



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 18ATEX2243** Issue: **3**

4 Equipment: **Portable Single Gas Detector BW Solo**

5 Applicant: **RAE Systems Inc. A Honeywell Company**

6 Address: **1349 Moffett Park Drive
Sunnyvale
California 94089
USA**

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

8 CSA Group Netherlands B.V., Notified Body Number 2813 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 60079-11:2012 EN 60079-26:2015

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 1 G
I M1
Ex ia IIC T4 Ga
Ex ia I Ma
Tamb = -40°C to +60°C

Project Number 80052956

Signed: J A May

Title: Director of Operations

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CSA Group Netherlands B.V.
Utrechtseweg 310,
6812 AR, Arnhem,
Netherlands



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

The subject instrument is a Portable Single Gas Detector BW Solo for continuously display of gas concentrations. The physical dimensions are 70mm*67mm*25 (30mm with 4R sensor) mm. Its weight is around 100g. It is handheld and battery powered, front and back area housed in a transparent plastic material (PC), partially covered with stainless steel and soft thermoplastic rubber material (TPE). The front, which is partially covered with stainless steel, has LCD display and pushbuttons for navigation and programming. The back of the enclosure is equipped with a metallic belt clip.

It is supplied by a Li-SOCI2 battery. The battery is provided with infallible safety circuits including infallible resistors.

This instrument normally equips with electrochemical Clydesdale Whittle sensor / 4R sensor, an optional wireless modem, audible and visual alarm indicators. The visual alarm comprises a Red LED bar visual from the top and bottom. The push button of facilitates the access to measured levels or alarms, and the mode button makes it possible to change pre-set limits and setting, additionally, the imbalanced motor produces a vibration alert when in alarm mode.

The model number refers to following table. All models have same schematic design. However, the external dimension of Clydesdale 4R sensor is bigger than Clydesdale whittle sensor, so the PCB layout is a little bit different between Clydesdale-whittle and Clydesdale-4R. The rest of model number have no effects on the circuit design of BWSa-bbc-d.

a:	Product version	empty 1 2	Standard version Wireless version Low cost version
bb:	Gas type	b bb	Detect gas Detect extended gas
c:	Sensor type	L empty	Clydesdale Whittle sensor Clydesdale 4R sensor
d:	Color	Y B	Yellow Black

Variation 1 - This variation introduced the following change:

- i. The Addition of a ER14335 Thionyl Chloride Li-ion battery manufactured by TITUS and XLP-055F manufactured by XENO Energy.

Variation 2 - This variation introduced the following changes:

- i. A change in the company name – removing “,” from the name (RAE systems, Inc.).
- ii. Equipment name – from “handheld Toxic Gas Monitor” to “Portable Single Gas Detector BW Solo”.
- iii. Addition of a manufacturing location – Ademco De Juarez S. De R.L. de C.V.
- iv. Addition of EN 60079-26 to the certificate.
- v. Correction of a typographical error in “details of certificate changes” – XLP-055F.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	06 November 2018	R70178314A	The release of the prime certificate.
1	15 March 2019	R70210068A	The introduction of Variation 1.
2	15 October 2019	4077	Transfer of certificate Sira 18ATEX2243 from Sira Certification Service to CSA Group Netherlands B.V.
3	10 September 2020	R80052956A	The introduction of Variation 2.

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.

Certificate Annexe



Certificate Number: Sira 18ATEX2243
 Equipment: Portable Single Gas Detector BW Solo
 Applicant: RAE Systems Inc., A Honeywell Company

Issue 0

Drawing no.	Sheets	Rev.	Date (Sira Stamp)	Description
904-E300-029.02	1 of 1	1	27 Sep 18	BWSx-xxx-x hardware Equivalent Circuit
904-E300-029.03	1 of 1	1	27 Sep 18	BWSx-xxx-x (Clydesdale) Function Block Diagram
904-E300-029.07	1 to 6	1V0	27 Sep 18	Solo Sensor List
G05-0901-ASY	1 to 4	1	25 Oct 18	BWSx-xxx-x Clydesdale-Whittle assembly drawing.
G05-0902-ASY	1 to 4	1	25 Oct 18	BWSx-xxx-x Clydesdale-4R assembly drawing.
A01-1200-000	1 to 13	3	27 Sep 18	RMBLEB PCB layout.
A01-1200-001-BOM	1 to 2	4	27 Sep 18	BLE M5 BOM
G05-1010-BOM	1 to 4	4	27 Sep 18	BWSx-xxx-x Clydesdale-4R sensor main board PCB BOM.
G05-1011-BOM	1 to 4	4	27 Sep 18	BWSx-xxx-x Clydesdale-Whittle sensor main board PCB BOM
G05-4003-LBL	1 of 1	8	26 Oct 18	BWSx-xxx-x Clydesdale Label drawing
A01-1210-SCH	1 of 1	3	27 Sep 18	RMBLEB-M5 Schematic.
904-E300-029.06	1 of 1	A	27 Sep 18	Board connection.
G05-1000-000	1 to 12	A	27 Sep 18	With BWSx-xxx-x Clydesdale-4R sensor PCB Layout
G05-1001-000	1 to 12	A	27 Sep 18	With BWSx-xxx-x Clydesdale-whittle sensor PCB Layout
G05-1011-000/G05-1010-000	1 to 6	A	27 Sep 18	Main board schematic.

Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
G05-1010-BOM	1 to 4	5	14 Feb 19	BWSx-xxx-x Clydesdale-4R sensor main board PCB BOM.
G05-1011-BOM	1 to 4	5	14 Feb 19	BWSx-xxx-x Clydesdale-Whittle sensor main board PCB BOM

Issue 2. No new drawings were introduced.

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
G05-4003-LBL	1 of 1	9	03 Sep 20	BWSx-xxx-x Clydesdale Label drawing

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