



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 18ATEX1073X** Issue: **3**

4 Equipment: **FL500 UV/IR and FL500-H2 UV/IR Flame Detectors**

5 Applicant: **General Monitors, Incorporated** **General Monitors (Ireland) Limited**

6 Address: **26776 Simpatica Circle** **Ballybrit Business Park**
Lake Forest, CA 92630 **Galway H91 H6P2**
USA **Ireland**

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

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 the confidential reports listed in Section 14.2.

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

EN 60079-0: 2012/A11:2013 EN 60079-1:2014 EN 60079-31:2014

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.


12 The marking of the equipment shall include the following:



II 2GD
Ex db IIC T5 Gb
Ex tb IIIC T100°C Db
Ta: -55°C to +85°C

IP66/IP67

Project Number 80017605


N Jones
Certification Manager

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

Model FL500 is an ultraviolet/infrared (UV/IR) flame detector. It detects the ultraviolet and infrared spectral regions of flame to produce a system which is highly immune to false alarms caused by lightning, arc-welding, hot objects, and other sources of radiation.

The FL500 uses a UV radiation-sensitive phototube and an IR detector to identify fires. The FL500 is available with the following outputs: 4 to 20 mA signal, Immediate Alarm Low (relay), Time-delayed Alarm High (relay), RS-485 Modbus RTU, and HART 7 communication.

The FL500 assembly consists of a cylindrical, single-compartment, painted cast stainless steel enclosure with one threaded windowed cover. Field wiring connections for supply, communications and output contacts are accommodated through two threaded conduit entries. Each conduit entry is provided with a suitably rated blanking element. The overall physical dimensions are 11.2 x 11.0 cm (Ø x W).

The optical radiation output (LED) of the apparatus with respect to explosion protection is covered in this certificate based on exception 5) to the scope of IEC 60079-28:2015.

The M100x2.0 (6H/6g, ISO 965-1) threaded cover is provided with a minimum of 8 fully engaged threads. The cover is provided with a 4.95 mm (0.195 in) minimum thick sapphire window, secured by means of a threaded retaining ring and environmentally sealed with an EPDM O-ring (73 mm ID x 2.4 mm cross section thickness) gasket. The cover includes an M10 x 1.5 x 12mm long set screw for tool-securement and environmentally sealed with an EPDM O-ring (95.3 mm ID x 3.2 mm cross section thickness) gasket. See manufacturer's assembly drawings for further information.

The ratings IPx6 and IPx7 are not part of the methods of protection and were tested independent of the IECEx requirements. The equipment has been independently tested against the requirements of IEC 60529 and it meets IP66/IP67.

The FL500-H2 is a derivative of, and similar to the FL500, which is an ultraviolet/infrared (UV/IR) flame detector that uses a UV radiation-sensitive phototube and an IR detector to sense specific wavelengths in the UV and IR spectral regions. The FL500-H2 is tuned to specifically detect Hydrogen fires. All electrical connections and ratings remain the same as the FL500.

Variation 1 – This variation introduced the following changes:

- i. Introduction of the FL500-H2 which is a version of the FL500 tuned to specifically detect Hydrogen fires. Product description was updated accordingly.
- ii. The nameplate polyester adhesive label material has changed from Autotex V150 (V6 XE) to V157 (V67 XE).
- iii. Addition of alternate Powder coat Cardinal Red polyester TGIC powder coat.
- iv. Addition of General Monitors (Ireland) Limited location as an alternate factory/subcontractor to the Manufacturer's Name and Address section, revision of nameplate drawing number 712904, to include the new General Monitors (Ireland) Limited location.
- v. Drawing amendments, none of which affect compliance with the standards listed.
- vi. A reduction of the cover joint minimum thread engagement from 8 mm to 7 mm



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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	14 August 2018	R70173529A	The release of the prime certificate.
1	31 October 2019	0388	Transfer of certificate Sira 18ATEX1073X from Sira Certification Service to CSA Group Netherlands B.V.
2	18 November 2019	No report issued, refer to project No. 80025303	Transfer of certificate Sira 18ATEX1073X from CSA Group Netherlands B.V. to Sira Certification Service.
3	22 November 2019	R80008857A	The introduction of Variation 1

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 Potential electrostatic charging hazard; use a damp cloth for cleaning.

15.2 Contact the manufacturer if dimensional information of flameproof joints is needed.

15.3 Field connections to the FL500 shall be appropriately certified for the location and installed in accordance with wiring method requirements of the local electrical code as applicable.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 The FL500 incorporates the following previously certified components. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these components, and to inform CSA Group/Sira Certification Services of any modifications to the components which may impinge upon the explosion safety design of the FL500.

- 3/4 NPT stopping plug / blanking element, manufactured by HLS, model number: D5.3/4.N 3/4" NPT (D.1). Certificate number: Sira 07ATEX1175X.
- 3/4" to M25 thread adapter, manufactured by Peppers Cable Glands, Ltd. Model series AR. Certificate numbers: Sira 09ATEX1322X.

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