



EC TYPE-EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

Certificate Number: **Sira 13ATEX2330**

Issue: **2**

Equipment: **Portable Gas Detectors
GasAlertMicroClip XT , GasAlertMicroClip XL & GasAlertMicroClip X3**

Applicant: **B W Technologies Ltd**

Address: 2840 - 2nd Ave, S.E.
Calgary
Alberta, T2A 7X9
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 Article 9 of Directive 94/9/EC of 23 March 1994, 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

EN 60079-11:2012

EN 60079-26:2007

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 special conditions for safe use specified in the schedule to this certificate.

This EC 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:

GasAlertMicroClip XT



II 1G
Ex ia IIC T4 Ga
(-20°C ≤ Ta ≤ +58°C)

GasAlertMicroClip XL & GasAlertMicroClip X3



II 1G
Ex ia IIC T4 Ga
(-20°C ≤ Ta ≤ +50°C)

Project Number 70024687

C Ellaby
Deputy Certification Manager

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Sira Certification Service

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



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The *GasAlertMicroClip XT* Portable Gas Detector Models MC2-XWHM-a-bb-cc are intrinsically Safe, portable, multi-gas detectors for monitoring up to four gasses i.e. Oxygen [deficiency/enrichment], Combustibles, Carbon Monoxide and Hydrogen sulphide. A non-user replaceable, lithium polymer battery, Part Number: NARADA NL503759, powers the detector.

The *GasAlertMicroClip XL* (introduced at Issue 1) is similar in design to the *GasAlertMicroClip XT*; it is also a Multi-gas detector designed to monitor up to four gases i.e. Oxygen, Combustibles, Carbon Monoxide and Hydrogen sulphide. A non-user replaceable, lithium polymer battery, Part Number: NARADA NLP883759LT20, powers the detector.

GasAlertMicroClip XT Portable Gas Detector Models MC2-XWHM-a-bb-cc:
GasAlertMicroClip XL Portable Gas Detector, Models MCXL-XWHM-a-bb

Where Order Code Breakdown

X = Indicates the Oxygen Sensor
W = Indicates the Combustible Sensor
H = Indicates the H2S Sensor
M = Indicates the Carbon Monoxide Sensor
a = Custom parameter, non effecting I.S.
bb = Custom parameters, non effecting I.S.
c = Custom parameters, non effecting I.S.

X Code (Oxygen sensor)		W Code (Combustible sensor)		H Code (H2S Sensor)		M Code (Carbon Monoxide Sensor)	
0	Empty (dummy sensor)	0	Empty (dummy sensor)	0	Empty (dummy Sensor)	0	Empty (dummy Sensor)
X	O ₂	W	LEL	H	Sampling pump	M	Low range 0-500 ppm
				H1-H5	Other instrument ranges	M1-M5	Other instrument ranges

Variation 1 - This variation introduced the following changes:

- The addition of a new model *GasAlertMicroClip XL* Portable Gas Detector with a temperature class of T4 in an ambient temperature range of -20°C to +50°C. This new model is similar in design to the *GasAlertMicroClip XT*, i.e. all electronics, PCB assembly aspects and enclosure materials are identical between the two models, the differences between them are:
 - The case dimensions for the *GasAlertMicroClip XL* are 11.25 x 6.00 x 2.89 cm, whilst those for the *GasAlertMicroClip XT* are 11.25 x 6.00 x 2.85 cm.
 - The case weight for the *GasAlertMicroClip XL* is 190g (6.7 oz) while the case weight for the *GasAlertMicroClip XT* is 170g (6.0 oz)
 - The *GasAlertMicroClip XL* is certified for an ambient temperature range of -20°C to +50°C whilst that for the *GasAlertMicroClip XT* is -20°C to +58°C
 - The *GasAlertMicroClip XL* uses a NARADA NLP883759LT20 battery whilst the *GasAlertMicroClip XT* uses cell NARADA NL503759
- The correction of a typographical error.

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SCHEDULE

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Variation 2 - This variation introduced the following changes:

- i. The crystal component used in the *GasAlertMicroClip XT* and the *GasAlertMicroClip XL* was changed.
- ii. The addition of a new model to the range, the *GasAlertMicroClip X3* model number MCX3-XWHM-a-bb. The *GasAlertMicroClip X3* is identical to the *GasAlertMicroClip XL*, except for modifications to the main printed circuit board assembly. The X3 main PCB has been modified slightly to contain new support circuitry for a new oxygen sensor (City Technology, 40xLL).

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	27 November 2013	R26599A/00	The release of the prime certificate.
1	13 August 2014	R70007190A	The introduction of Variation 1.
2	15 June 2015	R70024687A	The introduction of Variation 2.

15 SPECIAL CONDITIONS FOR SAFE 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 CERTIFICATION

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

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Certificate Annexe

Certificate Number: Sira 13ATEX2330
Equipment: Portable Gas Detectors
Applicant: B W Technologies Ltd



Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GMCA-23	1 of 1	C	25 Nov 13	Gas Alert MicroClip XT Certification Label
D6567	1 to 23	-	25 Nov 13	Gas Alert MicroClip XT Quick Reference Guide
GMCD-66A	1 of 1	A	25 Nov 13	MicroClip XT Assembly
GMCD-67A	1 of 1	A	25 Nov 13	GA MicroClip XT Potting, Details
GMCD-68A	1 of 1	A	25 Nov 13	MicroClip Material Details
GMCD-69A	1 & 2	A	25 Nov 13	Battery Volume Details, MicroClip XT
GMCW-01.prj	1 of 1	R	25 Nov 13	GasAlertMicroClip PCB Block Diagram
GMCW-10.sch	1 of 1	R	25 Nov 13	ARM Processor
GMCW-15.sch	1 of 1	R	25 Nov 13	Charge Circuit
GMCW-20.sch	1 of 1	R	25 Nov 13	Power Supplies
GMCW-25.sch	1 of 1	R	25 Nov 13	CO Sensor
GMCW-26.sch	1 of 1	R	25 Nov 13	H2S Sensor
GMCW-28.sch	1 of 1	R	25 Nov 13	O2 Sensor
GMCW-29.sch	1 of 1	R	25 Nov 13	LEL Sensor
GMCW-30.sch	1 of 1	R	25 Nov 13	Alarm Buzzer and Power Supply
GMCW-40.sch	1 of 1	R	25 Nov 13	IR, Backlight, EEPROM, LCD
GMCW-50.sch	1 of 1	R	25 Nov 13	Vibrator, Alarm LEDs, JTAG, Button
GMCW-90.sch	1 of 1	R	25 Nov 13	Revision History
50112194-153	1 to 17	A	25 Nov 13	BOM
GMCE-01K	1 to 16	K	25 Nov 13	Circuit Board Layout Drawings
QF-EN-055	1 of 1	REL	25 Nov 13	Component Specification Sheet

Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GMCXLD-61A2	1 of 1	A.2	12 Aug 14	GAMicroClipXL - Assembly-
GMCXLD-60A1	1 of 1	A.1	12 Aug 14	GAMicroClipXL Material Details
GMCXLD-62A1	1 to 2	A.1	12 Aug 14	GAMicroClipXL Battery Volume Details,
BWTD-02A3	1 of 1	A.3	12 Aug 14	50112194-150 Li-Poly Battery Assy-MicroClipXL
MCXL-XHWM-Y-NA	1 to 24	A	12 Aug 14	Certification BOM
GMCXLA-02_A1	1 of 1	A1	12 Aug 14	50120874-014- Cert Label NA-EU

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GMCW-01S.prj	1 of 12	S	05 Jun 2015	GAMC XT & XL PCB Block Diagram
GMCW-10.sch	2 of 12	S	05 Jun 2015	ARM Processor
GMCW-15.sch	3 of 12	S	05 Jun 2015	Charge Circuit
GMCW-20.sch	4 of 12	S	05 Jun 2015	Power Supplies
GMCW-25.sch	5 of 12	S	05 Jun 2015	CO Sensor
GMCW-26.sch	6 of 12	S	05 Jun 2015	H2S Sensor
GMCW-28.sch	7 of 12	S	05 Jun 2015	O2 Sensor
GMCW-29.sch	8 of 12	S	05 Jun 2015	LEL Sensor
GMCW-30.sch	9 of 12	S	05 Jun 2015	Alarm Buzzer and Power Supply
GMCW-40.sch	10 of 12	S	05 Jun 2015	IR, Backlight, EEPROM, LCD
GMCW-50.sch	11 of 12	S	05 Jun 2015	Vibrator, Alarm LEDs, JTAG, Button
GMCW-90.sch	12 of 12	S	05 Jun 2015	Revision History
50123060-002	1 to 21	B.1	05 Jun 2015	GAMC XT Certification BOM-B1

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Sira Certification Service

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

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

Certificate Annexe

Certificate Number: Sira 13ATEX2330
Equipment: Portable Gas Detectors
Applicant: B W Technologies Ltd



Drawing	Sheets	Rev.	Date (Sira stamp)	Title
50123060-005	1 to 20	B.1	05 Jun 2015	GAMC XL Certification BOM-B1
GMCX3D-61A1	1 of 1	A.1	05 Jun 2015	GAMC X3 Assembly
GMCX3D-60A1	1 of 1	A.1	05 Jun 2015	GAMC X3 Material Details
GMCX3D-62A1	1 to 2	A.1	05 Jun 2015	GAMC X3 Battery Volume Details
50123060-004	1 to 21	A.1	05 Jun 2015	GAMC X3 Certification BOM-A1
GMCX3A-02A1	1 of 1	A.1	05 Jun 2015	GAMC X3 Certification Label NA-EU
50120681-001	1 to 29	D.1	05 Jun 2015	GAMC Operator's Manual EN-D1
GMCX3W-01D.prj	1 of 12	D	05 Jun 2015	GAMC X3 PCB Block Diagram
GMCX3W-10.sch	2 of 12	D	05 Jun 2015	ARM Processor
GMCX3W-15.sch	3 of 12	D	05 Jun 2015	Charge Circuit
GMCX3W-20.sch	4 of 12	D	05 Jun 2015	Power Supplies
GMCX3W-25.sch	5 of 12	D	05 Jun 2015	CO Sensor
GMCX3W-26.sch	6 of 12	D	05 Jun 2015	H2S Sensor
GMCX3W-28.sch	7 of 12	D	05 Jun 2015	O2 Sensor
GMCX3W-29.sch	8 of 12	D	05 Jun 2015	LEL Sensor
GMCX3W-30.sch	9 of 12	D	05 Jun 2015	Alarm Buzzer and Power Supply
GMCX3W-40.sch	10 of 12	D	05 Jun 2015	IR, Backlight, EEPROM, LCD
GMCX3W-50.sch	11 of 12	D	05 Jun 2015	Vibrator, Alarm LEDs, JTAG, Button
GMCX3W-91.sch	12 of 12	D	05 Jun 2015	Revision History
GMCX3E-01B.zip	*	B	*	Printed Circuit Board Gerber Files

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