

FGard UVIR

Flame detector

For hazardous industries
where fast fire detection
is critical and nuisance
alarms are not an option



FGard UVIR

Multi Spectrum IR Flame Detector

The Crowcon FGard UVIR flame detector is an explosion proof ultraviolet-infrared flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances.

The FGard UVIR has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at over 130 ft in less than 5 seconds.

The FGard UVIR delivers superior detection performance of hydrocarbon fires, utilising the latest flame detection algorithms to ensure maximum false alarm immunity.



Applications

Typical applications include:

- ◆ On/Offshore Oil and Gas Processing Facilities
- ◆ Refineries
- ◆ Petrochemical Plants
- ◆ Chemical Facilities
- ◆ Pharmaceutical
- ◆ Aircraft Hangers
- ◆ Road Tunnels
- ◆ Power Generation
- ◆ Tank Farms
- ◆ Road and Rail Loading Racks
- ◆ LNG / LPG
- ◆ Warehouses / Storage Areas
- ◆ Waste Recycling / Biomass Plants
- ◆ Printing Industry



Features and benefits

- ◆ UVIR design delivers long detection distances and enhanced false alarm immunity
- ◆ Continuous optical test, without a reflector
 - Verifies operation and improves device up-time
- ◆ Microprocessor controlled heated optics
 - Maintains operation in harsh weather conditions (snow, ice, condensation)
- ◆ International hazardous area approvals
 - FM / ATEX / IEC Ex / INMETRO / PESO
- ◆ Certified performance testing to multiple fuels
 - FM 3260
 - EN 54-10
- ◆ Adjustable sensitivity levels
 - For application flexibility
 - Ensure detectors do not cross vote
- ◆ External testing with a long-range flame simulator
 - Minimises the need for scaffolding
- ◆ Easy integration using industry standard outputs:
 - Alarm and Fault Relays
 - 0-20mA
 - HART® 7, as standard
- ◆ *SIL2 certified pending
- ◆ 5-year warranty



Accessories

- ◆ Flame simulator
- ◆ Pole mount bracket
- ◆ Retrofit mounting bracket
- ◆ Marine mounting bracket

Part Numbers

Product Code	Description
FD-UVIR-SS-M25	Fgard UV/IR Flame Detector - Stainless Steel M25
FD-UVIR-SS-NPT	Fgard UV/IR Flame Detector - Stainless Steel 3/4" NPT
FD-UVIR-A-M25	Fgard UV/IR Flame Detector - Aluminium M25
FD-UVIR-A-NPT	Fgard UV/IR Flame Detector - Aluminium 3/4" NPT
Accessories	
Product Code	Description
FD-AC-01	Vertical to Horizontal Mounting Adaptor
FD-AC-02	Standard Bracket 316 Stainless Steel
FD-AC-03	Marine Bracket 316 Stainless Steel
FD-AC-04	Detector Sealing Kit - Metric (Gland Seals and O-Ring Set)
FD-AC-05	FDS Series Sunshield
FD-AC-06	Crowcon Flame simulator
FD-AC-09	2" pole mount kit
FD-AC-10	3" pole mount kit
FD-AC-11	4" pole mount kit
FD-AC-12	Flame Simulator Spare Charger

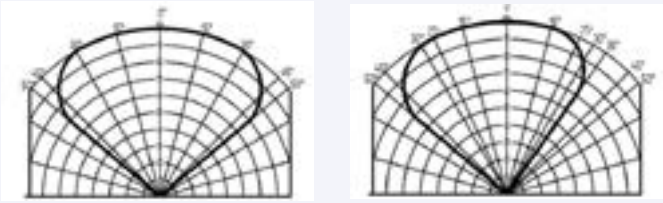
Crowcon Fire and Gas Hazard Detection Review Service

Crowcon recognizes the complexities inherent to each industrial site, as well as the nuances of gas and flame behaviour, and we highly recommend incorporating a comprehensive fire and gas mapping assessment into the detector selection process. Our dedicated [Fire and Gas Hazard Detection Review Service](#) provides invaluable insights tailored to your specific needs, enhancing overall safety and efficiency.

Using sophisticated computer aided design, Crowcon can provide a detailed report based on 3D site images which identifies gas and flame hazards and recommends detector quantities and location in-line with the British Standard BS 60080:2020. The review can be conducted for new sites/installations, or for established detection systems

The report enables the client to optimise the system design and achieve the best possible balance between safety and economy. This practice improves safety and reduces operating costs by ensuring that the number of devices used is minimized while the required level of safety is maintained.

Technical Specifications

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	0-100 % RH (Non condensing)
Operating Voltage	24 Vdc Nominal – (Range 18 to 32 Vdc)
Power Consumption	3 W minimum (without heater), 15 W maximum (with heater).
Field of View	100° horizontal by 80° vertical
	
Speed of Response	< 5 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
Weight	Alu 5.5 lbs (2.5 Kg) / SS 13.2 lbs (6.0kg)
Outputs	Relay contacts (SPST 2A at 30Vdc) - alarm and fault.
	0-20mA, HART®

Crowcon reserves the right to change the design or specification of the product without notice.

Flame sensitivity

	Fuel	Fire Size	Distance
High Sensitivity	n-Heptane	1'x1' / 30cm x 30cm	128 feet (39m)
	n-Heptane + arc welding	1'x1' / 30cm x 30cm	128 feet (39m)
	Gasoline	1'x1' / 30cm x 30cm	128 feet (39m)
	Diesel	1'x1' / 30cm x 30cm	98 feet (30m)
	Crude oil (heavy fuel)	20"x20" / 0.5m x 0.5m	98 feet (30m)
	JP4	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	39" plume / 1m	98 feet (30m)
	Ethanol	1'x1' / 30cm x 30cm	98 feet (30m)
	Methanol	1'x1' / 30cm x 30cm	98 feet (30m)
Standard Sensitivity	n-Heptane	1'x1' / 30cm x 30cm	83 feet (25m)
	Gasoline	1'x1' / 30cm x 30cm	83 feet (25m)
	JP4	1'x1' / 30cm x 30cm	55 feet (17m)
	Methane	24" plume / 60cm	83 feet (25m)
	Ethanol	1'x1' / 30cm x 30cm	55 feet (17m)

Performance approvals

FM 3260

EN 54-10

Ingress - IP67 / NEMA type 6P

***SIL 2 Certified Pending** - IEC 61508

Certification

Class 1 Div 1 Groups B, C, D T4
Ambient -50°C to +85°C

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

*Pending approval



Disclaimer

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement Crowcon Detection Instruments Limited reserves the right to make product changes without notice. The products are routinely subject to a programme of testing which may result in some changes in the characteristics quoted. Technical information contained in this document or otherwise provided by Crowcon are based upon records, tests, or experience that the company believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Many factors beyond Crowcon Detection Instruments' control and uniquely within user's knowledge and control can affect the use and performance of a Crowcon product in a particular application.

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