



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx ULD 15.0002X Issue No: 0 Certificate history:  
Issue No. 0 (2015-05-05)

Status: **Current** Page 1 of 4

Date of Issue: **2015-05-05**

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

Electrical Apparatus: **Type 4 Gas Detectors**  
*Optional accessory:* *Sensor Filter Plate Accessory*

Type of Protection: **Ex i, Ex d**

Marking:  
Ex ia IIC T4 Ga (T4 Type 1)  
EX d ia IIC T4 Gb (T4 Type 2)

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

Jasmin Omerovic

*Position:*

Program Manager

*Signature:*  
*(for printed version)*

*Date:*

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**UL International Demko A/S**  
Borupvang 5A,  
DK-2750 Ballerup  
Denmark





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Date of Issue: 2015-05-05 Page 2 of 4  
Manufacturer: **Crowcon Detection Instruments Ltd.**  
172 Brook Drive  
Milton Park  
Abingdon  
Oxfordshire  
OX14 4SD  
**United Kingdom**

Additional Manufacturing  
location(s):

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 electrical apparatus 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 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0  
**IEC 60079-1 : 2007-04** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:6  
**IEC 60079-11 : 2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

*This Certificate **does not** indicate compliance with electrical 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 Report:

[DK/ULD/ExTR15.0003/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0070/04](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The equipment is a portable gas detector designed to measure concentration of gases and to indicate excessive levels to the user by means of audible/visual/vibrating alarms.

The enclosure consists of a 2 piece casing secured by 6 self-tapping screws. The case material is a clear polycarbonate over-moulded with static dissipative TPE. Openings are provided in the top part of the case to allow gas access to the sensors within the equipment.

There are 2 PCBs within the enclosure – the Main PCB (containing the majority of the electronics) and the Sensor PCB. These PCBs connect by means of PCB mounted plug/socket which are mechanically secured together.

Power is provided by a single, rechargeable Li-ion battery (types Sanyo UF103450P or E-One Moli Energy ICP103450CA) which is permanently fitted inside the equipment enclosure and connected to the Main PCB, which is not user-replaceable.

The equipment is designed to be used with a defined selection of toxic/O<sub>2</sub> electrochemical gas sensors and flammable/pellistor gas sensors. The flammable/pellistor gas sensors intended for use in 'T4' are either 'Ex d' or 'Ex ia' certified components, Therefore there are 2 variants of 'T4' with either 'Ex d ia' or 'Ex ia' protection concepts.

External connections are provided for use in the non-hazardous area for battery charging and communications to computers.

The equipment is supplied with an optional filter plate accessory, which is an entirely non-metallic fitting that clips over the sensor openings.

Nomenclature for type:

T4 Type 1      Intrinsically Safe

T4 Type 2      Intrinsically safe with flameproof sensor

Temperature range

The ambient temperature ranges are:

Hazardous area:      -20 °C to +55 °C

Safe area:              0 °C to +40 °C (battery charging/communications)

Electrical data

Intrinsically safe specifications:

Um : 9.1 V

**CONDITIONS OF CERTIFICATION: YES as shown below:**

Please See Annex.



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**Additional information:**

Refer to Annex for Additional information.

**Annex:**

[Annex to IECEx ULD 15.0002X issue no. 0.pdf](#)

**Annex to**  
**IECEX ULD 15.0002X issue No.: 0**  
Free ref. no. 4786386470

Conditions of Certification

|  |                                      |
|--|--------------------------------------|
| The following additional previous editions of Standards noted under the "Standards" section of this Certificate were applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section. |                                      |
| VQ500 Series Gas Sensing Heads,<br>manufactured by SGX Sensortech (IS)<br>Ltd  | IEC60079-0: 2007<br>IEC60079-1: 2007 |
| 4P Series Gas Sensing Head,<br>manufactured by City Technology Ltd   | IEC60079-0: 2007<br>IEC60079-1: 2007 |