



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 09ATEX1270X** Issue: **4**

4 Equipment: **FL4000H Flame Detector**

5 Applicant: **General Monitors Ireland** **General Monitors Inc.**

6 Address: Ballybrit Business Park 26776 Simpatica Circle
Galway Lake Forest
Ireland California 92630
USA

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:



Ex db IIC T5 Gb
Ex tb IIIC T100°C Db
(Ta = -40°C to +80°C)

Project Number 70094716

N. Jones
N Jones
Certification Manager

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Sira Certification Service

Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom



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13 DESCRIPTION OF EQUIPMENT

The FL4000H Flame Detector, as detailed in Figure 1, is an infrared device that is rated at 4.4 W maximum. It is manufactured from stainless steel, is cylindrical in shape and comprises a base and cover secured by five, M6, grade A4-70-316, hexagon socket-head cap screws. The base contains a stainless steel mounting pin and two, 3/4"-14 NPT, cable entry that accommodate suitable cable entry devices or stopping plugs. The cover contains a sapphire window and houses the PCBs and associated electronics that perform the equipment's measuring function.

Variation 1 - This variation introduced the following changes:

- i. The option to use of Viton® as a material of manufacture of the O-ring.
- ii. Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, IEC 60079-31 : 2008 Ed 1 was replaced by EN 60079-31:2009.
- iii. The recognition of the following label drawing changes:
 - The dust marking shown on the label was modified to bring it into line with that stated on the certificate.
 - An alternative adhesive was allowed to be used.
 - The text on the drawing was amended.
 - The associated IECEX certification was included on the label for General Monitors Inc.

Variation 2 - This variation introduced the following changes:

- i. Following appropriate assessment to demonstrate compliance with the requirements of the latest technical knowledge, EN 60079-0:2006 was replaced by EN 60079-0:2012, the marking was amended accordingly, in addition, IEC 60079-0:2007 Edition 5 is no longer required for guidance in respect of marking.
- ii. The introduction of an optional Rain Guard assembly.

Variation 3 - This variation introduced the following changes:

- i. A Condition of Certification was introduced; this will allow the user/installer to fit an optional, End-Of-Line (EOL) resistor within the enclosure. In consequence, an 'X' suffix was added to the certificate number.
- ii. The equipment label marking was revised to merge the two manufacturing location labels onto one common drawing. The actual manufacturing premises indicated by a 'check' box on the label.
- iii. The maximum power dissipation of the equipment was corrected from 2.1 W to 4.4 W.

Variation 4 - This variation introduced the following changes:

- i. A replacement rain guard was introduced.
- ii. To permit the use of an optional (sun shade) accessory, resulting in the introduction of a Specific Condition of Use.

Fig. 1 - FL4000H Flame Detector





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- iii. To recognise the replacement of the five A2-70 304 special fasteners securing the window cover assembly with A4-70 316 stainless steel special fasteners, resulting in the introduction of a Specific Condition of Use. The description was amended accordingly.
- iv. Removal of the following previous scheduled certification drawings their sheets and revisions that are no longer required to support production and are only retained for reference:

Drawing	Title
71272	FL4000H Design Approval Specification
712006	Rain Guard Kit
712004	Rain Guard
71297	FL4000H Nameplate

- v. Typographical correction to the material of manufacturer reference for the, Housing and base material to read from SS 316 cast to CF8M cast stainless steel annealed per ASTM A351. Reference drawing number 71272.
- vi. Recognition that the equipment is no longer supplied with suitably certified cable glands.
- vii. The removal of the 'Condition of Manufacture' relating to the applicable O-ring seals materials, whilst recognising the use of a new O-ring material used within the equipment housing providing only additional weather protection, and no longer relied upon for explosion protection safety.
- viii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the documents previously listed in section 9, EN 60079-0:2012, EN 60079-1:2007 and EN 60079-31:2009, were replaced by EN 60079-0:2012/A11:2013, EN 60079-1:2014 and EN 60079-31:2014, the product markings were updated accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	01 February 2010	R20560A/00	The release of the prime certificate.
1	02 November 2010	R22772A/00	The introduction of Variation 1.
2	10 September 2013	R31190A/00	The introduction of Variation 2.
3	30 October 2015	R70036374A	The introduction of Variation 3; because a Special Condition for Safe Use was introduced, an 'X' suffix was added to the certificate number.



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Issue	Date	Report no.	Comment
4	31 March 2017	R70094716A	<p>This Issue covers the following changes:</p> <ul style="list-style-type: none">• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. <i>(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)</i>• The introduction of Variation 4.

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

- 15.1 An End-Of-Line (EOL) resistor with a maximum power dissipation of up to 0.6 W may be fitted in the circuit inside the enclosure; however, it must be installed by the user/installer in accordance with the relevant instructions that are stipulated in the manufacturer's product manual.
- 15.2 Caution – Use Fasteners with yield stress $\geq 450\text{MPa}$.
- 15.3 The FL4000H Flame Detector flanged joint, between the window cover and main body, may be sited to within a distance no less than 9.62 mm of any adjacent surface, or its sun shield when fitted.

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.

CERTIFICATE ANNEXE

Certificate Number: Sira 09ATEX1270X
Equipment: FL4000H Flame Detector
Applicant: General Monitors Ireland
General Monitors Inc.



Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
71272	1 of 2	1	14 Jan 10	FL4000H Design Approval Specification
71272	2 of 2	1	14 Jan 10	FL4000H Design Approval Specification
71297	1 of 2	C	29 Jan 10	FL4000H Nameplate
71297	2 of 2	C	29 Jan 10	FL4000H Nameplate

Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
71272	1 of 2	B	21 Jul 10	FL4000H Design Approval Specification
71272	2 of 2	B	21 Jul 10	FL4000H Design Approval Specification
71297	1 of 2	F	21 Jul 10	FL4000H Nameplate
71297	2 of 2	F	21 Jul 10	FL4000H Nameplate

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
712006	1 of 1	A	09 Aug 13	Rain Guard Kit
712004	1 of 1	A	09 Aug 13	Rain Guard
71297	1 of 2	J	09 Aug 13	FL4000H Nameplate
71297	2 of 2	J	09 Aug 13	FL4000H Nameplate

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
71297	1 of 1	N	30 Oct 15	FL4000H Nameplate

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
70968	1 of 1	C	29 Mar 17	Window
71272	1 of 4	D	24 Feb 17	FL4000H Design Approval Specification
71272	2 of 4	D	24 Feb 17	FL4000H Design Approval Specification
71272	3 of 4	D	24 Feb 17	FL4000H Design Approval Specification
71272	4 of 4	D	24 Feb 17	FL4000H Design Approval Specification
71297	1 of 1	P	24 Feb 17	FL4000H Nameplate
712004	1 of 1	B	24 Feb 17	Rain Guard
712006	1 of 1	B	24 Feb 17	Rain Guard Kit

The following drawings are no longer required to demonstrate compliance or support continued manufacture:

Cert iss	Drawing	Sheets	Rev.	Date (Sira stamp)	Title
0	71272	1 of 2	1	14 Jan 10	FL4000H Design Approval Specification
0	71272	2 of 2	1	14 Jan 10	FL4000H Design Approval Specification
0	71297	1 of 2	C	29 Jan 10	FL4000H Nameplate
0	71297	2 of 2	C	29 Jan 10	FL4000H Nameplate
1	71297	1 of 2	F	21 Jul 10	FL4000H Nameplate
1	71297	2 of 2	F	21 Jul 10	FL4000H Nameplate
1	71272	1 of 2	B	21 Jul 10	FL4000H Design Approval Specification
1	71272	2 of 2	B	21 Jul 10	FL4000H Design Approval Specification
2	712006	1 of 1	A	09 Aug 13	Rain Guard Kit

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Cert iss	Drawing	Sheets	Rev.	Date (Sira stamp)	Title
2	712004	1 of 1	A	09 Aug 13	Rain Guard
2	71297	1 of 2	J	09 Aug 13	FL4000H Nameplate
2	71297	2 of 2	J	09 Aug 13	FL4000H Nameplate
3	71297	1 of 1	N	30 Oct 15	FL4000H Nameplate