1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 03ATEX1124X** Issue: **2**

4 Equipment: **Flamgard-Plus & TXgard-Plus Gas Detectors**

5 Applicant: **Crowcon Detection Instruments Ltd**

6 Address: 172 Brook Drive
Milton Park
Abingdon
Oxfordshire
OX14 4SD
UK

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:

IEC 60079-0:2017 Ed.7 EN 60079-1:2014

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:

II 2G
Ex db IIC T6 Gb T_{amb} -20°C/+55°C

Project Number 70176802

C Ellaby
Deputy Certification Manager

SCHEDULE

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13 **DESCRIPTION OF EQUIPMENT**

The Flamgard-Plus Gas Detector is intended to detect the presence of flammable gases in air and the TXgard-Plus Gas Detector is intended to detect the presence of toxic gases and oxygen in air. They are powered by 10-30 Vdc providing a 4-20 mA signal proportional to the respective gas concentration. They comprise an Adalet-PLM XIHL Junction Box as detailed in Certificate No. Demko 02ATEX0249979U and a Crowcon Detection Instruments Ltd 96HD Gas Sensor as detailed in Certificate No. Sira 02ATEX1283X.

The Junction Box is a two-part enclosure manufactured from cast aluminium comprising a square base and a circular lid. The lid, containing a glass window, threads into the base and is secured by an M4 socket head grub screw. The base has three M20 cable entry points tapped, one per side, into its walls. The two opposing entries are intended to allow connection to external circuits while the other contains the Gas Sensor. The Junction Boxes house the electronics assemblies, a seven-segment display and various status indicators viewed through the glass window.

The Gas Sensor is manufactured from stainless steel and is of two-part construction with both halves being secured together via four M4 x 12 class 70 socket head bolts spaced 90° apart and their heads protected by counter-bores. One half of the main body contains a sintered disc to allow penetration of the surrounding atmosphere, the presence of the relevant gas is then detected by either a pellistor or an electro-chemical sensor, maximum power dissipation 1.1 W, located within the main body. The sintered disc is cemented to the main body and is additionally retained by a threaded end cap. The other half of the main body has an M20 male thread to allow the Gas Sensor to be fitted to the Junction Box and contains a setting compound through which the equipment wiring passes.

Design options:

The cable entry points may be of a ½" NPT threadform.

Variation 1 - This variation introduced the following changes:

i. Following appropriate re-assessment to demonstrate compliance with the requirements of the EN 60079 series of standards, the documents previously listed in section 9, EN 50014:1997 (Amendments A1 & A2) and EN 50018:2000 (Amendment A1), were replaced by those currently listed, the markings in section 12 were updated accordingly.
ii. The M4 bolts used to secure the two halves have been clarified.

Variation 2 - This variation introduced the following changes:

i. A Specific Condition of Use was modified to amend the reference from Directive 94/9/EC to Directive 2014/34/EU.
ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2009 and EN 60079-1:2007 were replaced by IEC 60079-0:2017 Ed.7 and EN 60079-1:2014, the markings were updated accordingly to recognise the new standards; a Specific Condition of Use was added to the certificate.
iii. It was recognised that the applicants address has changed from Crowcon Detection Instruments Limited, 2 Blacklands Way, Abington, Oxfordshire, OX14 1DY, UK to Crowcon Detection Instruments Limited, 172 Brook Drive, Milton Park, Abingdon, Oxfordshire, OX14 4SD, UK.

SCHEDULE

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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	06 August 2003	R51A9941A	The release of the prime certificate.
1	03 March 2011	R24250A/00	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 1, Issue 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format. • The introduction of Variation 1.
2	Inserted when issued	R70176802A	This Issue covers the following changes: • 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.)* • The introduction of Variation 2.

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

15.1 The Flamgard-Plus and Txgard-Plus Gas Detectors shall not be used as a Safety Related Device as defined by Directive 2014/34/EU.

15.2 All unused cable entries shall be suitably fitted with a suitably certified blanking elements/stopping plugs. The blanking elements/stopping plugs shall have a certification coding, temperature class, any service temperatures (for non-metallic materials) and ingress protection suitable for use with the equipment.

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 products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

17.4 Each Flamgard-Plus and Txgard-Plus Gas Detector shall be marked with a unique serial number.

Certificate Annexe

Certificate Number: **Sira 03ATEX1124X**

Equipment: **Flamgard-Plus & TXgard-Plus Gas Detectors**

Applicant: **Crowcon Detection Instruments Ltd**

Issue 0

Drawing No.	Sheets	Rev	Date	Title
EXD90P-2963-A1	1 of 1	2	Mar 02	Flamgard Plus & Tx Gard Plus Detector GA
EXD90P-2967-A4	1 of 1	5	Jun 03	EXD90-Plus Certification Label

Issue 1

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
EXD90P-2963-A1	1 of 1	03	24 Feb 11	Flamgard Plus & Tx Gard Plus Detector GA
EXD90P-2967-A4	1 of 1	6	24 Feb 11	EXD90-Plus Certification Label

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
2963	1 of 1	05	12 Jun 18	Flamgard Plus & Tx Gard Plus Detector GA
EXD90P-2967-A4	1 of 1	8	27 Jun 18	EXD90-Plus Certification Label