

CERTIFICATE OF CONFORMITY

1. FIRE PROTECTION EQUIPMENT

2. **Certificate No:** FM23FPUS0161

3. **Equipment:** FGard H2 Flame Detector
(Type Reference and Name)

4. **Name of Listing Company:** Crowcon Detection Instruments Ltd

5. **Address of Listing Company:** 172 Brook Drive,
Milton Park,
Abingdon,
Oxfordshire, OX14 4SD, United Kingdom

6. The examination and test results are recorded in confidential report number:

PR464858 dated 6 June 2024

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

FM 3260:2021, FM 3600:2022, FM 3615:2022, NEMA 250:2014, ANSI/UL 60079-0:2013,
ANSI/UL 60079-1:2015, ANSI/IEC 60529:2004

8. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

9. Approval Guide Listing Category:

Alarm Signal Initiating Devices, Fire Detection, Flame-Actuated

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

6 June 2024

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. One Technology Way, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

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10. Description of Equipment:

FGard H2 Flame Detector is Approved for use:

Operating Voltage: 24Vdc [18 to 32Vdc]

Current draw: 0.42A [10W], with heater - 0.63A [15W]

Dry contact Form C relay outputs: 30Vdc, 2A

Operating temperature and humidity range is -60°C to +85°C (-76°F to +185°F), 93%

4-20mA Outputs: 0mA - Power/Detector Fault, 1 mA – Low Supply Voltage Fault, 1.5mA - Optical Fault, 4mA – Healthy, 18mA – Alarm, 21mA - Over-range

Compatible Approved control panel for alarm and trouble reporting.

Sensitivity settings: Medium, High

FS303 Flame Simulator: not FM Approvals examined

Firmware version 1.1x

Fuels: see below table

Detection time: 4 -30 sec.

Detection Distance: see below table

Field of view [vertical] 90.0°

Field of view [horizontal] 90°

False alarm stimuli: see FGard H2 Safety and Technical Manual, PM-FD-H2

Fire	Fuel Size	Distance
Hydrogen Fire	0.9m (36inch) plume height	40m (131ft)
Methylated Spirits Fire	0.3m x 0.3m (1ft) pan	20m (65ft)
Methanol Fire	0.3m x 0.3m (1ft) pan	20m (65ft)
n-Heptane Fire	0.3m x 0.3m (1ft) pan	12m (40ft)

Suitable for US as explosionproof for use in Class I, Division 1, Groups B, C, and D T4 hazardous (classified) locations, indoors and outdoors Type 6P / IP67. Operating temperature range is -50°C to +85°C (-58°F to +185°F).

Suitable for US as flameproof for use in Class I, Zone 1, AEx db IIC T4 Gb hazardous (classified) locations, indoors and outdoors Type 6P / IP67. Operating temperature range is -50°C to +85°C (-58°F to +185°F).

Specific Conditions of Use

The equipment is to be installed in places where there is a low risk of mechanical damage.

11. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

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12. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

13. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
6 June 2024	Original Issue.

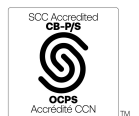
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