



Flameproof (Exd) IR3 Flame Detector 16519

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

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)

APPROVALS

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

SPECIFICATION

Mechanical Specification

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

Electrical Specification

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

Environmental

Operating Temp	- 10 C to + 55 C
Storage Temp	- 20 C to + 65 C
Relative Humidity	95% non-condensing
IP Rating	IP 66

Performance

Range	- Class 1	0.1 m ² n-heptane at 25 m
	- Class 3	0.1 m ³ n-heptane at 12m (see EN54: 10 for sens. settings)
Field of View		90 degree min. cone
Op. Wavelength Band-IR		0.75 to 2.7/um

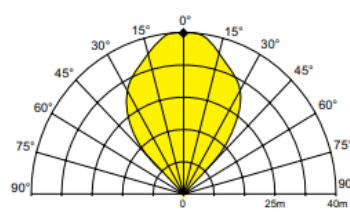
Approvals

FM Approved	Cert no. 3059453
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)	0.5 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

