We see what you can't. The future of flame detection is here.

Multi Spectrum IR Flame Detector

FDS303

Designed for hazardous industries where fast fire detection is critical and nuisance alarms are not an option.

The MICROPACK FDS303 is an explosion proof Multi Spectrum IR3 flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances.

The FDS303 has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at nearly 525 feet, with response times under 1 second on Ultra mode.

Description

Multi Spectrum IR3 Flame Detector

The FDS303 compliments the FDS301 and FDS300 Visual Flame Detectors by delivering superior performance in the detection of hydrocarbon fires which are not detectable in the visible spectrum. The FDS303 utilises the latest IR3 flame detection algorithms to ensure maximum false alarm immunity.

Applications

Typical applications include:

- On/Offshore Oil and Gas Processing Facilities
- Refineries
- Petrochemical Plants
- Chemical Facilities
- Pharmaceutical
- Aircraft Hangars
- Road Tunnels
- Power Generation
- Tank Farms
- Road & Rail Loading Racks
- LNG / LPG
- Warehouses/ Storage Areas
- Waste Recycling/ Biomass Plants
- Printing Industry

Features and Benefits

- Multi Spectrum IR3 design delivers long detection distances and enhanced false alarm immunity
- Continuous optical test
  - Verifies operation and improves device up-time
- Microprocessor controlled heated optics
  - Maintains operation in harsh weather conditions (snow, ice, condensation)
- International hazardous area approvals
  - FM / ATEX / IEC Ex / INMETRO / PESO / ECAS
- Certified performance testing to multiple fuels
  - FM 3260
  - EN 54-10
- Adjustable sensitivity levels
  - Application flexibility
  - Ensure detectors do not cross vote
- External testing with a long-range flame simulator
  - Minimizes the need for scaffolding
- External testing and calibration with a long range flame simulator
- Easy integration using industry standard outputs:
  - Configurable Alarm and Fault Relays
  - 0-20mA
  - HART®
- Certified SIL 2 capable
- 5 year warranty

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ISO 9001:2015 Certified

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Technical Specification

Environmental

Operating Temp:	-76°F to +185°F (-60°C to +85°C)
Storage Temp:	-76°F to +185°F (-60°C to +85°C)
Humidity:	0 to 93% RH non-condensing

Operating Voltage

24 Vdc Nominal – (Range 18 to 32 Vdc)

Power Consumption

3 W minimum (without heater), 12 W at 32 Vdc with heater on maximum.

Field of View

90° horizontal by 90° vertical

Flame Sensitivity

	Fuel	Fire Size	Distance
High sensitivity	n-Heptane	1' x 1' / 30cm x 30cm	525 feet (160m)
	n-Heptane + arc welding	1'x1' / 30cm x 30cm	196 feet (60m)
	Gasoline	1'x1' / 30cm x 30cm	196 feet (60m)
	Diesel	1'x1' / 30cm x 30cm	164 feet (50m)
	Crude oil (heavy fuel)	20"x20" 0.5mx0.5m	164 feet (50m)
	JP4	1'x1' / 30cm x 30cm	196 feet (60m)
	Methane	24" plume / 60 cm	164 feet (50m)
	Ethanol	1'x1' / 30cm x 30cm	137 feet (42m)
	Methanol	1'x1' / 30cm x 30cm	137 feet (42m)
Standard sensitivity	n-Heptane	1'x1' / 30cm x 30cm	98 feet (30m)
	Gasoline	1'x1' / 30cm x 30cm	98 feet (30m)
	JP4	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	24" plume / 60 cm	98 feet (30m)
	Ethanol	1'x1' / 30cm x 30cm	98 feet (30m)

Speed of Response

~5 seconds (Typical) / < 1 second (Ultra Mode)

Enclosure

Dimensions:	Short: 100mm Diameter x 145mm Length Long: 100mm Diameter x 200mm Length
Material:	6082 T6 Aluminium or 316L Stainless Steel
Entry size:	M25 or 3/4 inch NPT
Weight:	Short Enclosure: Aluminium 2.0 kg (4.4 lbs), Stainless Steel 4.5 kg (9.9 lbs) Long Enclosure: Aluminium 2.5 kg (5.5 lbs), Stainless Steel 6.0 kg (13.2 lbs)

Outputs

Configurable relay contacts (SPST 2A at 30Vdc) - alarm and fault.
0-20mA, HART®

Certification

FM approved
Class 1 Div 1, Groups B, C, D T5/T6
Class 1 Zone 1 AEx/Ex db IIC T5/T6
T5 Ambient: -50°C to +85°C
T6 Ambient: -50°C to +70°C

ATEX II 2 G Ex db IIC T5/T6
IECEx Ex db IIC T5/T6
T5 Ambient: -60°C to +85°C
T6 Ambient: -60°C to +70°C

INMETRO Ex db IIC T5/T6
PESO Ex db IIC T5/T6
Ta= -60°C to +85°C

Performance approvals
FM 3260
EN 54-10

Ingress:
IP67 | NEMA type 6P

IEC 61508:
Certified SIL 2 Capable

Marine:
DNV GL Type Approval
ABS Product Assessment

Accessories

- Flame simulator (FS301)
- 2", 3" & 4" Pole mount bracket
- Retrofit mounting bracket
- Marine mounting bracket
- Weathershield
- Duct Mount Bracket
- Air Shield
- Detector Sealing Kit

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