

# FGARD UVIR

## Multi Spectrum IR Flame Detector

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



Tailor made to detect hydrocarbon flames outside the visible spectrum, the FGard UVIR flame detector is an explosion proof ultraviolet-infrared flame detector designed to provide elite detection of hydrocarbon fires.

The Fgard UVIR incorporates the latest IR flame detection algorithms to prevent the risk of false alarms, and with three different sensitivity settings, you can customise the sensors for your space and needs.

Designed to operate in all conditions, the microprocessor controlled heated optics ensure continuous operation even in harsh weather environments at risk of snow, ice, and condensation.

With advanced optical verification, an automatic test verifies cleanliness of the lens and electronic circuitry to ensure the detector is always primed for optimal performance, requiring no reflector optical check. Plus, its large optical surface minimises the risk of false alarms, so you can respond efficiently with confidence to any alarm.

## FEATURES

### False alarm immunity

- Utilises the latest IR flame detection algorithms to ensure maximum false alarm immunity
- Perfect for hazardous environments where false alarms are unacceptable
- Independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at over 130 ft in less than 5 seconds

### Adjustable sensitivity levels

- Choice of three different sensitivity settings for selection of the most appropriate level for your specific application
- Provides application flexibility and ensures detectors do not cross vote

### Advanced Optical Verification

- Automatic test verifies cleanliness of the lens and electronic circuitry
- No need for reflector optical checks
- Large optical surface results in far fewer false alarms
- Intelligent heated optics mean no risk of condensation, ice or water on the lens for unimpaired performance in all weather.

## APPLICATIONS

- 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.

# SPECIFICATIONS

<b>ENCLOSURE MATERIAL</b>	Copper free aluminium or 316 stainless steel										
<b>DIMENSIONS</b>	4" Dia x 8" L (inches) / 100 mm Dia x 200 mm										
<b>WEIGHT</b>	Alu: 5.5 lbs (2.5 kg) / SS: 13.2 lbs (6.0 kg)										
<b>ENTRY SIZE</b>	3/4 inch NPT or M25										
<b>OPERATING VOLTAGE</b>	24 Vdc Nominal – (Range 18 to 32 Vdc)										
<b>POWER CONSUMPTION</b>	3 W minimum (without heater), 15 W maximum (with heater).										
<b>RESPONSE TIME</b>	< 5 seconds (Typical)										
<b>OUTPUT</b>	Relay contacts (DPDT 2A at 30Vdc) – alarm and fault. 0–20mA, HART®										
<b>OPERATING TEMPERATURE</b>	-60°C to +85°C (-76°F to +185°F)										
<b>STORAGE TEMPERATURE</b>	-60°C to +85°C (-76°F to +185°F)										
<b>HUMIDITY</b>	0 to 100% RH, non-condensing										
<b>PERFORMANCE APPROVALS</b>	FM 3260 EN 54-10 Ingress: IP66 / NEMA type 4X Certified SIL 2 – IEC 61508										
<b>CERTIFICATION</b>	<table border="0"> <tr> <td>Class 1 Div 1 Groups B, C, D T4 Ambient –50°C to +85°C</td> <td>PESO Ex db IIC T4 Ta= -60°C to +85°C</td> </tr> <tr> <td>Class 1 Zone 1 AEx/Ex db IIC T4 Ambient –50°C to +85°C</td> <td>– pending INMETRO Ex db IIC T4</td> </tr> <tr> <td>ATEX II 2 G Ex db IIC T4</td> <td>PESO Ex db IIC T4 – Ta = -60°C to +85°C</td> </tr> <tr> <td>IECEX Ex db IIC T4 Ambient –60°C to +85°C</td> <td>CCC (China Fire Approvals) – Pending</td> </tr> <tr> <td>INMETRO Ex db IIC T4 – pending</td> <td>GB-Ex of China – Pending</td> </tr> </table>	Class 1 Div 1 Groups B, C, D T4 Ambient –50°C to +85°C	PESO Ex db IIC T4 Ta= -60°C to +85°C	Class 1 Zone 1 AEx/Ex db IIC T4 Ambient –50°C to +85°C	– pending INMETRO Ex db IIC T4	ATEX II 2 G Ex db IIC T4	PESO Ex db IIC T4 – Ta = -60°C to +85°C	IECEX Ex db IIC T4 Ambient –60°C to +85°C	CCC (China Fire Approvals) – Pending	INMETRO Ex db IIC T4 – pending	GB-Ex of China – Pending
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# FLAME SENSITIVITY TABLE

	FUEL	FIRE SIZE	DISTANCE
<b>HIGH SENSITIVITY</b>	n-Heptane	1'x1' / 30cm x 30cm	196 feet (60m)
	n-Heptane + arc welding	1'x1' / 30cm x 30cm	196 feet (60m)
	Gasoline	1'x1' / 30cm x 30cm	196 feet (60m)
	Diesel	1'x1' / 30cm x 30cm	164 feet (50m)
	Crude oil (heavy fuel)	20"x20" 0.5m x 0.5m	164 feet (50m)
	JP4	1'x1' / 30cm x 30cm	196 feet (60m)
	Methane	24" plume / 60 cm	164 feet (50m)
	Ethanol	1'x1' / 30cm x 30cm	137 feet (42m)
<b>STANDARD SENSITIVITY</b>	Methanol	1'x1' / 30cm x 30cm	137 feet (42m)
	n-Heptane	1'x1' / 30cm x 30cm	98 feet (30m)
	Gasoline	1'x1' / 30cm x 30cm	98 feet (30m)
	JP4	1'x1' / 30cm x 30cm	98 feet (30m)
	Methane	24" plume / 60 cm	98 feet (30m)
Ethanol	1'x1' / 30cm x 30cm	98 feet (30m)	

### Disclaimer

Due to ongoing research and product improvement, specifications are subject to change without notice. While every effort has been made to ensure accuracy in this document, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This document is not intended to form the basis of a contract.

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