



1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 20ATEX2008X** Issue: **2**

4 Equipment: **Portable Gas Detector BW Icon, BW Icon+, BW Flex-i, BW Flex4, BW Flex5**

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 IEC 60079-0:2018 EN 60079-11:2012 EN 60079-28: 2015
EN 60079-1:2014 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:

BW Icon, BW Icon+



I M1
Ex ia I Ma
With NDIR sensor:
Ex ia op is I Ma
Ta = -40°C to +60°C
Refer to the description for additional marking

BW Icon, BW Icon+



II 1G
Ex ia IIC T4 Ga
With NDIR sensor:
Ex ia op is IIC T4 Ga
Ta = -40°C to +60°C

Project Number 80065516

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR, Netherlands



SCHEDULE

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13 DESCRIPTION OF EQUIPMENT

BW Flex-i, BW Flex4, BW Flex5:



I M1
Ex ia I Ma



II 1G
Ex ia IIC T4 Ga

With NDIR sensor:



I M1
Ex ia op is I Ma



II 1G
Ex ia op is IIC T4 Ga

With LEL sensor:



I M1
Ex da ia I Ma



II 1G
Ex da ia IIC T4 Ga

With NDIR & LEL sensor:



I M1
Ex da ia op is I Ma
Ta = -40°C to +60°C for all models



II 1G
Ex da ia op is IIC T4 Ga

Honeywell BW Icon, Icon+, Flex-i, Flex4 and Flex5 are 5 models of multi-gas diffusion monitor which continuously detect toxic gas and combustible gas concentration with electrochemical sensors, NDIR sensors or catalytic combustion sensors. They are supplied with rechargeable li-polymer battery cell. One push button to operate the gas monitor. Audible, visual and vibration alarm are included.

BW Icon is a disposable device which have 2 years life time.

BW Icon and Icon+ use 8 indication Icon instead of LCD display.

BW Flex-i, Flex4 and Flex5 have LCD display and the difference among them is the sensor types.

Variation 1 - This variation introduced the following changes:

- i. Addition of new model's BW Flex-i, BW Flex4, BW Flex5 is recognized. The Marking and Product name and Product description were updated.
- ii. BW ICON Main Board BOM were updated to include alternative components Q2 & Q3.
- iii. Introduction of IEC 60079-26:2014 Edition 3, EN 60079-26:2015 and EN 60079-1:2014, following the appropriate assessment to demonstrate compliance with the latest technical knowledge; EN 60079-26:2015 and EN 60079-1:2014 were added to the list of standards.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	03 July 2020	R80028080A	The release of the prime certificate.
1	04 November 2020	R80049966A	The introduction of Variation 1.
2	14 December 2020	R80065516A	Transfer of certificate Sira 20ATEX2008X from Sira Certification Service to CSA Group Netherlands B.V..

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

- 15.1 Portable Gas Detector BW Icon, BW Icon+, BW Flex-i, BW Flex4 and BW Flex5 shall only be charged in safe area using a charger approved as SELV or Class 2 equipment against IEC 60950 or an equivalent IEC standard, such as DC Voltage Stabilized Supply, model ADS-6AE-06 06030E manufactured by Shenzhen Honor Electronic Co., Ltd.

The maximum voltage from the charger U_m shall not exceed 6.0 Vdc. The ambient temperature during charging shall be in the range 0°C to 45°C.

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 CSA 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 Portable Gas Detector BW Icon, BW Icon+, BW Flex-i, BW Flex4 and BW Flex5 may incorporate a NDIR gas sensor, certified under INERIS 19ATEX9001U; Intelligent Gas Sensor (iseries), certified under Sira 19ATEX2324U; ADUM144X Series Digital Isolators, certified under IECEx SIR 16.0091U; i LEL 75 Series Miniature Combustible Gas Sensors, certified under DEMKO 16 ATEX 1557U. It is therefore the responsibility of the RAE Systems Inc. to continually monitor the status of the certifications associated with this device. RAE Systems Inc. shall inform Sira of any modifications to the device that may impinge upon the explosion safety design of the Portable Gas Detector.

CSA Group Netherlands B.V.
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Certificate Annexe



Certificate Number: Sira 20ATEX2008X
 Equipment: Portable Gas Detector BW Icon, BW Icon+,
 BW Flex-i, BW Flex4, BW Flex5
 Applicant: RAE Systems Inc. A Honeywell Company

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
M05-1010-BOM	1 to 18	2	04 Jun 20	BW ICON Main Board PCB BOM
M05-1010-SCH	1 to 11	5	04 Jun 20	BW ICON Main Board
M05-1000-PCB	1 to 8	05	04 Jun 20	BW ICON Main Board PCB
DR-ML-1484-BOM	1 of 1	1	04 Jun 20	Battery Protection Board PCB BOM
DR-ML-1484-SCH	1 of 1	B	04 Jun 20	Battery Protection Board
DR-ML-1484-PCB	1 to 4	A	04 Jun 20	Battery Protection Board PCB
DR-ML-1484-FPC	1 to 2	A	04 Jun 20	Battery Protection Board FPC
A01-1200-001	1 to 13	A	04 Jun 20	RMBLEB Board PCB
A01-1210-BOM	1 to 2	1	04 Jun 20	RMBLED BOM
A01-1210-SCH	1 of 1	A	04 Jun 20	RMBLED Schematic
M05-09XX-ASY	1 to 2	4	04 Jun 20	BW Icon / BW Icon+
M05-4003-LBL-RAE	1 of 1	2	04 Jun 20	BW Icon label RAE
M05-4004-LBL	1 of 1	2	04 Jun 20	LI BATTERY PACK Label
M05-3001-000	1 of 1	02	04 Jun 20	BATTERY-PACK-BW-ICON
904-E300-030.32	1 to 4	1	04 Jun 20	BW Icon Sensor List
904-E300-030.30	1 of 1	1	04 Jun 20	BW Icon Main Board Block Diagram
904-E300-030.31	1 of 1	2	04 Jun 20	BW Icon Main Board Equivalent Circuit Diagram
904-E300-030.41	1 to 3	A	04 Jun 20	Controlled Part of Manual

Issue 1

Drawing	Sheets	Rev.	Date (Stamp)	Title
M05-1010-BOM	1 to 18	3	20 Oct 20	BW ICON Main Board PCB BOM
CPD-CCDDEEFF-G-HH	1 to 2	3	20 Oct 20	BW Flex4/BW Flex-i/BW Flex5
904-E300-030.33	1 of 1	1	20 Oct 20	BW FLEX Main Board Block Diagram
904-E300-030.34	1 of 1	5	20 Oct 20	BW FLEX Main Board Equivalent Circuit Diagram
904-E300-030.32	1 to 5	2	20 Oct 20	BW Icon and BW Flex Sensor List
904-E300-030.41	1 to 5	B	20 Oct 20	BW Icon and BW Flex Controlled Part of Manual
M05-1001-PCB	1 to 8	5	20 Oct 20	BW Flex PCB Color Layout
M05-1011-000-SCH	1 to 12	5	20 Oct 20	BW Flex Main Board
M05-1011-BOM	1 to 20	5	20 Oct 20	BW Flex Main Board PCB BOM
M05-4010-LBL-IEC-RAE	1 of 1	2	20 Oct 20	BW Flex Label RAE
OPTO1389GFW-FPC	1 of 1	3.0	20 Oct 20	Schematic Diagram
OPTO1389GFW-FPC	1 of 1	3.0	20 Oct 20	FPC
310-0182-000 LCD OPTO1389GFW-BOM	1 of 1	3	20 Oct 20	LCD OPTO1389GFW-BOM
GGG16080A3-SCH	1 of 1	#00	20 Oct 20	SCH
GGG16080A3-LAYOUT	1 of 1	#00	20 Oct 20	FPC
310-0182-000 GGG16080A3-BOM	1 of 1	1	20 Oct 20	LCD GGG16080A3-BOM

Issue 2 – No new drawings were introduced.

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