



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 13ATEX2330** Issue: **3**

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

5 Applicant: **B W Technologies Ltd**

6 Address: **2840 - 2nd Ave, S.E.  
Calgary  
Alberta, T2A 7X9  
Canada**

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 60079-11:2012      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.

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:

**GasAlertMicroClip XT, GasAlertMicroClip XL & GasAlertMicroClip X3**



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

Project Number 70071252

N Jones  
Certification Manager

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**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 <sub>2</sub>	W	LEL	H	H2S Sensor	M	Low range 0-500 ppm
				H1-H5	Other instrument ranges	M1-M5	Other instrument ranges

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

- i. 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 *Gas Alert Micro Clip XT* is 170g (6.0 oz)
  - The *GasAlertMicroClip XL* is certified for an ambient temperature range of 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* is uses cell NARADA NL503759
- ii. The correction of a typographical error.

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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).

Variation 3 - This variation introduced the following changes:

- i. The crystal component already used in the *GasAlertMicroClip XT* and the *GasAlertMicroClip XL* was allowed to be fitted in the *GasAlertMicroClip X3*.
- ii. A new serial interface flash memory (dataflash) chip was added to all three instruments.
- iii. The current *GasAlertMicroClip XT* label was updated to add French warning text.
- iv. A Chinese version of the *GasAlertMicroClip XT* label was introduced.
- v. It was taken into account that the marking applied to the LEL gas sensor used in the construction of all three instruments has been varied; as a consequence, the marking of all the *GasAlertMicroClip* instruments was changed from Ex ia IIC T4 Ga to Ex da ia IIC T4 Ga thereby recognising the flameproof aspects of the LEL gas sensor. In addition, EN 60079-1:2014 was added to the list of standards that are used to show compliance with the Essential Health and Safety Requirements.
- vi. At the request of the manufacturer, the maximum ambient temperature limit of the *GasAlertMicroClip XT* was reduced from +58°C to +50°C.
- vii. The inclusion of a firmware update, this change does not affect any safety aspects of the equipment.
- viii. The original Description of Equipment was amended to correct a typographical error in the Order Code Breakdown table, i.e. 'H' indicates that an H2S sensor is installed not a sampling pump.
- ix. Following appropriate assessment, EN 60079-0:2012+A11:2013 replaced EN 60079-0:2012.

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.
3	13 January 2017	R70071252A	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. (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.)</li> <li>• The introduction of Variation 3.</li> </ul>

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## SCHEDULE

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- 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 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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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

## Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GMCW-01	1 to 12	T	11 Oct 16	GAMC XT (and XL) Schematic
50123060-002	1 to 23	B3	11 Oct 16	GAMC XT Certification BOM
GMCA-21	1 of 1	F	11 Oct 16	GAMC XT Certification Label NA-EU
GMCA-34	1 of 1	A3	23 Nov 16	GAMC XT Certification Label China
50123060-005	1 to 21	B2	11 Oct 16	GAMC XL Certification BOM
GMCXLA-02	1 of 1	B	11 Oct 16	GAMC XL Certification Label NA-EU
GMCX3W-01	1 to 12	E	11 Oct 16	GAMC X3 Schematic
50123060-004	1 to 24	A3	11 Oct 16	GAMC X3 Certification BOM
GMCX3A-02	1 of 1	A3	11 Oct 16	GAMC X3 Certification Label NA-EU

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