

1 EC-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: FM10ATEX0031

4 Equipment or protective system: IR5500 Open Path Gas Detector
(Type Reference and Name)

5 Name of Applicant: General Monitors Inc

6 Address of Applicant: 26776 Simpatica Circle,
Lake Forest, CA 92630 USA

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3036609EC dated 21st September 2010

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2009, EN 60079-1: 2007, EN 61241-0: 2006, EN 61241-1:2004, EN 60529:1991 +A1:2000,
EN 50241-1:1999 +A12004, EN 50241-2:1999, IEC 60079-29-4:2009

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex d IIB+H₂ T4 Gb Ta = -55°C to +65°C; IP66/67

II 2 D Ex tb IIIC T135°C Db Ta = -55°C to +65°C; IP66/67

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 18th October 2012

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

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SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM10ATEX0031

13 Description of Equipment or Protective System:

The IR5500; part numbers, 329000-a, 329001-a are fixed open path gas detectors, comprising of a Source and Receiver operating over a distance of 5-150 meters. The operating temperature range is -55°C to +65°C and the power consumptions (Um) are: 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 with HART. 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 EN 50241-1 including amendment 1 and EN 50241-2.

IR5500 Receiver:

329000-a

a: Output & Terminals - 1, 2, 3, 4, 9, 10, 11 or 12

IR5500 Source:

329001-a

a: Range & Terminals – 1, 2, 5, 6, 9, 10, 13, 14

Specifications - The manufacturer's specifications are as follow:

Operating Temperature:	-55°C to +65°C
Relative Humidity:	10 to 95% (Non- condensing)
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.

14 Specific Conditions of Use:

None

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

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17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
23 rd September 2010	Original Issue.
28 th February 2011	<u>Supplement 1:</u> Report Reference: – 3041466 dated 16 th February 2011. Description of the Change: Alternative product firmware added to accommodate use of a pan-tilt arm. No modifications have been made to the product hardware.
20 th February 2012	<u>Supplement 2:</u> Report Reference: – 3036609rev111122 dated 23 rd December 2011. Description of the Change: Drawing and manual updates.
18 th October 2012	<u>Supplement 3:</u> Report Reference: – 3046962 dated 12 October 2012. Description of the Change: Drawing updates, addition of pan tilt arm, visible light filter and minor firmware update to address over range display issue.

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