



EU-TYPE EXAMINATION CERTIFICATE

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

Certificate Number: **Sira 17ATEX2083X**

Issue: **0**

Equipment: **Model G7c Portable Safety Monitor and Gas Detection Equipment**

Applicant: **Blackline Safety**

Address: Suite 101, 1215 – 13 St SE
Calgary, Alberta
T2G 3J4
Canada

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

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.

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 60079-11:2012

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.

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.

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.

The marking of the equipment shall include the following:



II 1 G

Ex ia IIC T4 Ga

Ex ia IIB T4 Ga

Ta = -20°C to +55°C



II 2 G

Ex ib IIC T4 Gb

Ta = -20°C to +55°C

Note: Refer to Section 15 for additional marking information.



Project Number 70106936

N Jones
Certification Manager

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

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SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The G7c is a worker monitoring and gas detection instrument. The purpose of the instrument is to provide real-time monitoring of workers and environmental conditions. The instrument reports information, such as location, environmental anomalies, and alerts to a centralized server. The G7C is a body worn device, which will monitor a workers movement to detect falls, and no-motion, either of which could trigger an alert. Location information is calculated using a combination of GPS, proprietary indoor beacons, and cellular triangulation. All information is reported back to the central server through the cellular network.

Internally, the G7c consists of 4 PCBs. The device is powered by a 3.8V lithium polymer battery

Three variations of the instrument are possible. There is the main base unit to which a no-gas module, single gas module or quad gas module (digital or pellister) are attached (pictured below).



14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	07 April 2017	R70106936A	The release of the prime certificate.

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

15.1 The equipment shall only be charged when in the non-hazardous area using a charger specifically supplied for use with the unit (for example part number SAW06D-050-1000xx, manufactured by Shenzhen Shi Ying Yuan Electronics Co., Ltd.), approved as SELV or Class 2 equipment against IEC 60950, IEC 61010-1 or an equivalent IEC standard. The maximum voltage and current from the charger shall not exceed 5.625 Vdc and 1 A respectively.

15.2 The G7c main unit is approved and marked for Ex ia IIC T4 Ga.

The 4-Gas Module with Pellistor sensor installed is approved and marked for Ex ia IIB T4 Ga and Ex ib IIC T4 Gb. Therefore the complete product assembly incorporating a Pellistor sensor is approved for the lower rating, as displayed on the gas module.

All other modules are approved for Ex ia IIC T4 Ga but are not marked as such since this marking is on the main unit already.

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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 G7c incorporates a previously certified combustible gas sensor. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this device. The manufacturer shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the G7c.
- 17.4 The manufacturer shall perform 100% routing testing on the RF Shutoff Circuit active current limiter to ensure that the maximum cutoff current is less than or equal to 765mA.

Certificate Annexe



Certificate Number: Sira 17ATEX2083X

Equipment: Model G7c Portable Safety Monitor and Gas Detection Equipment

Applicant: Blackline Safety

Issue 0

Drawing no.	Sheets	Rev.	Date (Sira Stamp)	Description
01329-21257	1 to 7	H	09 Mar 17	Front Shell
01329-A6959	1 to 7	F	09 Mar 17	Back Shell
01329-21261	1 to 4	C	09 Mar 17	Latch
01329-24672	1 to 6	E	09 Mar 17	No Gas Front Shell
01329-24673	1 to 6	F	09 Mar 17	No Gas Back shell
01329-21259	1 to 6	F	09 Mar 17	Single Module Front Shell
01329-21260	1 to 6	F	09 Mar 17	Single Module Back Shell
01329-24836	1 to 6	B	09 Mar 17	Quad Module Front Shell
01329-24837	1 to 6	D	09 Mar 17	Quad Module Back Shell
00842-L117	1 of 1	A	09 Mar 17	Belt Clip
01329-A7200	1 of 1	H	09 Mar 17	Membrane Assy
01329-21819	1 of 1	B	09 Mar 17	Back Label
01329-24839	1 of 1	A	09 Mar 17	Quad Module Label
01329-A6931	1 of 1	A	09 Mar 17	Main PCB Potting Bottom
01329-A6931	1 of 1	A	09 Mar 17	Main PCB Potting Top
CC G7C	1 to 2	1.0	22 Mar 17	Main PCB Conformal Coat
SCH 101983	1 to 12	04	09 Mar 17	SCH Main Board
SCH 102105	1 of 1	00	09 Mar 17	SCH Microphone
SCH 102106	1 of 1	01	09 Mar 17	SCH Speaker
SCH 102148	1 of 1	01	09 Mar 17	SCH No Gas
SCH 102260	1 of 1	04	22 Mar 17	SCH Single Gas
SCH 102261	1 to 7	02	22 Mar 17	SCH 4 Gas Digital
SCH 102317	1 to 7	02	22 Mar 17	SCH 4 Gas Pellistor
BOM 101983	1 to 3	04	09 Mar 17	BOM Main Board
BOM 102105	1 of 1	00	09 Mar 17	BOM Microphone
BOM 102106	1 of 1	01	09 Mar 17	BOM Speaker
BOM 102148	1 of 1	01	09 Mar 17	BOM No Gas
BOM 102260	1 to 2	04	09 Mar 17	BOM Single Gas
BOM 102261	1 to 2	02	09 Mar 17	BOM 4 Gas Digital
BOM 102317	1 to 2	02	22 Mar 17	BOM 4 Gas Pellistor
PCB 101970	1 to 28	02	09 Mar 17	PCB Main Board
PCB 102103	1 to 20	00	09 Mar 17	PCB Microphone
PCB 102104	1 to 20	01	09 Mar 17	PCB Speaker
PCB 102144	1 to 20	01	09 Mar 17	PCB No Gas
PCB 101989	1 to 20	04	09 Mar 17	PCB Single Gas
PCB 102146	1 to 22	02	09 Mar 17	PCB 4 Gas Digital
PCB 102145	1 to 22	02	09 Mar 17	PCB 4 Gas Pellistor
PCB G7PCM	1 to 20	00	09 Mar 17	PCB G7CPCM
L-A8189	1 to 2	A	09 Mar 17	Narada G7C Battery pack
0186_SA_MD	1 of 1	1	28 Mar 17	G7 Product Label
0279_SA_MD	1 of 1	2	05 Apr 17	G7 Quad Gas Cartridge Product Label

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