
\* has been tested and approved at Class I

## Field of View

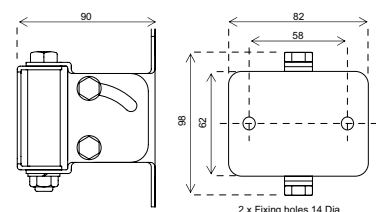


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

## 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 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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