



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 07ATEX1253** Issue: **7**

4 Equipment: **IR400 and IR700 Gas Detector**

5 Applicant: **General Monitors (Ireland) Limited** **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 EN 60079-29-1:2007\*  
\*applies to Model IR400 only

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 2 G D  
Ex db IIB+H2 T5 Gb  
Ex tb IIIC T100°C Db  
EN 60079-29-1 (Applies to Model IR400 only)  
(Ta -60°C to +75°C)

Project Number 70117510

  
N Jones  
Certification Manager

This certificate and its schedules may only be reproduced in its entirety and without change.

**Sira Certification Service**

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



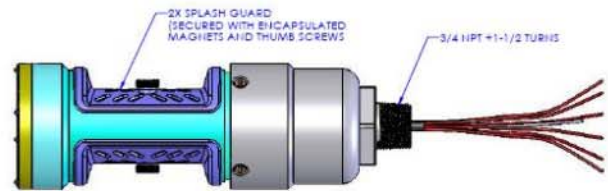
## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

The IR400, as detailed in Figure 1, is an optical gas detector that is rated at 24 V dc maximum. The IR700 is identical in construction and only the filter medium and the firmware are different. They are manufactured from cast aluminium A356-T6 or stainless steel, are cylindrical in shape and incorporate three separate compartments: electronic, optical and detector. The electronic and optical compartments have a cylindrical joint cap and the detector compartment has a flanged lid fitted with four – M4 socket head cap screws. Both compartments are fitted with a sapphire optically clear UV window, which is held in place by a threaded locknut and is sealed with a silicone sponged 'O' ring. The electronics module tube contains the PCBs and associated electronics that perform the equipment's measuring function.



**Figure 1. Drawing of an IR400 Gas Detector**

The enclosures meet IP 6X ingress protection and have been additionally tested according to the requirements of EN 60529 to meet IP X6, hence having an overall rating of IP 66.

**Variation 1** - This variation introduced the following changes:

- i. The update in the general requirements standard revision date and a change to the marking to reflect this.
- ii. Minor changes of the machining dimension tolerances were allowed.
- iii. As a result of administrative changes, the revision status of the certificate schedule drawings was updated.

**Variation 2** - This variation introduced the following change:

- i. The lower ambient temperature limit was extended from -40°C to -60°C.

**Variation 3** - This variation introduced the following changes:

- i. The associated IECEx certification was included on the label for General Monitors Inc.
- ii. The machining dimensions of the flamepath between the electronics housing and the optics housing were altered.
- iii. 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.

**Variation 4** - This variation introduced the following changes:

- i. The introduction of the IR700 model to the range, this model is identical in construction to the existing IR400, the only change is to the filter medium and the firmware.
- ii. The recognition of minor drawing modifications required by other certification bodies, none of which affect the explosion proof properties of the equipment.
- iii. Evaluation of the **IR400 Model only** for the performance of the equipment as a combustible gas detector in accordance with BS EN 60079-29-1:2007, thus it can be considered a safety-related device under Annex II Section 1.5 of Directive 2014/34/EU.





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**Variation 5** - This variation introduced the following changes:

- i. The introduction of a firmware modification, this allows an improved detection response time.
- ii. The product description was to be modified to include a statement about Ingress Protection.

**Variation 6** - This variation introduced the following changes:

- i. Minor editorial changes, the inclusion of a logo applicable to other Directives and the CSA Logo was updated, to drawings 32509 and 32703 were approved.
- ii. The standard number EN 60079-29-1, first applied to the IR400 Gas Detector in Issue 4 of this certificate, was recognised in the marking section.

**Variation 7** - This variation introduced the following change:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, 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 markings in section 12 were updated accordingly to recognise the new standards. Along with the scheduled drawings rationalised to those drawings/revisions supporting continued manufacture.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	5 December 2007	R51A16232A	The release of the prime certificate.
1	19 February 2009	R51A16232B R51A18698A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• Report R51A16232A was replaced by R51A16232B, in consequence, EN 61241-0:2006 and EN 61241-1:2004 were added to the list of documents used to assure compliance with the Essential Health and Safety Requirements.</li></ul> The introduction of Variation 1.
2	24 March 2010	R51A16232G R51A18698B R51L19789A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• Report Sira R51A16232G, replaced all previous reports identified as either R51A16232A or R51A16232B, it was issued to rationalise these reports and to effectively correct errors associated with the Sira report numbers, it also clarifies the standards appropriate to the certification and the associated marking cognisant of the change of ambient temperature covered by report R51L19789A.</li><li>• Report number R51A18698B replaced report R51A18698A.</li></ul> The introduction of Variation 2.



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Issue	Date	Report number	Comment
3	2 November 2010	R22772A/00 R22736A/00 R16232G/01	This Issue covers the following changes: <ul style="list-style-type: none"><li>The introduction of Variation 3.</li></ul> Report number R16232G/01 replaced report R51A16232G to revise the flame transmission test.
4	09 December 2011	R25871A/00	The introduction of Variation 4.
5	21 January 2013	R29095A/00	The introduction of Variation 5.
6	17 March 2015	R70024075B	The introduction of Variation 6.
7	07 March 2017	R70117510A	This Issue covers the following changes: <ul style="list-style-type: none"><li>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></li><li>The introduction of Variation 7.</li></ul>

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

None

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 07ATEX1253  
**Equipment:** IR400 and IR 700 Gas Detector  
**Applicant:** General Monitors (Ireland) Ltd  
General Monitors Inc.



### Issue 0

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
32508	1 to 3	2	28 Sep 07	Approval drawings IR400 Gas Detector
32509	1 to 1	4	04 Dec 07	Approval drawings Nameplate IR400

### Issue 1

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
32508	1 to 3	A	30 Jul 08	Approval drawings IR400 Gas Detector
32509	1 of 1	C	08 Dec 08	Nameplate IR400

### Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
32509	1 of 1	D	13 Oct 2009	IR400 Nameplate

### Issue 3

#### Drawing associated with report no. R22772A/00

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
32509	1 of 1	F	27 Jul 10	Nameplate IR400

#### Drawings associated with report no. R22736A/00

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
32508	1 of 3	B	06 Jul 10	Drawing IR400 Approval
32508	2 of 3	B	06 Jul 10	Drawing IR400 Approval
32508	3 of 3	B	06 Jul 10	Drawing IR400 Approval

### Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
32509	1 of 1	J	29 Nov 11	Nameplate IR400
32703	1 of 1	A	29 Sept 11	Nameplate IR700

**Issue 5** No new drawings were introduced.

### Issue 6

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
32509	1 of 1	K	10 Mar 15	Nameplate IR400
32703	1 of 1	B	10 Mar 15	Nameplate IR700

### Issue 7

Drawing	Sheets	Rev.	Date(Sira stamp)	Title
32509	1 of 1	L	13 Feb 17	NAMEPLATE IR400
32703	1 of 1	C	13 Feb 17	NAMEPLATE IR700
32508	1 to 3	C	13 Feb 17	DRAWING IR400 APPROVAL
M22374	1 of 1	J	13 Feb 17	POTTING PROCEDURE