

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM20US0049X
3. **Equipment:** Models FG1-IR3-HD-ASX1, FG1-UV-IR-HD-ASX1, FG1-UV-IR-F-HD-ASX1 and FG1-IR3-H2-HD-ASX1 Flame Detectors
(Type Reference and Name)
4. **Name of Listing Company:** GasTech Australia Pty Ltd
5. **Address of Listing Company:** 24 Baretta Rd
Wangara, WA 6065 Australia
6. The examination and test results are recorded in confidential report number:

PR456462 dated 30th July 2020
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3615:2018, ANSI/ISA 60079-0:2013
ANSI/UL 60079-1:2015, ANSI/NEMA 250:2014, ANSI/IEC 60529:2004
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 Class I, Division 1, Groups B, C and D; Flameproof for Class I, Zone 1, AEx db IIB Gb hazardous (classified) locations.
11. The marking of the equipment shall include:

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

30 July 2020

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

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SCHEDULE



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Class I Division 1, Groups B, C, D; Ta = -50°C ≤ Ta ≤ 85°C or T5 Ta = 50°C ≤ Ta ≤ +75°C; Type 4X/6P, IP66/68 (2m, 24hr)

Class I, Zone 1, AEx db IIB Gb; Ta = -50°C ≤ Ta ≤ 85°C or T5 Ta = 50°C ≤ Ta ≤ +75°C Gb; Type 4X/6P, IP66/68 (2m, 24hr)

12. **Description of Equipment:**

General – The flame detectors have four sensitivity ranges, Alarm and Fault, rated 2A at 30VDC relays, uses 0-20mA analog output and has RS-485 Modbus outputs and Ethernet output for HD video. The detector operates from 18 to 32 V dc via connection to a compatible FM Approved fire alarm control providing separate circuits for alarm signaling and for power. All models include an internal data logger and HD camera. Operating temperature is from -50° to 85°C or -50° to 75°C .

Construction – Models FG1-IR3-HD-ASX1, FG1-UV-IR-HD-ASX1, FG1-UV-IR-F-HD-ASX1 and FG1-IR3-H2-HD-ASX1 Flame Detectors have the same enclosure construction (with the exception of the sensor openings) and consist of a two compartment housing made of STS316 stainless steel. The forward most compartment (housing) consist of a sapphire window with a polyimide film window heater. The UV models have three openings and the IR3 model has four openings. Both use the same window and have the same flame path configuration. The four opening IR3 model was consider to be the worst case for the explosionproof enclosure and was used for the majority of the testing. The window is mechanically secured using a retaining bracket with 4 screws. This compartment contains the electronics. The housing is connected to a connection box using 4 hex head screws to secure a spigot joint. The connection box consists of two conduit entries that can be configured with M25 metric or ¾ inch NPT threads and one of which, when unused, will be fitted with a certified blanking plug. A printed circuit board for making the electrical connection passes through a channel between the two compartments and is sealed with epoxy compound. The rear most portion of the connection box is closed by a threaded cover.

Ratings - Models FG1-IR3-HD-ASX1, FG1-UV-IR-HD-ASX1, FG1-UV-IR-F-HD-ASX1 AND FG1-IR3-H2-HD-ASX1 Flame Detectors operate at 18-32 Vdc. The detectors are rated for use in an ambient temperature range of -50°C to +85°C or -50° to 75°C.

FG1-a-ASb1 HD Flame Detector

a = IR3-HD or IR3- H2-HD or UV-IR-HD or UV-IR-F-HD

b = 1 (M25) or 2 (¾" NPT)

13. **Specific Conditions of Use:**

1. The flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
2. Consult the manufacturer for genuine replacement cover and housing to connection box fasteners. M6x1x18 Hexagonal Socket head fasteners with a minimum of ISO 4762 Grade A4 Class 80 are acceptable alternatives.

14. **Test and Assessment Procedure and Conditions:**

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

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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
30 th July 2020	Original Issue.

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