IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx BAS 14.0001X**	Page 1 of 5	Certificate history:
Status:	**Current**	Issue No: 9	Issue 8 (2018-11-15) Issue 7 (2017-07-24) Issue 6 (2017-03-01) Issue 5 (2016-11-14) Issue 4 (2016-07-14) Issue 3 (2015-10-28) Issue 2 (2015-09-22) Issue 1 (2015-07-28) Issue 0 (2015-05-28)
Date of Issue:	2020-11-27		
Applicant:	**Crowcon Detection Instruments Limited** 172 Brook Drive Milton Park Abingdon Oxfordshire OX14 4SD **United Kingdom**		
Equipment:	**XgardIQ Fixed Gas Detector**		
Optional accessory:			
Type of Protection:	**Flameproof & Intrinsic Safety**		
Marking:	**Ex db ia IIC T4 Gb - See Certificate Schedule for ambient temperature ranges**		

Approved for issue on behalf of the IECEx Certification Body: **R S Sinclair**

Position: **Technical Manager**

Signature: (for printed version)

D BREARLEY
Certification Manager

Date: 27.11.2020

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 14.0001X**

Date of issue: 2020-11-27 Issue No: 9

Manufacturer: **Crowcon Detection Instruments Limited**
172 Brook Drive
Milton Park
Abingdon
Oxfordshire
OX14 4SD
United Kingdom

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/BAS/ExTR14.0009/00
GB/BAS/ExTR15.0080/00
GB/BAS/ExTR15.0193/00
GB/BAS/ExTR15.0242/00
GB/BAS/ExTR15.0292/00
GB/BAS/ExTR16.0177/00
GB/BAS/ExTR16.0296/00
GB/BAS/ExTR17.0027/00
GB/BAS/ExTR17.0206/00
GB/BAS/ExTR18.0272/00
GB/BAS/ExTR20.0151/00

Quality Assessment Report:

GB/BAS/QAR06.0070/08

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The XgardIQ Fixed Gas Detector comprises a stainless steel or aluminium housing, which is divided into a cylindrical flameproof enclosure and a crescent shaped I.S. enclosure. An Ex d certified bushing is used to provide cable access between the two compartments.

Three cable entry holes are provided in the main flameproof enclosure as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of flameproof thread adapters. Any unused cable entry holes must be fitted with a suitable flameproof stopping plug certified as Equipment (not a Component) under an IECEx Certificate of Conformity, or a stopping plug provided by the manufacturer. The cable entries may be M20 or ½" NPT, and are identified on the body of the XgardIQ by markings cast into the enclosure. The enclosure also features an M115 threaded aluminium or stainless steel lid. An M3 grub screw is used to secure the lid against unintentional removal.

The flameproof enclosure houses a stacked PCB sub assembly comprises a main board and terminal board that provides the intrinsic safe connections to the display sub assembly and sensor housed in the I.S. compartment. In addition to these boards, the stacked assembly can be fitted with an optional Relay Board providing three 230V, 5A rated volt-free contacts for the switching of external alarm devices, and / or a Fieldbus Module providing Foundation Fieldbus communications. The model number of the equipment indicates the fitting of the optional boards and whether HART communications is enabled.

The intrinsically safe display sub assembly comprises an OLED display with three push buttons on the front of the compartment used to interrogate and monitor the XgardIQ in service. Two contacts are additionally provided on the front of the display for the connection of a suitably certified HART Communicator, such as the Emerson Type 375 Communicator. The contacts on the front of the display are exposed and the possible output has a FOS of at least 375 so does not pose a hazard.
See additional sheet for further equipment details.

SPECIFIC CONDITIONS OF USE: YES as shown below:
1. This equipment constitutes a potential electro-static charging hazard which could provide a source of ignition. The instructions for use provided with this equipment contain guidance for the end user to minimize the risk from electro-static discharge which must be followed.

2. Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with certified flameproof stopping plugs. The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Ex Equipment and not an Ex Component.

3. No part of this equipment or its accessories covered by this certificate shall be used outside the pressure range 80kPa to 110kPa, as defined by IEC 60079-0.

4. The ambient temperature range of the equipment is dependent on the Sensor Type fitted. Refer to the Certificate Schedule for the relevant ambient temperature ranges.

Equipment (continued):

The I.S. compartment of the enclosure features a cylindrical entry machined to house one of four plastic XgardIQ sensor assemblies. The ambient temperature range of the equipment is dependent on the sensor assembly fitted.

The Sensor Type and associated ambient temperature range are listed below:

Sensor Type	Ambient Temperature Range
Oxygen	-40°C ≤ T_a ≤ +75°C
Toxic	-40°C ≤ T_a ≤ +75°C
Pellistor	-40°C ≤ T_a ≤ +75°C
Infra-red (IR)	-20°C ≤ T_a ≤ +55°C

The model number of the equipment indicates the Gas Sensor fitted to the sensor assembly. The various types are listed in the User Manual provided by the manufacturer. The equipment is not designed for use in oxygen enriched atmospheres.
Alternatively the entire sensor assembly may be replaced with a remote sensor assembly comprising a metallic remote sensor housing to which one of the above mentioned XgardIQ Sensor assemblies can be fitted. This is connected to the main unit via a cable to up to 15 metres in length.

The XgardIQ has a range of available accessories, which includes:
- Splash guard assembly
- Calibration cap
- Flow adaptor
- Dust filter
- Pipe mounting kit
- Sun shade

The calibration cap and flow adaptor are intended to be used for maintenance purposes, whilst the remainder are optional and dependent on the conditions which the equipment is intended to be used in.

The main enclosure is fully labelled with the requisite marking and warnings, whilst the sensors and remote sensor housing are labelled as 'Part Of' the equipment

Output Parameters

HART communicator contacts:

Uo	=	5V		Ci	=	1.1nF
Io	=	12.3mA		Li	=	0
Po	=	15.3mW				

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Variation 9.1

To permit the fitting of alternative toxic sensor module to the XgardIQ Toxic Sensor board. The fitting of these sensors does not affect the previous test and assessment of the equipment.

Variation 9.2

To confirm the current design of the XgardIQ has been reviewed against the requirements of IEC 60079-0: 2017 Ed. 7 in respect of the differences from IEC 60079-0: 2011 Ed. 6, and none of the differences affect the previous test and assessment. The standards listed on page 2 of the certificate were updated.

ExTR: GB/BAS/ExTR20.015100	File Reference: 20/0488