FD50iEx

UV/IR FLAME DETECTOR

IXION FEUER
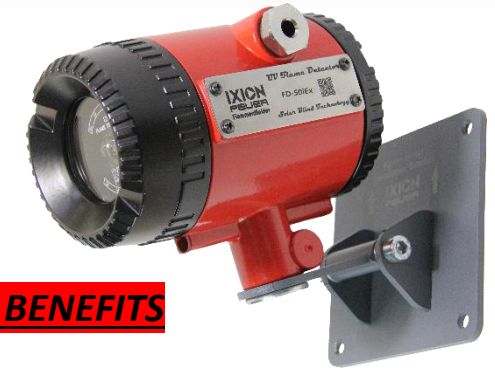
• The FD50iEx Flame Detector is a unique Iranian product designed to detect fires from various sources, including hydrocarbons, hydrogen, and other organic compounds. It is suitable for both outdoor and indoor use due to its immunity to sunlight and its sturdy, explosion-proof design. Additionally, the detector's high protection level and low power consumption make it ideal for various industrial and commercial settings.

• With the ability to detect flames from different fuels and gases, including invisible hydrogen and organic fires, the FD50iEx Flame Detector is an exclusive Iranian innovation. It is immune to sunlight, so it does not cause false alarms outdoors. It also features a robust, explosion-proof housing, a high IP rating, and a low power requirement, which make it fit for various industrial and commercial applications.

Note: The detector is able to detect UV radiation from electrical and welding arcs, which can be either an advantage for fire prevention in electrical facilities or a challenge for industrial zones.

FEATURES & BENEFITS

- Solar Blind Technology
- Explosion-proof Enclosures
- High IP Ratings (IP66)
- Low Current Consumption
- High speed capability
- Fire, fault relays standard
- 4 to 20 mA isolated output (optional)
- Lightning false alarm rejection
- 3-Year Warranty
- lifetime after-sales service
- Industrial mounting bracket with two degrees of freedom

CAUTION: Both flame and smoke detectors are important for fire safety, they detect different aspects of a fire and are used together to provide comprehensive fire protection. Flame detectors are not typically used as a substitute for smoke detectors because they serve different detection functions.

APPLICATIONS

- Chemical plants
- Petrochemicals plants
- Power Generation facilities
- Pharmaceutical Industry
- Printing Industry
- Warehouses
- Refineries
- Automotive Industry
- Aerospace
- Explosives & Munitions
- Paint and solvent processes

GENERAL SPECIFICATIONS

Spectral Response: 185 to 260 nm

Detection Range: 50m

Response Time: Typically, 3 seconds

Alarm Confirmation Time: 2 to 16 blinks

Sensitivity Ranges: $0.1m^2$ n-Heptane pan fire from 164 ft (50m)

Field of View: Horizontal 90°; Vertical 90° (minimum)

Temperature Range: Operating: -10°C to +55°C

Storage: -45°C to +85°C

Humidity: Up to 95% non-condensing (withstands up to 100% RH for short periods)

Normal Operation: Green LED

Alarm Indication: Red LED

Fault Indication: Yellow LED

ELECTRICAL SPECIFICATIONS

Operating Voltage: 24 VDC nominal (18-32 VDC)

Power Consumption: Standby: Max.19mA

Alarm: Max.30mA

Cable Entries: 2 x 3/4"-14NPT conduits or 2 x M25 x 1.5 mm ISO

Wiring: 12 - 22AWG ($0.3mm^2$ -$2.5mm^2$)

Electrical Input Protection: According to MIL-STD-1275B

Electromagnetic Compatibility: EMI/RFI protected to EN61326-3 and EN61000-6-3

Electrical Interface: The detector includes 8 terminals

Latching (default) /Non Latching: DIP Switch selectable

OUTPUTS

Relays: Fire, Fault and Alarm

Analogue Signal: 4-20mA

MECHANICAL SPECIFICATIONS

Materials: Enclosure options: Aluminum

Mounting bracket: Steel

Dimensions: Detector**:** 150×134×117

Mounting bracket:12 ×12

Weight: Detector: 1.5 kg

Tilt mount: 0.65 kg

Environmental Standards: Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical Shock, High Temp, Low Temp

Water and Dust: IP66 per EN60529

DETECTION RANGE DETAILS

The FD50iEx Flame Detector is designed to detect a wide range of flames, but its sensitivity may vary depending on the material and type of flame. The flame dimensions are also important for the detector to function properly, and the FD50iEx is compliant with the European standard EN54-10 in this regard.

The detector is set to its highest sensitivity

Fuel	Fire size	Detection Distance
N-Heptane	30cm*30cm	50m
Gasoline	30cm*30cm	50m
Diesel Fuel	30cm*30cm	36m
JP5	30cm*30cm	36m
Kerosene	30cm*30cm	36m
Ethanol 95%	30cm*30cm	36m
Methanol	30cm*30cm	20.8m
IPA (Isopropyl Alcohol)	30cm*30cm	36m
Hydrogen	75cm*25cm^2	40m
Methane	75cm*25cm^2	44m
LPG (Propane)	75cm*25cm^2	44m
Polypropylene Pellets	30cm*30cm	33m
Silane	50cm*20cm^2	23m
Office Paper	30cm*30cm	20m

FLAME SETTINGS DETAILS

A dip switch is installed on this Detector, which is used to set the alarm as follows.
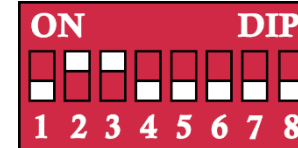
Switch	Application	ON	OFF
DIP 1	Relay status	Lock (Latch)	**Resettable (n-latch)**
DIP 2	Operation Mode	**UV Only**	UV and IR
DIP 8	UV Sensitivity	Low	**High**

DIP 6	DIP 7	IR Sensitivity
ON	ON	Low
ON	OFF	Mid low
OFF	ON	Mid high
OFF	**OFF**	**High**

Alarm confirmation time			
DIP 3	**DIP 4**	**DIP 5**	**Number of Blinks**
ON	ON	ON	2
ON	ON	OFF	4
ON	OFF	ON	6
ON	**OFF**	**OFF**	**8**
OFF	ON	ON	10
OFF	ON	OFF	12
OFF	OFF	ON	14
OFF	OFF	OFF	16

Blink means the number of red LED flashes before confirming the alarm state.

- In slow mode (16 blinks), false alarms will be less likely.
- In immediate mode (2 blinks), false alarms are more likely to occur.