

MULTI SPECTRUM IR FLAME DETECTOR

DATA SHEET

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 IR 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 60m in less than 5 seconds.



Description

Multi Spectrum IR 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 IR flame detection algorithms to ensure maximum false alarm immunity.

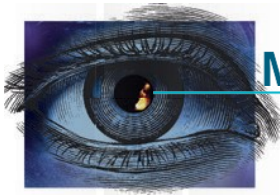
Applications

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 IR design delivers long detection distances and enhanced false alarm immunity
- Continuous optical test, without a reflector
 - 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
- Certified performance testing to multiple fuels
 - FM 3260
 - EN 54-10
- Adjustable sensitivity levels
 - For application flexibility
 - Ensure detectors do not cross vote
- External testing with a long-range flame simulator
 - Minimises the need for scaffolding
- Easy integration using industry standard outputs:
 - Alarm and Fault Relays
 - 0-20mA
 - HART®, as standard
- Certified SIL 2 capable
- Worldwide marine approvals



TECHNICAL SPECIFICATION

Environmental

Operating Temp -60°C to +85°C (-76°F to +185°F)
Storage Temp -60°C to +85°C (-76°F to +185°F)
Humidity 0 to 95% RH non-condensing

Operating Voltage

24 Vdc Nominal – (Range 18 to 32 Vdc)

Power Consumption

3 W minimum (without heater), 15 W at 32 Vdc with heater on maximum

Speed of Response

~5 seconds (Typical)

Flame Sensitivity

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

Enclosure

Material: Copper free aluminium or 316 stainless steel
Entry size: M25 or 3/4 inch NPT
Weight: Aluminium 2.5 Kg (5.5 lbs)
Stainless steel 6 Kg (13.2 lbs)

Field of View

90° horizontal by 90° vertical

Outputs

Relay contacts - alarm and fault
0-20mA, HART®

Certification

FM approved

Class 1 Zone 1 AEx/Ex d IIC T4

ATEX  II 2 G Ex db IIC T4
IECEx Ex db IIC T4

Performance approvals

FM 3260
EN 54-10

Ingress IP66 / NEMA type 4X
IEC 61508 Certified SIL 2 Capable

DNV GL Type Approval

Accessories

Flame simulator (FS30x)
Pole mount bracket
Retrofit mounting bracket
Marine mounting bracket

