

CERTIFICATE OF CONFORMITY



Member of the FM Global Group

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. **Certificate No:** FM24US0003X
3. **Equipment:** FGard UV/IR 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:

PR467851 dated 15 May 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 250:2018, ANSI/UL 60079-0:2013,
ANSI/UL 60079-1:2015, ANSI/IEC 60529:2020

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. 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.

10. Equipment Ratings:

Explosionproof for use in Class I, Division 1, Groups B, C and D T4 hazardous (classified) locations, indoors and outdoors (Type 6P, IP67).

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).

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

15 May 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

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM24US0003X



11. The marking of the equipment shall include:

Class I DIV 1 GROUPS B,C,D T4
Class I Zone 1 AEx db IIC T4 Gb
Ambient: -50°C to +85°C
TYPE 6P, IP67

12. **Description of Equipment:**

FGard UV/IR Flame Detector

The FGard UV/IR Flame Detector is Approved for use:

Operating Voltage: 24Vdc [18 to 32Vdc]

Current draw: 0.14 A [3W], with heater 0.27A [10W]

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, 2mA

- Optical Fault, 4mA – Healthy, 18mA – Alarm, 21mA - Over-range

Compatible Approved control panel for alarm and trouble reporting.

Sensitivity settings: High, Standard, Low

FS301 Flame Simulator: not FM

Firmware version 22.12

Fuels: see below table Detection time: see Safety and Technical Manual, FD-AC-13

Detection Distance: see below table

Field of view [vertical] 90° - see Safety and Technical Manual, FD-AC-13

Field of view [horizontal] is 100° max

False alarm stimuli: see FGard UV/IR Safety and Technical Manual, FD-AC-13

Flame Response

Fuel Type	Pan size	Low Sensitivity	Standard Sensitivity	High Sensitivity
N-Heptane	0.3m x 0.3m Pan	17.4m	25m	39m
Methylated Spirits	0.3m x 0.3m Pan	12.5m	17.5m	30m
Methane	0.9m Plume	17.5m	25m	37m

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).

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

F 347 (Apr 21)



SCHEDULE

US Certificate Of Conformity No: FM24US0003X



Member of the FM Global Group

13. Specific Conditions of Use:

1. The equipment is to be installed in places where there is a low risk of mechanical damage.
2. Flamepath joints are not intended to be repaired.

14. Test and Assessment Procedure and Conditions:

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

15. Schedule Drawings

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

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
15 May 2024	Original Issue.

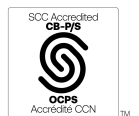
To verify the availability of the Approved product, please refer to www.approvalguide.com

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

F 347 (Apr 21)



Page 3 of 3