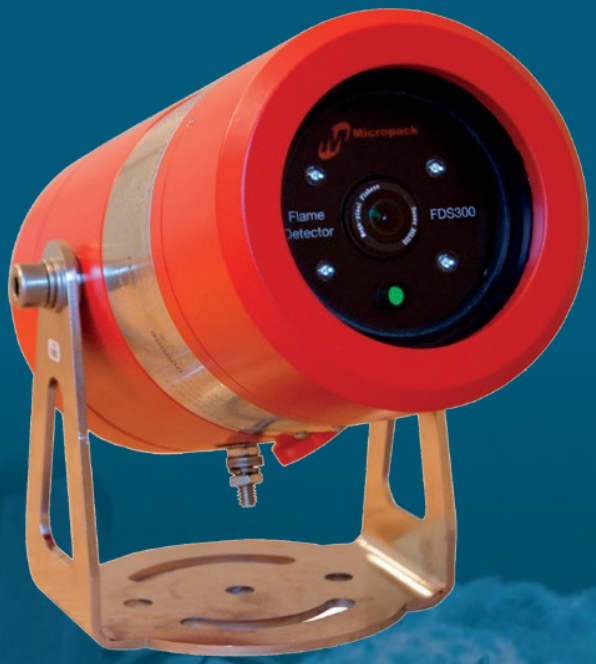
MICROPACK
FIRE & GAS

FDS300

INTELLIGENT VISUAL FLAME DETECTOR

DATA SHEET



Designed for hazardous industries where a high-quality, lower cost, long range flame detector is needed .

The MICROPACK FDS300 is an explosion proof intelligent visual flame detector (iVFD) capable of detecting an n-heptane fire at 200 feet and JP4 at 300 feet.

The device processes live video images to detect the characteristic properties of flames by means of onboard digital signal processing and hardcoded software algorithms.

Features and Benefits

The FDS300 utilizes flame detection algorithms that have been refined over 30 years from the FDS101 through to the market leading FDS301 .

Excellent Immunity to False Alarms

The FDS300 consistently demonstrates excellent immunity to false alarms in areas where flare reflections and / or hot CO2 emissions may cause other technologies to false alarm.

No sensitivity loss

The FDS300 has been independently tested to show no sensitivity loss to a fire in the presence of modulated sunlight and modulated black body heat. This key feature means the unit has greater coverage than almost all other detectors in “real world” outdoor conditions.

Extended field of view

The FDS300 has a massive 120° horizontal and 80° vertical field of view and unlike conventional flame detectors, the field of view does not reduce at the outer limits.

This means one unit covers more area than its conventional flame detector counterpart.

- Intelligent visual flame detection (iVFD) principle ensures maximum false alarm immunity and eliminates sensitivity loss in the presence of modulated sunlight and black body heat.
- Continuous optical test, without a reflector
  - Verifies operation and improves device up-time
- International hazardous area approvals
  - FM / ATEX / IEC Ex
- Certified performance testing to multiple fuels
  - FM 3260
- Spatially aware—single sensitivity detection
- 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
- Worldwide marine approvals

iVFD
INTELLIGENT VISUAL FLAME DETECTION

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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 95% RH non-condensing

Operating Voltage

24 Vdc Nominal – (Range 18 to 32 Vdc)

Power Consumption

2.8 W Nominal at 24 Vdc

Speed of Response

<7 seconds (Typical)

Flame Sensitivity

Fuel	Fire Size	Distance
n-Heptane pan fire	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: direct sun-	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: modulated	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: modulated	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: Arc welding	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: 1000 W lamp	1 foot x 1 foot pan	200 feet (60m)
Ethanol	1 foot x 1 foot pan	200 feet (60m)
Methane Jet Fire	36" plume	86 feet (26m)
Gasoline	1 foot x 1 foot pan	200 feet (60m)
JP4	2 foot x 2 foot pan	300 feet (90 m)
Tri-ethylene glycol	1 foot x 1 foot pan	50 feet (15m)
Diesel	1 foot x 1 foot pan	130 feet (40m)
Crude oil (heavy fuel)	20 inch x 20 inch pan	165 feet (50m)
Silane	24" plume	56 feet (17m)

Enclosure

Dimensions:	4" Diameter 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
Weight:	Aluminum 5.5 lbs (2.5 Kg) Stainless steel 13.2 lbs (6 Kg)

Field of View

80° vertical by 120° horizontal

Outputs

Relay contacts - alarm and fault
0-20mA (current source)

Certification

FM approved
Class 1 Div 1, Groups B, C, D T4
Class 1 Zone 1 AEx/Ex d IIC T4

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

Performance approval to FM 3260

Ingress	IP66 / NEMA type 4X
DNV GL	Marine Type Approval

Accessories

Flame simulator (FS301)
Pole mount bracket
Retrofit mounting bracket
Marine mounting bracket

MICROPACK (Engineering) **Ltd**
Fire Training Centre, Schoolhill, Portlethen,
Aberdeen AB12 4RR
Tel: +44 (0)1224 784055
Email: sales@micropack.co.uk
www.micropackfireandgas.com

In the Americas
MICROPACK Detection (Americas) **Inc.**
800 Town and Country Blvd
Suite 300
Houston, TX 77024
Tel: +1 832 431 3094
Email: info@micropackamericas.com

ISO 9001:2015 Certified

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