



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX SIR 18.0026X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2018-08-14)

Status: **Current** Issue No: 1

Date of Issue: 2019-11-22

Applicant: **General Monitors, Incorporated**
26776 Simpatica Circle
Lake Forest, CA 92630
United States of America

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

Optional accessory:

Type of Protection: **Flameproof and Dust Protection by Enclosure**

Marking: Ex db IIC T5 Gb
Ex tb IIIC T100°C Db
Ta: -55°C to +85°C
IP66/IP67

Approved for issue on behalf of the IECEx
Certification Body:

Neil Jones

Position:

Certification Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom





IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 18.0026X**

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Date of issue: 2019-11-22

Issue No: 1

Manufacturer: **General Monitors, Incorporated**
26776 Simpatica Circle
Lake Forest, CA 92630
United States of America

Additional manufacturing locations: **General Monitors (Ireland) Limited**
Ballybrit Business Park
Galway
Ireland

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/SIR/ExTR18.0136/00](#)

[GB/SIR/ExTR19.0300/00](#)

Quality Assessment Reports:

[GB/SIR/QAR07.0014/08](#)

[US/UL/QAR10.0004/07](#)



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Certificate No.: **IECEX SIR 18.0026X**

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Date of issue: 2019-11-22

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to the Annexe.



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Date of issue: 2019-11-22

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

This issue, Issue 1, recognises the following changes: refer to the certificate annexe to view a comprehensive history:

1. Introduction of the FL500-H2 which is a version of the FL500 tuned to specifically detect Hydrogen fires. Product description was updated accordingly.
2. The nameplate polyester adhesive label material has changed from Autotex V150 (V6 XE) to V157 (V67 XE).
3. Addition of alternate Powder coat Cardinal Red polyester TGIC powder coat.
4. 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.
5. Drawing amendments, none of which affect compliance with the standards listed.
6. A reduction of the cover joint minimum thread engagement from 8 mm to 7 mm.

Annex:

[IECEx SIR 18.0026X Issue 1 Annexe_1.pdf](#)

Annexe to: IECEx SIR 18.0026X Issue 1
Applicant: General Monitors, Incorporated
Apparatus: FL500 UV/IR Flame Detector



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.

Specific Conditions of Use:

1. Potential electrostatic charging hazard; use a damp cloth for cleaning.
2. Contact the manufacturer if dimensional information of flameproof joints is needed.
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.

Conditions of Manufacture:

1. 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: IECEx SIR 07.0048X.
 - 3/4" to M25 thread adapter, manufactured by Peppers Cable Glands, Ltd. Model series AR. Certificate number: IECEx SIR 09.0131X.

Date: 22 November 2019

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Annexe to: IECEx SIR 18.0026X Issue 1
Applicant: General Monitors, Incorporated
Apparatus: FL500 UV/IR Flame Detector



Full Certificate change history

Issue 1

1. Introduction of the FL500-H2 which is a version of the FL500 tuned to specifically detect Hydrogen fires. Product description was updated accordingly.
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