

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

# Intelligent Visual Flame Detector

## FDS300

### Speed critical detection. No false alarms.

An explosion proof visual flame detector. Processing live video to detect the visual characteristics of flames. Delivered through its FM certified flame detection algorithms and on-board digital signal processing. The safest and most advanced flame detector on the market. Proven to perform in the harshest environments anywhere in the world.



## 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 / INMETRO / PESO / ECAS
- Certified performance testing to multiple fuels
  - FM 3260
- Spatially aware—single sensitivity detection
- External testing with a long-range flame simulator
  - Minimizes the need for scaffolding
- Easy integration using industry standard outputs:
  - Alarm and Fault Relays
  - 0-20mA
- Worldwide marine approvals

[micropacksafety.com](http://micropacksafety.com)

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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 95% RH non-condensing

## Operating Voltage

24 Vdc Nominal – (Range 18 to 32 Vdc)

## Power Consumption

2.8 W Nominal at 24 Vdc

## Field of View

80° vertical by 120° horizontal

## Flame Sensitivity

Fuel	Fire Size	Distance
n-Heptane pan fire	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: direct sun-light	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: modulated sunlight	1 foot x 1 foot pan	200 feet (60m)
n-Heptane: modulated black body	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	100 feet (30m)
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	165 feet (50m)
Crude oil (heavy fuel)	20 inch x 20 inch pan	165 feet (50m)
Silane	24" plume	56 feet (17m)

## Speed of Response

<7 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

Relay contacts (SPST 2A at 30Vdc) – 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 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



## Ingress:

IP67 | NEMA type 6P

## Marine:

DNV GL Type Approval  
ABS Product Assessment

## 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