

## Talentum® 16542

### Flameproof (Exd) IR<sup>3</sup> Flame Detector

The Talentum® flameproof triple Infra-Red (IR<sup>3</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 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 Talentum® 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

#### Approvals:

ATEX & IECEx certified:  
 II 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, as well as SIL 2 rated.

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

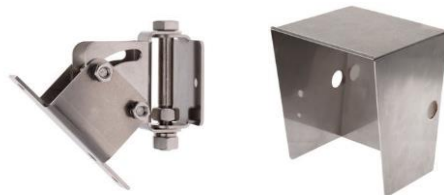


#### Applications

- 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)



# Talentum® 16542

## Mechanical Specification

Housing Material	Copper Free Aluminium Alloy
Housing Colour	Red
Dimensions	150(H) x 146(W) x 137(D) mm
Weight	2.0kg
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 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 <sup>2</sup> n-heptane at 25m
- Class 3	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

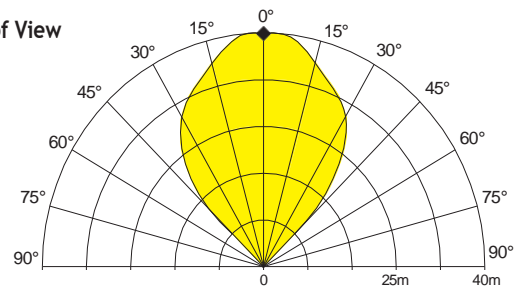
## Approvals

CPR	0832-CPR-F0578
LPCB	1204a/06
VdS	G212189
SIL 2	C127_CT003_(2.0)
Baseefa ATEX	Baseefa08ATEX0270
Baseefa IECEx	IECEx BAS 08.0073

## Response Characteristics - High Sensitivity

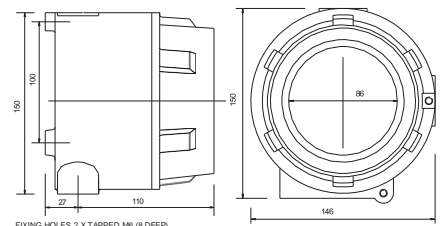
Fuel	Flame Size m (ft)	Distance m (ft)	FFE Factory Tested Distance m (ft)	Average Response time(seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	60 (196)	8
Methylated Spirit* (Clear flame)	0.5x0.5 (1.6x1.6)	25 (82)	60 (196)	12
Hydrogen (non-visible flame)	0.1x0.5 (0.3x1.6)	12 (39)	30 (98)	16

## Field of View

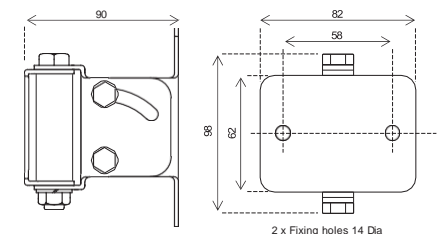


To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points. Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

## Flame Detector



## Mounting Bracket



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. FIRE RAY 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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