eurotech®
fire systems limited

Issue 1/2020

Intrinsically Safe (IS) IR3 Flame Detector 16579

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

The IR³ Flame Detector is sensitive to fl ickering, low frequency (1-15Hz) infra-red radiation emitted by fl ames 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 fl ames and spurious sources of radiation. False alarms from fl ickering sunlight are avoided by a combination of fi lters 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 & mist
- Suitable for use in Zone 0, 1 or 2
- Suitable for indoor & 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 & manual test
- Low current consumption
- Fast response to fire

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 & Handling

ACCESSORIES

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

APPROVALS

ATEX Certified: II IG EEx ia IIC T4

Worldwide approvals include EN54:10, with VdS and LPCB certification, as well as SIL 2 rated.

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SPECIFICATION

Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	142 x 108 x 82 mm (H x W x D)
Weight	2 kg
Cable Gland Entries	2 x 20 mm
Wiring	1.0 to 4.0 mm2

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 - Programmable - Ratings: Current Voltage Power	Normally Open or Normally Closed Latching or Non-latching 1.0 A max 50 Vdc max 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 - Class 3	0.1 m2 n-heptane at 25 m 0.1 m3 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

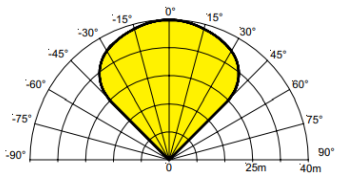
CPR	0832-CPR-0583
LPCB	729a / 01
VdS	G212189
SIL 2	C127_CT003_(2.0)
BASEEFA	BAS02ATEX1001

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 1

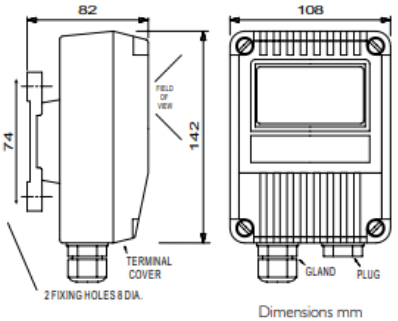
Field of View



To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points

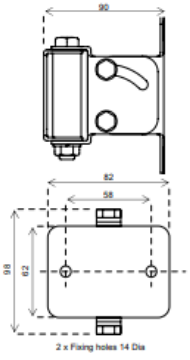
Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector



Dimensions mm

Mounting Bracket



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