

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

Ultraviolet-Infrared Flame Detector

FDS303 UV/IR

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

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

The FDS303 UV/IR has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at nearly 128 feet in less than 5 seconds.



Description

Ultraviolet and Infrared Flame Detector

The FDS303 UVIR compliments the FDS series by delivering superior performance in the detection of hydrocarbon fires which are not detectable in the visible spectrum. The FDS303 UV/IR utilises the latest 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

- UV/IR 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
- Design to meet 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 SIL2 Capable*
- 5 year warranty

micropacksafety.com

Doc Ref: 3305.0002 Rev 0.6
Subject to modifications. © 2024 Micropack (Engineering) Ltd
ISO 9001:2015 Certified

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

100° horizontal by 80° vertical

Flame Sensitivity

	Fuel	Fire Size	Distance
High sensitivity	n-Heptane	1'x1' / 30cm x 30cm	128 feet (39m)
	n-Heptane + arc welding	1'x1' / 30cm x 30cm	128 feet (39m)
	Gasoline	1'x1' / 30cm x 30cm	128 feet (39m)
	Diesel	1'x1' / 30cm x 30cm	98 feet (30m)
	Crude oil (heavy fuel)	20"x20" 0.5mx0.5m	98 feet (30m)
	JP4	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	39" plume / 1 m	98 feet (37m)
	Ethanol	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	1'x1' / 30cm x 30cm	98 feet (30m)
Standard sensitivity	n-Heptane	1'x1' / 30cm x 30cm	83 feet (25m)
	Gasoline	1'x1' / 30cm x 30cm	83 feet (25m)
	JP4	1'x1' / 30cm x 30cm	55 feet (17m)
	Methane	39" plume / 60 cm	83 feet (25m)
	Ethanol	1'x1' / 30cm x 30cm	55 feet (17m)

Speed of Response

<5 seconds (Typical)

Enclosure

Dimensions: 4" Dia x 8" L (inches)
100 mm Dia x 200 mm

Material: Copper free aluminum
or 316 stainless steel

Entry size: 3/4 inch NPT or M25, Single or Dual

Weight: Aluminum 5.5 lbs (2.5 Kg)
Stainless steel 13.2 lbs (6 Kg)

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 T4
Class 1 Zone 1 AEx/Ex db IIC T4
Ambient: -50°C to +85°C



ATEX II 2 G Ex db IIC T4
IECEX Ex db IIC T4
Ambient: -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*

Pending*

Accessories

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