

CERTIFICATE OF CONFORMITY



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

2. **Certificate No:** FM16US0211X

3. **Equipment:** Model IR5500 Open Path Gas Monitor
(Type Reference and Name)

4. **Name of Listing Company:** General Monitors Inc

5. **Address of Listing Company:** 16782 Von Karman Ave.
Unit 14
Irvine 92606
United States of America

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

3036609 dated 21st September 2010

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

FM Class 3600:2011, FM Class 3611:2004, FM Class 3615:2006, FM Class 3616:2011,
FM Class 3810:2005, FM Class 6325:2005, ANSI/FM 6325:2007, ANSI/FM 12.13.04:2007,
ANSI/NEMA 250:2003, ANSI/ISA 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.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

25 August 2021

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. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE

US Certificate Of Conformity No: FM16US0211X

10. Equipment Ratings:

Explosionproof for Class I, Division 1, Groups B, C, and D, T4 Ta = -50°C to +65°C; Dust-ignitionproof for Class II/III, Division 1 applicable Groups E, F and G, T4 Ta = -50°C to 65°C; Nonincendive for installations in Class I/II/III, Division 2, applicable Groups B, C, D, E, F, G, T4 Ta = -50°C to 65°C; Hazardous Locations, indoor/outdoor locations Type 4X and IP66/67.

11. The marking of the equipment shall include:

Class I, Div. 1, 2 Groups B, C, D
Class II, Div. 1, 2 Groups E, F, G; Class III
T4 Ta = -50°C to +65°C; Type 4X, IP66/67

12. Description of Equipment:

IR5500

Open Path Gas Monitors

The IR5500; part numbers, 329000-a, 329001-a is a fixed open path gas detector, comprising of a Source and Receiver module operating over a distance of 5-150 meters. The IR5500 is Explosionproof for Class I, Division 1, Groups B, C, and D, T4 Ta = -50°C to +65°C; Dust-ignitionproof for Class II/III, Division 1 applicable Groups E, F and G, T4 Ta = -50°C to 65°C; Nonincendive for installations in Class I/II/III, Division 2, applicable Groups B, C, D, E, F, G, T4 Ta = -50°C to 65°C; Hazardous Locations, indoor/outdoor locations Type 4X and IP66/67. The operating temperature range is -50°C to +65°C and the power consumption is: for the Source = 12W and for the Receiver = 10W. The enclosures are manufactured from 316L stainless steel. Field accessories comprise of Attenuation plate P/N 329113-1, Pan-Tilt Base assembly P/N 329071-1, Pan-Tilt Arm assembly P/N 329073-1, Pan-Tilt Basic Arm assembly P/N 329123-1, Long Range Alignment Kit P/N 329082 and gas filter kits P/N 329083 & 329084. Depending on the model selected, the system communications are Dual Modbus or Single Modbus. Each variation comes complete with (2) 4-20mA outputs for detection of Propane with measurement ranges of 0-1 LEL•m and 0-2000ppm•m and Methane with measurement ranges of 0-5 LEL•m and 0-5000ppm•m, with minimum alarm set point of 10% FSD and repeatability of ±6% FSD. The apparatus complies with ANSI/ISA 12.13.04: 2007; Performance Requirements for Open Path Combustible Gas Detectors.

IR5500 Receiver:

329000-a

a: Output & Terminals - 1, 2, 3, 4, 9, 10, 11, 12, 25, 26, 27, 28, 29, 30, 31, 32 and 33
Firmware revision G

IR5500 Source:

329001-a

a: Terminals – 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 31, 32, 33, 34 and 37

Specifications - The manufacturer's specifications are as follows:

Operating Temperature:	-50°C to +65°C
Relative Humidity:	10 to 95% (Non- condensing)

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

SCHEDULE

US Certificate Of Conformity No: FM16US0211X

Supply Parameters:	+24 V nominal, 20-36 VDC
Measurement Signal:	4-20mA
Calibration:	Units are supplied factory calibrated for the specified target gas or gases. Units should not require recalibration in service.

13. **Specific Conditions of Use:**

1. For Source supply wires, use wires suitable for 32°C above surrounding ambient.
2. For Receiver supply wires, use wires suitable for 16°C above surrounding ambient.
3. At temperatures below -35°C propane cannot be detected due to the boiling point of propane being at -44°C.

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
21 st September 2010	Original Issue.
27 th December 2016	<u>Supplement 6:</u> Report Reference: Project ID 3058657 dated 27 th December 2016 Description of the Change: Hardware and firmware updates and addition of model code designations.
17 th February 2020	<u>Supplement 7:</u> Report Reference: – RR222271 dated 17 th February 2020. Description of the Change: Documentation Update to add configuration options and update listing for the removal of HART.
25 th August 2021	<u>Supplement 8:</u> Report Reference: – RR227059 dated 25 th August 2021. Description of the Change: Documentation Update to update label

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

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmaprovals.com www.fmaprovals.com