

Flame Detectors on industrial safety



IR3 Detector



UV/IR Detector

FX-500EX / FX-500EX-S

Triple IR (IR3) Flame Detector

longer detection range and reliable false alarm immunity



The new FX-500EX Triple IR (IR3) Flame Detector detects fuel and gas fires at long distances with the highest immunity to false alarms.

The FX-500EX IR3 can detect a 0.1m² gasoline pan fire at 65m in less than 5 seconds.

Its new features include RS484/RS232 compatibilities for digital communications; lower power requirements; and a compact, lighter design and FX-500 series are approved to ATEX by DNV for explosion-proof.

FEATURES & BENEFITS

- **Triple IR Spectrum** – for longer distance detection and high false alarm immunity
- **Compact & lightweight design**
- **Enclosures** : (Options)
 - Aluminium
 - Stainless (ST 316L) : for Offshore Facilities
- **User Selectable** (Sensitivity / Functions)
- **Multiple output options**
 - Relays for Alarm and Fault
 - 0-20mA (stepped)
 - RS-485 / RS-232 spectrum monitoring
- **Lower power requirement**
(35mA –standby / 75mA – alarm)
- **Ex cable gland / 2-meter cable assembled** & provided for users' easy installation
- **Certifications**
 - ATEX approved by DNV for hazardous areas
 - KFI (Korea) / CE marking

APPLICATIONS

Offshore Oil & Gas Installations	Storage tank farms
Onshore Oil & Gas Installations and pipelines	Power generation facility
Petrochemical plants	Petrochemical plants
Chemical plants	Painting industry
Shipbuilding facility	Warehouse
Automotive industry	Waste disposal facility
	Explosive & Munitions

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GENERAL SPECIFICATIONS

Spectrum Response	Three IR Bands																				
Spectrum Response (at highest sensitivity setting for 0.1m ² pan fire)	<table><thead><tr><th>Fuel</th><th>Distance</th><th>Fuel</th><th>Distance</th></tr></thead><tbody><tr><td>n-Heptane</td><td>65m</td><td>Ethanol</td><td>40m</td></tr><tr><td>Gasoline</td><td>65m</td><td>IPA (isopropyl Alcohol)</td><td>40m</td></tr><tr><td>Diesel</td><td>45m</td><td>Methanol</td><td>35m</td></tr><tr><td>LPG*</td><td>30m</td><td></td><td></td></tr></tbody></table> *0.5m high / 0.2m width plume fire	Fuel	Distance	Fuel	Distance	n-Heptane	65m	Ethanol	40m	Gasoline	65m	IPA (isopropyl Alcohol)	40m	Diesel	45m	Methanol	35m	LPG*	30m		
Fuel	Distance	Fuel	Distance																		
n-Heptane	65m	Ethanol	40m																		
Gasoline	65m	IPA (isopropyl Alcohol)	40m																		
Diesel	45m	Methanol	35m																		
LPG*	30m																				
Response Time	Typically 5 seconds																				
Adjustable Time Delay	Up to 20 seconds																				
Sensitivity Range	4 sensitivity ranges for 0.1m ² n-Heptane pan fire from 15m to 65m																				
Field of View	Horizontal 90°, Vertical 90°																				
Built-in-Test	Manual (optionally Automatic)																				
Temperature Range	Operating/Storage: -40°C to 75°C																				
Humidity	Up to 95% non-condensing																				

ELECTRICAL SPECIFICATIONS

Operating Voltage	24VDC nominal (17-31VDC)
Power Consumption	Standby: max. 35mA Alarm: max. 75mA
Cable Entry	1 x M20 (ISO)
Wiring	AWG 16-26 (Str 1.5mm ² to 0.13mm ²)
Electromagnetic Compatibility	EMI/RFI protected to EN61000 series
Electrical Interface	The detector includes twelve(12) terminals with four(4) wiring options

OUTPUTS

Relays	Alarm, Fault SPST volt-free contacts rated 5A at 30VDC or 250VAC
0-20mA (stepped)	Non-isolated "Source" configuration Fault: 0 +1mA Bit Fault: 2mA±10% Normal: 4mA±10% Warning: 16mA±10% Alarm: 20mA±10% Resistance Loop: max. 800Ω
RS-485 (option)	RS-485 Modbus compatible communication link that can be used in computer controlled installations
RS-232C (option)	Three IR channels spectrum monitoring with PC

MECHANICAL SPECIFICATIONS

Materials	- Heavy duty copper free aluminium (less than 1%) with bright grey anodizing finish
Enclosure options	- Stainless Steel 316L with electro polish finish
Mounting(Tilt Mount) Options	- Heavy duty copper free aluminium (less than 1%) with grey epoxy enamel finish - Stainless Steel 316L with electro polish finish
Dimensions	Detector: 83(D) x 126(L) mm
Weight	Detector (aluminium): 1.0 kg Detector (ST 316L): 2.7kg Tilt mount (aluminium/ St.): 0.3kg / 0.7kg

APPROVALS

Hazardous Area	ATEX Ex II 2 G Exd IIC T6, -40°C to +75°C (DNV 09 ATEX 65127)
Performance	KFI (Korea) EN54-10 (designed to meet)