



True Flame Detection Technology

MICROPACK

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FDS-301 IMAGING BASED COLOUR VISUAL FLAME DETECTOR



Description

The MICROPACK FDS-301 is an imaging based flame detector which incorporates superior false alarm rejection and live colour video imaging direct from a specially designed detection camera. It is the safest and most advanced flame detector on the market today, and its track record on the numerous installations where it is used has proven the instrument to be robust, even in the harshest of environments.

The FDS-301 operates standalone and incorporates, within a single unit, an integrated CCTV system; Digital Signal Processing and Software Algorithms to process the live video image and interpret flame characteristics.

These unique software algorithms are capable of discriminating between genuine fire conditions and other radiant sources such as flare reflection and black body.

The surveillance aspect of the detector eliminates the need to dispatch operators to investigate alarms as the live video images are viewed directly in the control room. The video images are recorded on-board or remotely allowing post incident analysis. Un-manned installations can be remotely monitored allowing suitable action to be taken before personnel access the area, thereby minimising the risk to operators.

Features

- Combined Visual Flame Detection and Colour CCTV surveillance contained within one enclosure.
- Single detection sensitivity setting as the FDS-301 is unaffected by nuisance alarms unlike more vulnerable detection technologies.
- Superior False alarm immunity to common sources of unwanted alarms such as Hot process, Hot Work, Hot CO2 emissions and Flare Reflections.
- Onboard flash recording of alarms via internal Secure Digital (SD) memory card.
- Advanced optical verification test facility is designed to check the window for contamination and that the detectors field of view is not restricted by an obstruction placed immediately in front of the window. Assuring readiness to perform when needed.
- Separate terminal chamber for ease of installation.
- Functional test torch operation from distances of 3-8 metres, removing the need for scaffold/ ladders.
- FDS-301 can operate stand-alone with or without video. Minimum of 3 wire current source termination for retrofit applications.
- FM and ATEX approvals.





FDS-301 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 : 5 to 95 RH non-condensing
 Ingress : IP66, NEMA 4X

Operating Voltage

24Vdc Nominal - (18 to 32 Vdc Range)

Power Consumption

6 watts minimum (no heater), 10 watts typical, 15 watts maximum (with heater)

Flame Sensitivity

Fuel	Fire Size	Distance
Methane Jet Fire	25L/min	20m (65 feet)
Ethane Jet Fire	28L/min	20m (65 feet)
Propane Jet Fire	20L/min	20m (65 feet)
Butane Jet Fire	15L/min	20m (65 feet)
Diesel	0.3m x 0.3m pan	40m (130 feet)
Crude Oil (heavy fuel oil)	0.5m x 0.5m pan	40m (130 feet)
Wax Inhibitor (Clear 10)	0.3m x 0.3m pan	40m (130 feet)
Anti Foam (Surflo AF-300)	0.3m x 0.3m pan	40m (130 feet)
Wood Stack	0.3m x 0.3m crib	40m (130 feet)
n-Heptane	0.3m x 0.3m pan	44m (144 feet)
Gasoline	0.3m x 0.3m pan	61m (200 feet)
JP4	0.6m x 0.6m pan	61m (200 feet)

Speed of Response

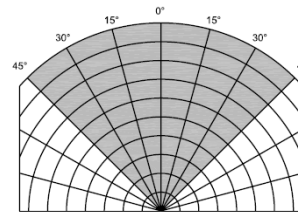
~4 seconds (Typical)

Enclosure

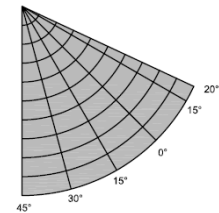
Dimensions : 100 Diameter x 200 Length Overall (mm)
 Material : LM25 (Red epoxy), 316L stainless steel
 Entries : 1 or 2 - M20, M25, ¾"NPT, ½"NPT
 Weight : 2.5kg (LM25) or 6kg (316L)

Field of View

Horizontal



Vertical



Outputs

Relay contacts - alarm and fault
 Current source 4-20mA
 RS485 bidirectional serial communications link
 Live colour video - PAL and NTSC

Certification

Factory Mutual : 3260 (3029978)
 ATEX : II 2 G Ex d IIC T4 (FM07ATEX0033)
 IEC : Ex (FME 07.0002)

