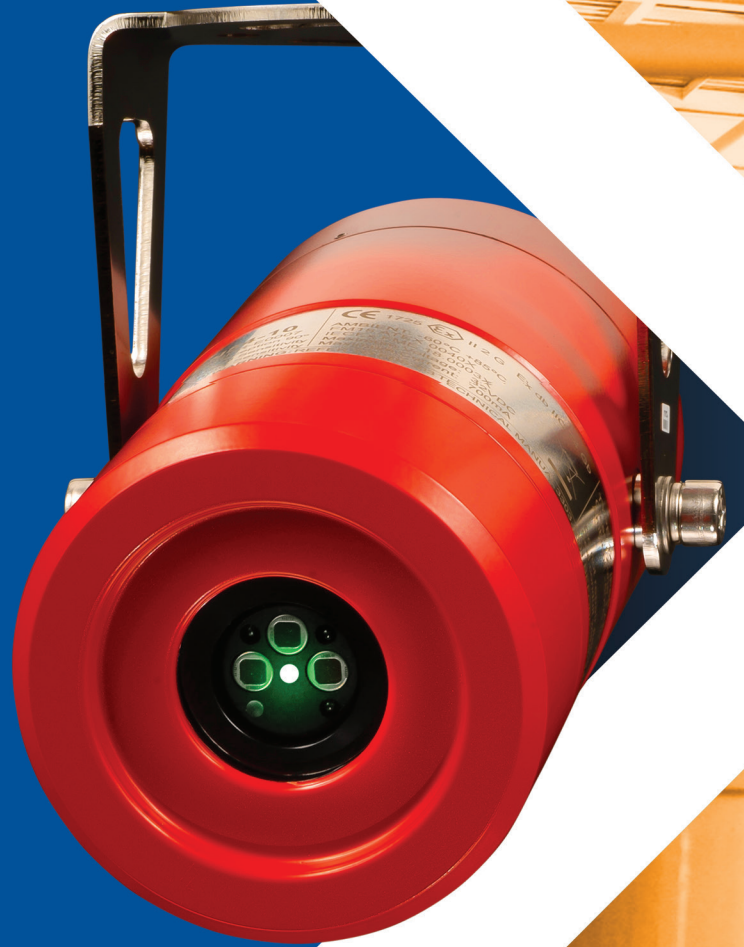


FGard H2

Flame detector

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



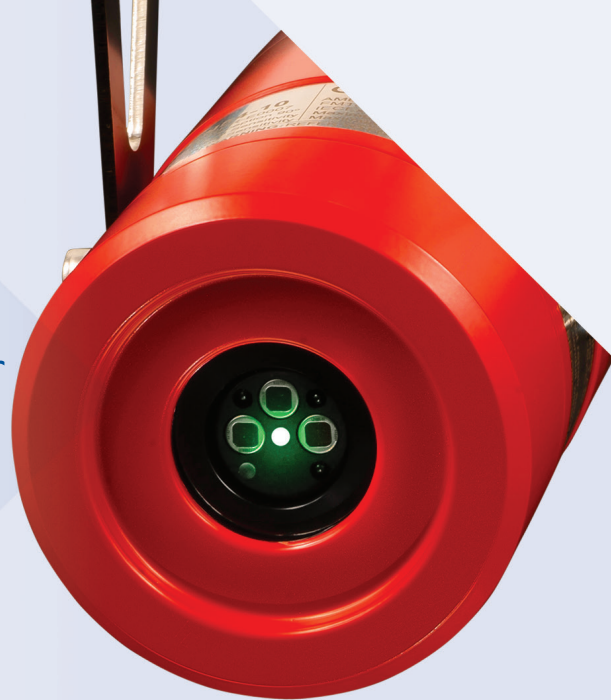
FGard H2

Multi Spectrum IR Hydrogen Flame Detector

The Crowcon FGard H2 flame detector is an explosion proof multi spectrum IR hydrogen flame detector. The device delivers superior performance, responding to hydrogen fires at long distances.

The FGard H2 has been independently tested to demonstrate it can detect a hydrogen plume fire at 40m (131ft) in less 5 seconds.

The FGard H2 delivers superior detection performance of hydrogen fires, utilising the latest hydrogen flame detection algorithms to ensure maximum false alarm immunity.



Features and benefits

- ◆ Multi Spectrum IR 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
- ◆ Certified SIL 2 capable
- ◆ 5-year warranty

*pending



Applications

Typical applications include:

- ◆ Hydrogen Generators
- ◆ Hydrogen Fueling Stations
- ◆ Hydrogen to Methane Production
- ◆ Hydrogen Trains, Buses and Ferries
- ◆ Hydrogen Compressors
- ◆ Petroleum Refining
- ◆ Gas Plants
- ◆ Pharmaceuticals
- ◆ Semiconductor Manufacturing
- ◆ Aerospace Applications
- ◆ Fertilizer Production
- ◆ Refrigeration



Accessories

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



Part Numbers

| Product Code | Description |
|--------------|--|
| FD-H2-SS-M25 | Fgard H2 Flame Detector - Stainless Steel M25 |
| FD-H2-SS-NPT | Fgard H2 Flame Detector - Stainless Steel 3/4" NPT |
| FD-H2-A-M25 | Fgard H2 Flame Detector - Aluminium M25 |
| FD-H2-A-NPT | Fgard H2 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 Specification

| Environmental | |
|--------------------------|--|
| Operating Temp | -76°C to +185°C (-60°F to +85°F) |
| Storage Temp | -76°C to +185°C (-60°F to +85°F) |
| Humidity | 0-100 % RH (Non condensing) |
| Operating Voltage | 24 Vdc Nominal – (Range 18 to 32 Vdc) |
| Power Consumption | 3 W minimum (without heater), 12 W maximum (with heater). |
| Speed of Response | 2-5 seconds (Typical) at 40 m (131 feet) |
| Field of View | 90° (horizontal and vertical) <div style="text-align: center;"> </div> |
| 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 (DPDT 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 |
|--------------------|---------------------|----------------|
| Hydrogen | 36" plume / 90cm | 131 feet (40m) |
| Methane | 36" plume / 90cm | 100 feet (30m) |
| Methanol | 1'x1' / 30cm x 30cm | 65 feet (20m) |
| Methylated Spirits | 1'x1' / 30cm x 30cm | 65 feet (20m) |
| n-Heptane | 1'x1' 30cm x 30cm | 40 feet (12m) |

Performance approvals

FM 3260

EN 54-10

Ingress - IP67 / NEMA type 6P


Certified SIL 2 Capable - 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



Disclaimer

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As the products may be used by the client in circumstances beyond the knowledge and control of Crowcon Detection Instruments Limited, we cannot determine the relevance of these to an individual customer's application. It is the clients' sole responsibility to carry

 **CROWCON**
Detecting Gas **Saving Lives**

www.crowcon.com

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