SAEVu

SPECIALTY DETECTION BY SPACE AGE ELECTRONICS

FE-16591

UV/IR² Flame Detector

The Talentum® Ultra-Violet, dual Infra-Red (UV/IR²) Flame Detector is designed to protect areas where open fires may be expected and detects most flames from hydrocarbon fires with 4.3μm emissions through to invisible fires such as hydrogen.

The UV/IR² Flame Detector is sensitive to flickering, low frequency (1-15Hz) infra-red radiation along with ultra-violet 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/IR² detector has selectable output options of relay contacts or 4 to 20mA signal as standard.

Features

- Highest immunity to false sources
- Solar blind
- High ambient temperature applications
- 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

- Refineries
- Generators
- Compressor Stations
- High Voltage Equipment
- Power Plants
- Fuel Loading Racks
- Chemical Plants
- Tunnels
- Nuclear Power Sites

- Storage Tanks
- Engine Rooms
- Pharmaceutical Production
- Military Applications
- Marine Industry
- Aircraft Hangars
- Petrochemical Offshore/Onshore
- LNG/LPG Production

Accessories

FE-07127 Stainless Steel Adjustable Mount

FE-12545 Stainless Steel Weather Shield

FE-16091 Portable Flame Detector Tester

FM Approved

Visit www.1sae.com for up to date approvals information.
Class I, Div. 1, Groups A, B, C, D T4, IP66
Class I, Zone 1, AEx db IIC Gb T4, IP66
Class II/III, Div. 1, Groups E, F, G T4, IP66

FM APPROVED

FE-16591

Mechanical Specification

Housing Material	Die Cast Zinc Alloy (ZA12)
Housing Colour	Blue
Dimensions	5.59"H x 4.25"W x 3.23"D (142 H x 108 W x 82 D mm)
Weight	4.41lbs (2kg)
Cable Gland Entries	2 x .79" (2 x 20mm)
Wiring	1.0 to 4.0mm²

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	-20°C to +60°C
Storage Temperature	-20°C to +65°C
Relative Humidity	95% Non condensing
IP Rating l	IP66

Performance

Range - Class 1* - Class 3	0.1m² n-heptane at 25m 0.1m² n-heptane at 12m (see EN54:10 for sensitivity settings)
Field of View	90° min. Cone
Spectral Response - UV - IR	185 to 260nm 1.0 to 2.7μm

Approvals

FM Approved	Cert. No. 3059453
CPR	0832-CPR-F0584
LPCB	1204a/12
VdS	G212190
SIL 2	C127_CT001_(2.0)

Response Characteristics – High Sensitivity

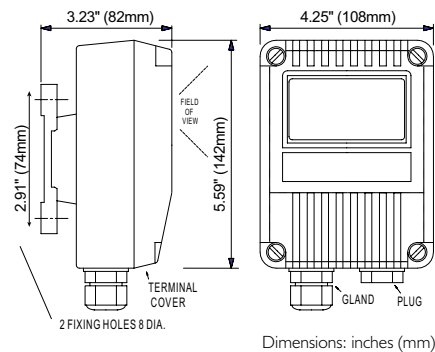| Fuel	Flame Size m (ft)	Distance m (ft)	Average Response time (seconds)
n-Heptane* (Yellow flame)	0.3 x 0.3 (1 x 1)	25 (82)	8
Methylated Spirit* (Clear flame)	0.5 x 0.5 (1.6 x 1.6)	25 (82)	12
Hydrogen (non-visible flame)	0.1 x 0.5 (0.3 x 1.6)	12 (39)	16

* has been tested and approved at Class 1

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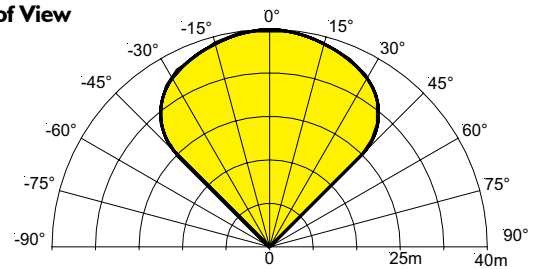
To meet the requirements of EN54:10 clause 5.4, where the ratio of the response points Dmax: Dmin should not exceed 1.41, the horizontal and vertical viewing angles max should not exceed ±30°.

Flame Detector   Mounting Bracket

Dimensions: inches (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.