FDS-301

Visual Flame Detector

Designed for hazardous industries where fast optical flame detection is critical and nuisance alarms are not an option.
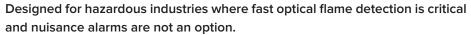
The FDS301 is an explosion proof visual flame detector. The device processes live video images to detect the characteristic properties of flames by means of its digital signal processing and hardcoded software algorithms.

recording a video of detected fires pre and post alarm. This recording is invaluable when carrying out an incident investigation and essentially by using the FDS301, there will never be an instance of an unknown alarm.

LIVE VIDEO

A live colour video image is available from each detector; this allows information about the protected area to be displayed on a monitor in the control room, providing the operator with a visual feedback of an event, which can reduce response time.

FALSE ALARM IMMUNITY

The FDS301 demonstrates superior false alarm immunity with live colour video direct from a specially designed optical detection device. It is the safest and most advanced flame detector on the market today, and its track record on the hundreds of installations where it is utilised has proven the instrument to be robust, even in the harshest of environments.

ON-BOARD MICRO SD CARD

The FDS301 incorporates a micro-SD card capable of

CERTIFICATION

- ATEX : II 2 G Ex db IIC T4 (FM07A-TEX0033)
- Factory Mutual : 3260 Radiant Energy Sensing Fire-Detectors for Automatic Fire Alarm Signaling (3029978)
- IEC 61508 : SIL 2 (MP 080203 C001)
- IECEx FME 07.0002
- Class 1 DIV 1 GROUPS B,C,D,T4
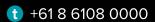- Class 1 Zone 1 AEx/Ex db IIC T4
- EN54-10 (VdS)

KEY FEATURES

- **Visual flame detection principle which ensures maximum false alarm immunity.**
- **Live colour video output.**
- **Single sensitivity for ease of mapping and maximum coverage.**
- **On-board Micro-SD card - pre/post alarm video recording.**
- **Separate function test device – Flame Simulator 301 (FS301).**
- **Advanced optical verification test.**
- **Multiple Output Options for maximum flexibility and compatibility**
- **User Programmable via HART or RS-485**
- **Can operate stand alone with or without video.**
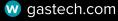- **Unrivaled MTBF – min 2,000,000 hours**
- **Certified SIL 2 Capable (Exida)**

FDS-301

SPECIFICATIONS   Specifications subject to change without notice

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
Ingress	IP66, NEMA 4X
Dimensions	100 Diameter x 200 Length Overall (mm)
Material	LM25 (Red epoxy), 316 stainless steel
Entries	1 – M25 or ¾"NPT (Variants on Request)
Weigh	2.5kg (HE30) or 6kg (316)
Operating Voltage	24Vdc Nominal – (18 to 32 Vdc Range)
Power Consumption	6 watts minimum (no heater), 10 watts typical, 15 watts maximum (with heater)
Speed of Response	<7 seconds (Typical)
Field of View	Horizontal FOV -90° Vertical FOV - 65°
Outputs	Relay contacts - alarm and fault Current source 4-20mA, RS485, HART Live Colour Video (PAL and NTSC)

FLAME SENSITIVITY	FIRE SIZE	DISTANCE
Methane Jet Fire	0.9m plume	30m
Ethanol	0.1m² pan	25m
n-Heptane: Pan Fire	0.1m² pan	44m
n-Heptane: in direct sunlight	0.1m² pan	44m
n-Heptane: in modulated sunlight	0.1m² pan	44m
n-Heptane: modulated black body	0.1m² pan	44m
n-Heptane: Arc welding	0.1m² pan	44m
n-Heptane: 1000watt lamp	0.1m² pan	44m
Gasoline Fire	0.1m² pan	44m
JP4	0.36m²	61m
Ethylene Glycol	0.1m² pan	15m
Diesel	0.1m² pan	40m
Crude Oil (heavy fuel oil) Pan Fire	0.25m²	40m
Silane	0.61m plume	13m