

# FGARD IR3

## Multi Spectrum IR Flame Detector

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



The Fgard IR3 delivers superior performance in the detection of hydrocarbon fires, using the latest infrared (IR) flame detection algorithms to minimize the risk of false alarms.

The Fgard IR3 has been independently tested to demonstrate it can detect a hydrocarbon fuel pan fire at nearly 200 feet in less than 5 seconds, maximising the time you have to respond in an emergency.

Its multi-spectrum IR will detect all hydrocarbon fires with intelligent heated optics, meaning no condensation, ice or water affecting detection. Plus, its advanced optical verification checks cleanliness of the lens and electronic circuitry, meaning no reflector optical check is needed, and a large optical surface results in far fewer false alarms.

## FEATURES

### Multi spectrum IR

- 60 metre flame detection range
- Will detect all hydrocarbon fires
- Heated optics mean no risk of condensation, ice or water forming on the window, improving reliability and performance.

### Fast detection time

- Responds in less than 5 seconds to 0.1m<sup>2</sup> fire at 60 metres for exceptional performance.

### 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.

## APPLICATIONS

- On / offshore oil and gas processing facilities
- Refineries
- Petrochemical plants
- Chemical facilities
- Pharmaceutical
- Aircraft hangars
- Road tunnels
- Power generation
- Tank farms
- Road & rail loading racks
- Lng / lpg
- Warehouses / storage areas
- Waste recycling / biomass plants
- Printing industry.

# SPECIFICATIONS

| DEVICE SPECIFICATIONS        |   |
|------------------------------|---|
| <b>ENCLOSURE MATERIAL</b>    | Copper free aluminum or 316 stainless steel   |
| <b>DIMENSIONS</b>            | 4" Dia x 8" L (inches) / 100 mm Dia x 200mm   |
| <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>     | 3W minimum (without heater), 15W at 32 Vdc with heater on maximum.  |
| <b>RESPONSE TIME</b>         | < 5 seconds (Typical)   |
| <b>OUTPUT</b>                | Relay contacts (DPDT 2A at 30Vdc) – alarm and fault. 0–20mA plus fault alerts, HART®  |
| <b>OPERATING TEMPERATURE</b> | -76°C to +85°C (-60°F to +185°F)  |
| <b>STORAGE TEMPERATURE</b>   | -76°C to +85°C (-60°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>         | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">                     Class 1 Div 1 Groups B, C, D T4 – Ambient –50°C to +85°C<br/>                     Class 1 Zone 1 AEx/Ex db IIC T4 – Ambient –50°C to +85°C<br/>                     ATEX Ex.1 2 G Ex db IIC T4 IECEx Ex db<br/>                     IIC T4 – Ambient –60°C to +85°C                 </div> <div style="width: 45%;">                     INMETRO Ex db IIC T4<br/>                     PESO Ex db IIC T4 – Ta = -60°C to +85°C<br/>                     CCC (China Fire Approvals) – Pending<br/>                     GB-Ex of China – Pending                 </div> </div> |

# FLAME SENSITIVITY TABLE

| FLAME SENSITIVITY           |                         |                     |                |
|-----------------------------|-------------------------|---------------------|----------------|
|                             | 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" / 0.5mx0.5m | 164 feet (50m) |
|                             | JP4                     | 1'x1' / 30cm x 30cm | 196 feet (60m) |
|                             | Methane                 | 24" plume / 60cm    | 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 / 60cm    | 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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