MULTI SPECTRUM IR FLAME DETECTOR PFDS303

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

The PFDS303 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.

Description

Multi Spectrum IR Flame Detector

The PFDS303 compliments the PFDS301 and PFDS300 Visual Flame Detectors by delivering superior performance in the detection of hydrocarbon fires which are not detectable in the visible spectrum. The PFDS303 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
  - 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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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'x1' / 30cm x 30cm	196 feet (60m)
	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)
Standard sensitivity	Methane	1'x1' / 30cm x 30cm	137 feet (42m)
	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:	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

INMETRO Ex db IIC T4
PESO Ex db IIC T4
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

- Sunshield
- Duct Mount Bracket
- Air Shield
- Detector Sealing Kit

- Flame simulator (PFS301)
- 2", 3" & 4" Pole mount bracket
- Retrofit mounting bracket
- Marine mounting bracket

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