



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 ULD 15.0002	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 9	Issue 8 (2022-01-28)
Date of Issue:	2022-05-16		Issue 7 (2021-09-28)
Applicant:	Crowcon Detection Instruments Ltd. 172 Brook Drive Milton Park Abingdon Oxfordshire OX14 4SD United Kingdom		Issue 6 (2021-07-29)
Equipment:	Portable Gas Detector - 'T4 Type 1', 'T4 Type 2'		Issue 5 (2021-06-17)
Optional accessory:	Sensor Filter Plate Accessory		Issue 4 (2020-11-16)
Type of Protection:	Intrinsic Safety "ia", Flameproof "db"		Issue 3 (2020-09-30)
Marking:	T4 Type 1: Ex ia IIC T4 Ga T4 Type 2: Ex db ia IIC T4 Gb -20°C ≤ Ta ≤ + 55°C 0°C ≤ Ta ≤ + 40°C (charging/comms in unclassified area)		Issue 2 (2018-04-25)
			Issue 1 (2015-10-22)
			Issue 0 (2015-05-05)

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

2022-05-16

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Denmark





IECEX Certificate of Conformity

Certificate No.: **IECEX ULD 15.0002**

Page 2 of 4

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

Manufacturing locations: **Crowcon Detection Instruments Ltd. Crowcon Detection Instruments (Beijing) Ltd.**
172 Brook Drive
Milton Park
Abingdon
Oxfordshire
OX14 4SD
United Kingdom
Floor 3, Building 7, No.156, 4th Jinghai Rd, DBA
Beijing City 101111
China

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:

[DK/ULD/ExTR15.0003/00](#)
[DK/ULD/ExTR15.0003/03](#)
[DK/ULD/ExTR15.0003/06](#)
[DK/ULD/ExTR15.0003/09](#)

[DK/ULD/ExTR15.0003/01](#)
[DK/ULD/ExTR15.0003/04](#)
[DK/ULD/ExTR15.0003/07](#)

[DK/ULD/ExTR15.0003/02](#)
[DK/ULD/ExTR15.0003/05](#)
[DK/ULD/ExTR15.0003/08](#)

Quality Assessment Reports:

[DE/TUR/QAR16.0016/04](#)

[GB/BAS/QAR06.0070/09](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX ULD 15.0002**

Page 3 of 4

Date of issue: 2022-05-16

Issue No: 9

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

'T4' 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 (type Calibre 303EP-22) over-moulded with static dissipative TPE (orange, black or red). 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.

'T4' is designed to be used with a defined selection of toxic/O₂ electrochemical gas sensors and flammable/pellistor gas sensors. The flammable/pellistor gas sensors intended for use in 'T4' are either 'Ex db' or 'Ex ia' certified components, Therefore there are 2 variants of 'T4' with either 'Ex db 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 'T4' is supplied with an optional filter plate accessory, which is an entirely non-metallic fitting that clips over the sensor openings.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: NO



IECEX Certificate of Conformity

Certificate No.: **IECEX ULD 15.0002**

Page 4 of 4

Date of issue: 2022-05-16

Issue No: 9

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1: Documentation and construction update.

Issue 2: Addition of new sensor types, addition of new vibrator motor type. Update to IEC 60079-1 7th Edition. Removed "X" from CoC.

Issue 3: Addition of new electrochemical sensor type Membrapor HF/M-10. Revised markings.

Issue 4: No changes to the equipment. Evaluation to standard IEC 60079-0 latest edition.

Issue 5: Revision to China manufacturing location address. Editorial change to marking drawings. No changes to the equipment.

Issue 6: Addition of alternative electrochemical Toxic/O₂ sensors.

Issue 7: Main PCB component/layout changes.

Issue 8: Addition of alternative sensor types. Addition of alternative components due to obsolescence.

Issue 9: Revised to reinstate Sensor PCB ECAD-000144 as an alternative to ECAD-000227.

Annex:

[Annex for IECEx ULD 15.0002 Issue 9.pdf](#)



IECEX Certificate of Conformity

Certificate No.: IECEX ULD 15.0002

Issue No.: 9

Page 1 of 3

PARAMETERS RELATING TO THE SAFETY

3.8 V (nominal battery)

Um: 9.1 V (Comms and Battery Charger)

MARKING

Marking has to be readable and indelible; it has to include the following indications:

T4 Type 1

T4 Type 2



Note: Hatched areas contain CE mark and ATEX Notified Body number.



IECEX Certificate of Conformity

Certificate No.: IECEX ULD 15.0002

Issue No.: 9

Page 2 of 3

Or alternatively, the equipment may be marked with the following:

T4 Type 1

T4 Type 2

T4 Type 1

Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +55°C
IECEX ULD 15.0002
DEMKO 15 ATEX 1411

WARNING: DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS LOCATION. USE RECOMMENDED CHARGER ONLY. READ & UNDERSTAND THE MANUAL BEFORE USE.

CROWCON
172 BROOK DRIVE
MILTON PARK
ABINGDON
OX14 4SD
UNITED KINGDOM
Made in China

Ex II 1 G
Um = 9.1V
6.5V Class 2

T4 Type 2

Ex db ia IIC T4 Gb -20°C ≤ Ta ≤ +55°C
IECEX ULD 15.0002
DEMKO 15 ATEX 1411

WARNING: DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS LOCATION. USE RECOMMENDED CHARGER ONLY. READ & UNDERSTAND THE MANUAL BEFORE USE.

CROWCON
172 BROOK DRIVE
MILTON PARK
ABINGDON
OX14 4SD
UNITED KINGDOM
Made in China

Ex II 2 G
Um = 9.1V
6.5V Class 2

Note: Hatched areas contain CE mark and ATEX Notified Body number.

Or alternatively, the equipment may be marked with the following:

T4 Type 1

T4 Type 2

T4 Type 1

Ex ia IIC T4 Ga -20°C ≤ Ta ≤ +55°C
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CROWCON
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OX14 4SD
UNITED KINGDOM
Made in the UK

Ex II 1 G
Um = 9.1V
6.5V Class 2

T4 Type 2

Ex db ia IIC T4 Gb -20°C ≤ Ta ≤ +55°C
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IECEX Certificate of Conformity

Certificate No.: IECEx ULD 15.0002

Issue No.: 9

Page 3 of 3

LIST OF CERTIFIED COMPONENTS

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.

Product	Certificate Number	Standards
SGX Sensortech VQ500 series Sensing Heads	IECEX SIR 04.0014U	IEC 60079-0:2011, Edition: 6.0 IEC 60079-1:2014, Edition: 7.0
City Technology 4P75 Series Sensing Head	IECEX SIR 04.0013X	IEC 60079-0:2011, Edition: 6.0 IEC 60079-1:2014, Edition: 7.0
SGX Sensortech MP-72xx or VQ548MP	IECEX ULD 14.0002U	IEC 60079-0:2011, Edition: 6.0 IEC 60079-11:2011, Edition: 6.0
Nevada Nanotech Systems Inc. MPS S4 Combustible Gas Sensors	IECEX FMG 19.0028U	IEC 60079-0:2017, Edition: 7.0 IEC 60079-11:2011, Edition: 6.0
Ion Science IonPID	IECEX BAS 07.0030U	IEC 60079-0:2017, Edition: 7.0 IEC 60079-11:2011, Edition: 6.0