

Issue No. 7 (2017-12-04)

Issue No. 6 (2016-04-29)

Issue No. 5 (2015-10-19)

Issue No. 4 (2015-05-20) Issue No. 3 (2013-12-02)

Issue No. 2 (2012-07-02)

Issue No. 1 (2012-02-19)

Issue No. 0 (2011-06-01)

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx ULD 11.0004X	Issue No: 7	Certificate history
Certificate No	IECEX ULD 11.0004A	ISSUE INO. /	Certificate History

Status: Current

Page 1 of 4
Date of Issue: 2017-12-04

Applicant: Crowcon Detection Instruments Ltd.

172 Brook Drive Milton Park Abingdon Oxfordshire OX14 4SD **United Kingdom**

Equipment: Gas-Pro Portable Hand-held Gas Detector

Optional accessory: Pump, Flow Plate

Type of Protection: Flameproof "db" and Intrinsic Safety "ia"

Marking:

Ex db ia IIC T4 Gb

-20°C ≤ Ta ≤ +55°C

Approved for issue on behalf of the IECEx Andrew Moffat

Certification Body:

Position: Associate Project Engineer

Signature:

(for printed version)

Date: 2017-12-04

- 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.

Certificate issued by:

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





Certificate No: IECEx ULD 11.0004X Issue No: 7

Date of Issue: 2017-12-04 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: 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 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/ExTR11.0005/06

Quality Assessment Report:

GB/BAS/QAR06.0070/06



Certificate No:	IECEx ULD 11.0004X	Issue No: 7

Date of Issue: 2017-12-04 Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Gas-Pro is a portable, hand-held, re-chargeable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and data-logger. The circuitry is housed within a polymeric enclosure manufactured from clear polycarbonate over-moulded with static-dissipative TPE in orange, red, or black with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and communications cables, for use in a safe area only. An optional pump is available to facilitate gas sampling.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Only connect to Gas-Pro in a safe area for charging or communications.
- Gas-Pro must not be charged or have communication to the device, at ambient temperatures outside of the temperature range 0°C to 40°C.



Certificate No:	IECEx ULD 11.0004X	Issue No: 7
Date of Issue:	2017-12-04	Page 4 of 4
DETAILS OF CERTIFICATE CHAIN	NGES (for issues 1 and above):	
Issue 1: Addition of red overmoulde	ed variant.	
Issue 2: Correction of CoC to add r	missing T-code to markings on រុ	page 1 (T4).
Issue 3: Addition of new Main PCB	types ECAD-000106 and ECA	D-000106-01.
Issue 4: Standard upgrade, chang design.	e of address, Polycarbonate en	closure modification and addition of alternate GripClip top ring
Issue 5: Addition of alternative man	king drawing containing info for	other certification agencies.
Issue 6: Modification of existing Ga	asPro design to reduce EMC. Al	ternative battery and sensors added to range.
		ambient charging temperature and update of the IEC 60079-1 as also incorporated. Scheduled drawing list updated to reflect the
Annex:		
Annex to IECEx ULD 11.0004X Iss	ue 7.pdf	



Certificate No.: IECEx ULD 11.0004X

Issue No.: 7 Page 1 of 2

EQUIPMENT

The Main PCB is divided into separate power limiting nets to distribute power to processor, gas sensors, vibrator, sounder and pump drive circuitry. It interfaces to a charging and communications Interface and to the separate Display PCB. Upto 4 Gas Sensors are fitted of the infrared, pellistor, PID, toxic and oxygen types. The infrared, pellistor and PID type are suitably certified components. All sensor are located within energy limited circuitry.

The equipment is designed to be used with a defined selection of toxic/O2 electrochemical gas sensors and one or more flammable/pellistor gas sensor. The flammable/pellistor gas sensors are 'Ex db' certified components or certified equipment. Alternatively, one or more of the permitted flammable/pellistor gas sensors are certified to the intrinsically safe protection concept only.

The Main PCB types determine the type of sensors fitted as follows:

Main PCB Assy No. (Crowcon Part Number)	Sensors Configuration
1004-1080	Toxic (Universal)
(S013005)	Toxic (Single)
	Combustible (IR)
	Oxygen
1004-1047	Toxic (Universal)
(S013001)	Pellistor or PID (5V max)
	Toxic (Single)
	Oxygen
1004-1047-01	Toxic (Universal)
(S013021)	Pellistor or PID (4.25V max)
	Toxic (Single)
	Oxygen
1004-1042	Toxic (Universal)
(S013002)	Pellistor or PID (5V max)
	Combustible (IR)
	Oxygen
1004-1042-01	Toxic (Universal)
(S013022)	Pellistor or PID (4.25V max)
	Combustible (IR)
	Oxygen
ECAD-000106	Toxic (Universal)
(S013004)	Pellistor or PID (5V max)
	Pellistor or PID (5V max)
	Oxygen
ECAD-000106-01	Toxic (Universal)
(S013024)	Pellistor or PID (4.25V max)
	Pellistor or PID (4.25V max)
	Oxygen

The Display PCB consists of LCD Module, Display Processor, LED backlight, interface circuits to Main PCB and LED lights for displaying status of the unit. The LCD Module consists of LCD with backlight. The Battery is a rechargeable Li-Ion battery wired to the Main PCB. A flow plate used to facilitate the flow of gases over the sensor heads is screwed to the front of the GasPro enclosure.



Certificate No.: IECEx ULD 11.0004X

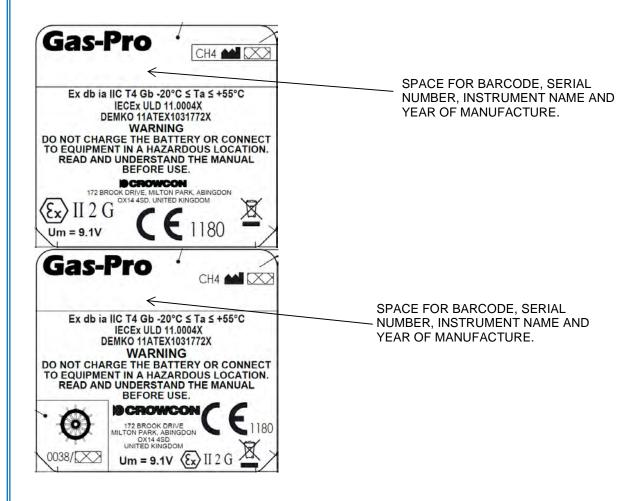
Issue No.: 7 Page 2 of 2

PARAMETERS RELATING TO THE SAFETY

Um: 9.1 V

MARKING

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





Certificate issued by:

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

Certificate No.:	IECEx ULD 11.0004X	Issue	No: 6	Certificate history:
Status:	Current	Page	1 of 5	Issue No. 6 (2016-04-29)
Oldrido.	Garrent	rage	1015	Issue No. 5 (2015-10-19)
Date of Issue:	2016-04-29			Issue No. 4 (2015-05-20) Issue No. 3 (2013-12-02)
2010 01 10000.	2010 04 25			
Applicant:	Crowcon Detection Instrumer	nte I td		Issue No. 2 (2012-07-02) Issue No. 1 (2012-02-19)
, the control	172 Brook Drive	no Eta.		Issue No. 0 (2011-06-01)
	Milton Park			Issue No. 0 (2011-06-01)
	Abingdon			
	Oxfordshire			
	OX14 4SD			
	United Kingdom			
Electrical Apparatus:	Gas-Pro Portable Hand-held	Gas Detector		
Optional accessory:	Pump, Flow Plate			
Type of Protection:	Flameproof "d" and Intrinsic	Safety "ia"		
Marking:				
	Ex d ia IIC T4 Gb			
	-20°C ≤ Ta ≤ +55°C			
Approved for issue on behali Certification Body:	r of the IECEX	Katy A. Holdrege		
Desilien				
Position:		Senior Staff Engineer		
Signature:				
(for printed version)				
Date:		-		
		-		
	ule may only be reproduced in full.			
	ferable and remains the property of			
The Status and authenticit	y of this certificate may be verified b	y visiting the Official IECEx Website	2.	



Certificate No:

IECEx ULD 11.0004X

Issue No: 6

Date of Issue:

2016-04-29

Page 2 of 5

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





Certificate No:

IECEx ULD 11.0004X

Issue No: 6

Date of Issue:

2016-04-29

Page 3 of 5

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 almospheres - 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/ExTR11.0005/05

Quality Assessment Report:

GB/BAS/QAR06.0070/05



Certificate No:

IECEx ULD 11.0004X

Issue No: 6

Date of Issue:

2016-04-29

Page 4 of 5

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Gas-Pro is a portable, hand-held, re-chargeable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and data-logger. The circuitry is housed within a polymeric enclosure manufactured from clear polycarbonate over-moulded with static-dissipative TPE in orange, red, or black with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and communications cables, for use in a safe area only. An optional pump is available to facilitate gas sampling.

See Annex for additional information.

CONDITIONS OF CERTIFICATION: YES as shown below:

See Annex for Conditions of Certification.



Certificate No:

IECEx ULD 11.0004X

Issue No: 6

Date of Issue:

2016-04-29

Page 5 of 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1: Addition of red overmoulded variant

Issue 2: Correction of CoC to add missing T-code to markings on page 1 (T4).

Issue 3: Addition of new Main PCB types ECAD-000106 and ECAD-000106-01.

Issue 4: Standard upgrade, change of address, Polycarbonate enclosure modification and addition of alternate GripClip top ring design.

Issue 5: Addition of alternative marking drawing containing info for other certification agencies.

Issue 6: Modification of existing GasPro design to reduce EMC. Alternative battery and sensors added to range.

Annex:

Annex to IECEx ULD 11.0004X Issue 6.pdf

Annex to IECEx ULD 11.0004X Issue 6
Applicant: Crowcon Detection Instruments Ltd.

The Main PCB is divided into separate power limiting nets to distribute power to processor, gas sensors, vibrator, sounder and pump drive circuitry. It interfaces to a charging and communications Interface and to the separate Display PCB. Up to 4 Gas Sensors are fitted of the infrared, pellistor, PID, toxic and oxygen types. The infrared, pellistor and PID type are suitably certified components. All sensor are located within energy limited circuitry.

The equipment is designed to be used with a defined selection of $toxic/O_2$ electrochemical gas sensors and one or more flammable/pellistor gas sensor. The flammable/pellistor gas sensors are 'Ex d' certified components,

The Main PCB types determine the type of sensors fitted as follows:

Main PCB Assy No. (Crowcon Part Number)	Sensors Configuration	
7.1.7.2.2.	Toxic (Universal)	
1004-1080	Toxic (Single)	
(S013005)	Combustible (IR)	
	Oxygen	
	Toxic (Universal)	
1004-1047	Pellistor or PID (5V max)	
(S013001)	Toxic (Single)	
4-11-11-1	Oxygen	
	Toxic (Universal)	
1004-1047-01	Pellistor or PID (4.25V max)	
(S013021)	Toxic (Single)	
	Oxygen	
	Toxic (Universal)	
1004-1042	Pellistor or PID (5V max)	
(S013002)	Combustible (IR)	
	Oxygen	
	Toxic (Universal)	
1004-1042-01	Pellistor or PID (4.25V max)	
(S013022)	Combustible (IR)	
	Oxygen	
F13W2.003.34	Toxic (Universal)	
ECAD-000106	Pellistor or PID (5V max)	
(S013004)	Pellistor or PID (5V max)	
	Oxygen	
	Toxic (Universal)	
ECAD-000106-01	Pellistor or PID (4.25V max)	
(S013024)	Pellistor or PID (4.25V max)	
	Oxygen	

The Display PCB consists of LCD Module, Display Processor, LED backlight, interface circuits to Main PCB and LED lights for displaying status of the unit. The LCD Module consists of LCD with backlight. The Battery is a re-chargeable Li-lon battery wired to the Main PCB. A flow plate used to facilitate the flow of gases over the sensor heads is screwed to the front of the GasPro enclosure.

Annex to IECEx ULD 11.0004X Issue 6
Applicant: Crowcon Detection Instruments Ltd.

Conditions of Certification

The equipment is X-marked and shall be marked with the followings warnings:

- WARNING DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS LOCATION
- WARNING READ AND UNDERSTAND THE MANUAL BEFORE USE.
- THE GAS PRO SHALL ONLY BE CONNECTED TO THE CHARGING CIRCUIT OR COMMUNICATIONS INTERFACE CIRCUIT, USING ONLY SUITABLY RATED CABLES AS DEFINED IN THE ELECTRICAL DATA, IN A SAFE AREA, WITHIN A MAXIMUM AMBIENT TEMPERATURE OF 0 °C TO +40 °C.

The following additional previous editions of the Standards noted under the "Standards" section of this certificate were applied to integral components as itemised below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Gas Sensor Head, VQ500 Series, Manufactured by SGX Sensortech (IS) Ltd. (Previously E2V).
Gas Sensor Head, IR1 Series, Manufactured by SGX Sensortech (IS) Ltd. (Previously E2V).

Gas Sensor Head, 4P75 Series, Manufactured by City Technology Limited. IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition

IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition



INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and datalls of the IECEX Scheme visit www locox com

Certificate No	IECEX ULD 11 0004X	Issue No.:5	Certificate history: Issue No 5 (2015-10-
Status.	Current		19) Issue No. 4 (2015-5-20)
Date of Issue	2015-10-19	Page 1 of 4	Issue No. 3 (2013-12-2) Issue No. 2 (2012-7-2) Issue No. 1 (2012-2-19) Issue No. 0 (2011-6-1)
Applicant	Crowcon Detection In 172 Brook Drive Millon Park Abingdon Oxfordshire OX14 4SD United Kingdom	struments Ltd.	(SSUE NO 0 (2011-0-1)
Electrical Apparatus Optional accessory	Gas-Pro, hand-held batt Pump. Flow Plate	tery operated Gas Detector	
Type of Protection	Flameproof "d" and Intr	insic Safety "fa"	
Marking.	Ex d ia IIC T4 Gb		
	-20 °C to +55 °C		
Approved for issue on E Certification Body	pehalf of the IECEx	Jasmin Omerovic	
Position:		Program Manager	
Signature: (for printed version)			
Date			
2 This certificate is not	chedule may only be reprodu transferable and remains the	ced in full. property of the issuing body. be verified by visiting the Official	



Certificate No.

IECEX ULD 11.0004X

2015-10-19

Date of Issue

Issue No 5

Page 2 of 4

Manufacturer

Crowcon Detection Instruments Ltd. 172 Brook Drive Milton Park Ablingdon 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 efectrical 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

IEC 60079-1: 2007-04 Explosive atmospheres - Part 1. Equipment protection by flameproof enclosures "d"

Explosive atmospheres - Part 11: Equipment protection by intrinsic safety ""

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/ExTR11 0005/04

Quality Assessment Report;

GB/BAS/OAR06.0070/04



IECEX ULD 11.0004X

Date of Issue

2015-10-19

Page 3 of 4

EQUIPMENT: Equipment and systems covered by this certificate are as follows.

Gas-Pro is a portable, hand-held, re-chargeable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and data-logger when secured to a person by means of a metal Grip Clip. The circultry is housed within a polymeric enclosure with approximate dimensions of 130 mm by 83 mm annufactured from clear polycarbonate over-moulded with static-dissipative TPE, orange, red and black, with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and

Refer to Annex for additional information.

CONDITIONS OF CERTIFICATION: YES as shown below:

Refer to Annex for additional information.



Certificate No

IECEx ULD 11.0004X

2015-10-19

Date of Issue

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1: Addition of red overmoulded variant
Issue 2: Correction of CoC to add missing T-code to markings on page 1 (T4).
Issue 3: Addition of new Main PCB types ECAD-000106 and ECAD-000106-01.
Issue 4: Standard upgrade, change of address, Polycarbonate enclosure modification and addition of alternate GripClip
top ring design
Issue 5: Addition of alternative marking drawing containing info for other certification agencies

Annex: Annex to IECEx ULD 11 0004X Issue 5 pdf

IECEx ULD 11.0004X Issue No.:5
Crowcon Detection Instruments Ltd.

The Main PCB is divided into separate power limiting nets to distribute power to processor, gas sensors, vibrator, sounder and pump drive circuitry. It interfaces to a charging and communications Interface and to the separate Display PCB. Up to 4 Gas Sensors are fitted of the infrared, pellistor, PID, toxic and oxygen types. The infrared, pellistor and PID type are suitably certified components. All sensors are located within energy limited circuitry.

The equipment is designed to be used with a defined selection of toxic/O2 electrochemical gas sensors and one or more flammable/pellistor gas sensor. The flammable/pellistor gas sensors are 'Ex d' certified components,

The Main PCB types determine the type of sensors fitted as follows:

Main PCB Assy No. (Crowcon Part Number)	Sensors Configuration	
1004-1080	Toxic (Universal)	
5013005)	Toxic (Single)	
	Combustible (IR)	
	Oxygen	
004-1047	Toxic (Universal)	
S013001)	Pellistor or PID (5V max)	
	Toxic (Single)	
	Oxygen	
1004-1047-01	Toxic (Universal)	
S013021)	Pellistor or PID (4.25V max)	
	Toxic (Single)	
	Oxygen	
1004-1042	Toxic (Universal)	
(S013002)	Pellistor or PID (5V max)	
	Combustible (IR)	
	Oxygen	
1004-1042-01	Toxic (Universal)	
(S013022)	Pellistor or PID (4.25V max)	
	Combustible (IR)	
	Oxygen	
ECAD-000106	Toxic (Universal)	
S013004)	Pellistor or PID (5V max)	
	Pellistor or PID (5V max)	
	Oxygen	
CAD-000106-01	Toxic (Universal)	
(S013024)	Pellistor or PID (4.25V max)	
	Pellistor or PID (4.25V max)	
	Oxygen	

IECEX ULD 11.0004X Issue No.:5
Crowcon Detection Instruments Ltd.

The Display PCB consists of LCD Module, Display Processor, LED backlight, interface circuits to Main PCB and LED lights for displaying status of the unit. The LCD Module consists of LCD with backlight. The Battery is a re-chargeable Li-lon battery wired to the Main PCB. A flow plate used to facilitate the flow of gases over the sensor heads is screwed to the front of the GasPro enclosure.

The ambient temperature ranges are:

Safe Area: 0 °C to +40 °C. Hazardous Area: -20 °C to +55 °C.

Electrical data

Intrinsically safe specifications:

U_m: 9.1 V

Conditions of Certification

WARNING – DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS LOCATION

WARNING - READ AND UNDERSTAND THE MANUAL BEFORE USE.

THE GAS PRO SHALL ONLY BE CONNECTED TO THE CHARGING CIRCUIT OR COMMUNICATIONS INTERFACE CIRCUIT, USING ONLY SUITABLY RATED CABLES AS DEFINED IN THE ELECTRICAL DATA, IN A SAFE AREA, WITHIN A MAXIMUM AMBIENT TEMPERATURE OF 0 °C TO +40 °C.

The following additional previous editions of the Standards noted under the "Standards" section of this certificate were applied to integral components as itemised below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Gas Sensor Head, VQ500 Series, Manufactured by SGX Sensortech (IS) Ltd. (Previously E2V).

Gas Sensor Head, IR1 Series, Manufactured by SGX Sensortech (IS) Ltd. (Previously E2V).

Gas Sensor Head, 4P75 Series, Manufactured by City Technology Limited.

IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition

IEC 60079-0: 2007-10, 5th Edition,

IEC 60079-1: 2007-04, 6th Edition

IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition



INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:

IECEX ULD 11.0004X

Issue No: 4

Certificate history:

Status:

Current

Page 1 of 6 Issue I

Issue No. 4 (2015-05-20) Issue No. 3 (2013-12-02)

Date of Issue:

2015-05-20

Issue No. 2 (2012-07-02) Issue No. 1 (2012-02-19) Issue No. 0 (2011-06-01)

Applicant:

Crowcon Detection Instruments Ltd.

172 Brook Drive

Milton Park Abingdon Oxfordshire OX14 4SD United Kingdom

Electrical Apparatus:

Gas-Pro, hand-held battery operated Gas Detector

Optional accessory:

Pump, Flow Plate

Type of Protection:

Flameproof "d" and Intrinsic Safety "ia"

Marking:

Ex d ia IIC T4 Gb Tamb: -20 °C to +55 °C

IECEx ULD 11.0004X

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.

Certificate issued by:

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





Certificate No

IECEx ULD 11.0004X

Issue No: 4

Date of Issue:

2015-05-20

Page 2 of 6

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/ExTR11.0005/00 DK/ULD/ExTR11.0005/03 DK/ULD/ExTR11.0005/01

DK/ULD/ExTR11.0005/02

Quality Assessment Report:

GB/BAS/QAR06.0070/04



Certificate No:

IECEx ULD 11.0004X

Issue No: 4

Date of Issue:

2015-05-20

Page 3 of 6

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows;

Gas-Pro is a portable, hand-held, re-chargeable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and data-logger when secured to a person by means of a metal Grip Clip. The circuitry is housed within a polymeric enclosure with approximate dimensions of 130 mm by 83 mm by 45 mm manufactured from clear polycarbonate over-moulded with static-dissipative TPE, orange, red, & black, with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and communications cables, for use in a safe area only. An optional pump & flow plate is available to facilitate gas sampling.

	Sensors Configuration	
Main PCB Assy No. (Crowcon Part Number)	Reference	Туре
1004-1080 (S013005)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Single Toxic
	S3 ⁽¹⁾	IR
	S4 ⁽²⁾	Oxygen
004-1047 (S013001)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (5V max)
	S3 ⁽¹⁾	Single Toxic
	S4 ⁽²⁾	Oxygen
004-1047-01 (S013021)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (4.25V max)
	S3 ⁽¹⁾	Single Toxic
	S4 ⁽²⁾	Oxygen
004-1042 (S013002)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (5V max)
	S3 ⁽¹⁾	1R
	S4 ⁽²⁾	Oxygen
1004-1042-01 (S013022)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (4.25V max)
	S3 ⁽¹⁾	IR
	S4 ⁽²⁾	Oxygen
ECAD-000106 (S013004)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (5V max)
	S3 ⁽¹⁾	Pellistor/PID (5V max)
	S4 ⁽²⁾	Oxygen
ECAD-000106-01 (S013024)	S1 ⁽²⁾	Universal Toxic
	S2 ⁽¹⁾	Pellistor/PID (4.25V max)
	S3 ⁽¹⁾	Pellistor/PID (4.25V max)
	S4 (2)	Oxygen



Certificate No:

IECEx ULD 11.0004X

Issue No: 4

Date of Issue:

2015-05-20

Page 4 of 6

CONDITIONS OF CERTIFICATION: YES as shown below:

The equipment is X-marked and shall be marked with the followings warnings:



IECEx ULD 11.0004X

Issue No: 4

Date of Issue:

2015-05-20

Page 5 of 6

The Gas-Pro shall only be connected to the charging circuit or communications interface circuit, using only suitably rated cables as defined in the Electrical Data, in a safe area, within a maximum ambient temperature of 0 °C to +40 °C.

The following additional previous editions of the Standards noted under the "Standards" section of this certificate were applied to integral components as itemised below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.

Gas Sensor Head, VQ500 Series, Manufactured by SGX Sensortech (IS) Ltd. (Previously E2V).

IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1:

2007-04, 6th Edition

Gas Sensor Head, IR1 Series, Manufactured by SGX Sensortech IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: (IS) Ltd. (Previously E2V).

2007-04, 6th Edition

Gas Sensor Head, 4P75 Series, Manufactured by City Technology IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1:

2007-04, 6th Edition



Certificate No:

IECEx ULD 11.0004X

Issue No: 4

Date of Issue:

2015-05-20

Page 6 of 6

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1: Addition of red overmoulded variant

Issue 2: Correction of CoC to add missing T-code to markings on page 1 (T4).

Issue 3: Addition of new Main PCB types ECAD-000106 and ECAD-000106-01.

Issue 4: Standard upgrade, change of address, Polycarbonate enclosure modification and addition of alternate GripClip top ring design.



INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEX Scheme visit www.lecas.com

Certificate No

IECEx ULD 11.0004X

Certificate history. 1990e No. 3 (2013-12-2) Issue No. 2 (2012-7-2) Issue No. 1 (2012-7-19) Issue No. 0 (2011-6-1)

Current

Page 1 of 4

Crowcon Detection Instruments Ltd. 2 Blacklands Way Abingdon Business Park. ABINGDON, Oxfordshin, Oxfordshin, UX14 1DY United Kingdom

Gas-Pro, hand-held battery operated Gas Detector Pump, Flow Plate

Type of Protection.

Ex d ia IIC T4 Gb Tamb. -20 °C lo +55 °C IECEx ULD 11,0004X

Approved for issue on behalf of the IECEx Certification Body

Jasmin Omerovic

Position.

Certification Project Enginee

This certificate and schedule may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by

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







IECEx ULD 11.0004X

2013-12-02

Issue No 3

Page 2 of 4

Manufacturer

Crowcon Detection Instruments Ltd. 2 Blacklands Way Abingdon Business Park, ABINGDON Oxfordshira OX14 10Y 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 appearable and any acceptable variations to it appeared in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0: 2004 Electrical apparatus for explosive gas atmospheres - Part 0 General requirements
IEC 60079-0: 2007-10 Explosive atmospheres - Part 0: Equipment - General requirements

Edition, 5

IEC 60079-1: 2007-04

Explosive atmospheres - Part 1: Equipment protection by flameproof enclo-edition: 6

Explosive atmospheres - Part 11 Equipment protection by Intrinsic safety "F Edition: 5

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 tample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report
DK/ULD/ExTR11 0005/00

DK/ULD/ExTR11 0005/01

DK/ULD/ExTR11 0005/02

Quality Assessment Report

GB/BAS/QAR06 0070/03



IECEX ULD 11 0001X

Date of Issue:

2013-12-02

Issue No 3

Page 3 of 4

EQUIPMENT; Equipment and systems covered by this certificate are as follows.

Gas-Pro is a portable, hand-held, re-chargeable battary operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and data-logger when secured to a person by means of a metal Grip Cip. The circuitry is housed within a polymeric enclosure with approximate dimensions of 130 mm by 45 mm manufactured from Clear polycarbonate over-moulded with static-dissipative TPE, orange, red, & black, with openings in the TPE providing display windows. Battery charging and data transfer to the equipment is by the use of an optional charging and communications cables, for use in a safe area only. An optional pump & flow plata is available to facilitate gas sampling.

Main PCB Assy No.	Sensors Configu	note
(Crowcon Part Number)	Reference	Туре
1004-1080 (S013005)	51 (2)	Universal Toxic
	S2 (1)	Single Toxic
	53 (1)	IR .
	54 (2)	Oxygen
1004-1047 (S013001)	S1 (Z)	Universal Toxic
	32(1)	Pelistor/PID (5V max)
	53 (1)	Single Taxic
	54 (2)	Oxygen
1004-1047-01 (\$013021)	S1 (2)	Universal Toxic
	50 (1)	Pellistor/PID (4.25V max)
CONDITIONS OF CERTIFICATION; YES	AS Almwn Delow:	Single Toxic
he equipment is X-marked and shall		.Qxygen
VERTING 4 THE NOTE CHARGE THE BA	THE CONNE	-Universal Federal Printer A LIATER PROPERTY CO.
VARNING - READ AND UNDERSTAND	THE MANUAL REF	DBBALISER/PID (51/ may)
		Oxygen
1004-1042-01 (5013022)	St (2)	Universal Toxic
	52 (1)	Pelistor/PID (4.25V max)
	83 (1)	IR
	54 (2)	Oxygen
ECAD-000106 (5013004)	51 (2)	Universal Toxic
	S2 (1)	Pellistor/PID (5V max)
	S3 (1)	Pellistor/PID (5V max)
	\$4 (2)	Oxygen
ECAD-000106-01 (S013024)	S1 (2)	Universal Toxic
The state of the s	S2 (1)	Pellistor/PID (4,25V max)
	53 (1)	Pehistor/PID (4.25V max)
	S4 (2)	Oxygen
	Non Certified Sens	



Certificate No

IECEX ULD 11 0004X

2013-12-02

Issue No. 3

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for lasues 1 and above);

Addition of new Main PCB types ECAD-000106 and ECAD-000106-01. Addition of alternative overmould material types.



INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for the part and details of the IECES Scheme virth winner inces seen

Cartificate No.	SECENULD IT DOORX	Europe No	
Status	Current		Issue No. 2 (2012.7-2) Issue No. 1 (2012.2-12) Issue No. 0 (2011.6-1)
Date of Issue	2012-07-02	Page Fold	
Applicant	Crowcon Dybection 2 Blacklends Way Abingdot Business Par ABINGDON, Ockatshire OX11 TOY United Kingdom	o confirmations	
Electrical Apparatus Optional accessory	Gas Pro, hand-hold ha Pump, Flow Plats	attery operated Gas Detecto	r
Type of Protection	44		
Marking:	Ex dis HC T4 Gb Tar IECEx ULD 11.0004)		
Approved for Issue on Centification Body	behalf of the IECEs	Jasmin Omerovic	
Position.		Certification Project Engine	4
Signature, (for printed version)			
Dele			
2. This certificate is no	schedule may only be repri t transferable and remains rendity of this cardiscate m	oduced in full. the property of the issuing to very be verified by visiting the i	dy Othosi IEGEs Wildige
Constale naved by	or to or twellings of		
UC 1	Borupyang SA BOK-2750 Bellerup Denmark	(Underwriters Laboratories inc.*



IECEX ULD 11 0004X

Date of Issue

2012-07-02

Issue No. 2

Manufacturer

Crowcon Detection Instruments Ltd. 2 Blacklands Why Ablingbot Bushors Park, ABINGDON Orderdable 0X14 10Y United Kingdom

Additional Manufacturing location

This care scale is issued as verification that a sample(s), representative of production, were assessed and tested and learned to comply with the IEO Standard fiel below and that the maintacturer's quality system, reliating to the Ex products covered by this certificate, least seasons and found to comply with the IECEs Quality system requirements. This certificate is granted subject to the conditions as set out in IECEs Scheme Rules. IECEs Q2 and Operational Documents as amended.

STANDARDS: The electrical apparatus and any acceptable variations is it appealed in the schedule of this coyescate and the identified documents, was found to comply with the informing standards:

IEC 60078-0 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0 General inquirements Edition: 4.0

Edition: 4.0

EC 60079 0: 2007-10

Explosive almosphere: Part 0.Equipment: General requirements Edition: 9

Ecoport: 3 (2007-04) Explorer abnorphered - Part 1: Equipment provided by famoproof encit Eddont, 6

This Certificate stone net indicate complence with exercises safety and protomatics requirements other man those expressly included in the Standards insted above.

TEST & ASSESSMENT REPORTS: A sample(s) of the equipment is the first successfuly met the examination and test requirements as recorded in

Test Report: DKALDESTRIT 0005-00

DEALDE TRI COSOL

Quality Assessment Report, GRIBAS GAROS DOTE ON



ECEL ULD 11 DCD4X

Date of have

2017-07-02

Page 3 cl 4

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

	Main PCE Assy No.	Sensors Cordiguration	
	(Cremean Part Humber)	Reference	Туре
	1004-1080(\$013005)	31 (2)	Toxic (Universal)
		25 (t)	Toxic (Single)
		22 (1)	Combustole (R)
- 1		54 PA	Oxygen
	1004-1047(31013001)	51 (2)	Toxic (Universal)
	The House of	32 (f)	Pelistor or PIO (SV must)
- 1		63 (II)	Tercic (Single)
		54(4)	Oxygen
	1004-1047-01(5013021)	51 ⁽²⁾	Texic (Universal)
		67(1)	Petiglor or PiD (4,25V mex)
	OF CERTIFICATION: YES AS	32 (III	Toric (Single)
DITTON		Sald person.	Daygen
equipme	1994-1912U 19129TE by mar	ALB His Manuel	ARTHUR DO NOT CHUR
			POSITION PORTING - READ AND
Cash	o shell brilly be connected	क्रिक्री मालक्रिक्र का	Communications interface of
iani la	JUST 101 UP OF THE SAME	81 12 TO CHOCK	Contractor (R) Toric (University and Justine or Contractor Contra
Gas-Pro	Duty not been assurand for Park	MARKET - CAR PLAN	-Refister or PtD (4 25V mum)
Gas-Pro	to has not been assessed	ogjubb as a Sefety	Dentach Scraty Related device.
		34 (2)	Oxygen
- 1	Notes:(1) Surbibly Coralled Be	mons(2) Non Certiled	Sensors



Certificate No Date of haus

ECETULD 11 0004X

2012-07-02

DETAILS OF CERTIFICATE CHANGES (for Haues 1 and above);

Correction of CoC to add massing T-code to markings on page 1 (T4)



INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Almospheres

Cardicka Na	ACE US IT COME	444		120(3-2-12)
Status	Eulena		"Shee fig	(140114-1)
Date of faces	2912-92-29	Page 1 et a		
Aprent	Crowcon Bylaction 7 Bucklands Visy Abrydon Berkels Pa Abrydon Odershare OX14 107 United Kingdom			
Othern Steelson	But fire hade hale b Purp Flory Plate	allejiy operated then Opto	ster	
Type of Prospectors	-tu			
turring	Exd is to Gb Tarb	-70 °C W +55 °C		
Approved for such an	bond of the IECE o	launh Onwork		
Patron		Carteston Properties	n +++	
Square process		1. 24 1	lound	
Die		1		
7 This curticals is no	hir adula raig stay be repr it biratarishta and remains abritions of the earphician o	educed in fig. fre prospects of the realized the prospects of the realized	body a Officer of C.C.s Vietnija	
2 * 2				
Contrare smoothy Ut s	Semestand DENTALO AFF Semestang DA DICTIFE Ballong Opposite		UL Underwrite	



Qua el Illus

ECEPTIO HOSTAX

2012-42-10

Manufacturing measures

IEC BORN-8: 2004
Entrol 2004
E

TEST & ASSESSMENT REPORTS.

A sample(s) of the spiceron trick has sincellably and the separation and sent representative as

Detalistic

DEL. DEALGERESCON

Combanning Amed

CB 9 42 Q 48 04 00 15 33



CHICH NO

ECEPUID II MAIR

Date of Have

2417.42-15

COURTERITY Economical and systems covered by this continues are as fursions

Lain FCE Assy No.	Sometre Configuration		
Crosses Part Misshort	Helejajaa	Tres	
ובקכנ רסב וסופפו שביו	3117	Teda (Universal)	
	32117	Taxis (Single)	
	7714	Carby(bieth)	
	3447	Otygest	
OF1641(31012031)	3100	Taste (Universal)	
	\$214	Palipter or P10 (SV MAK)	
	33111	Toda (Sirgio)	
	14m	Caypen	
1,201105110-1101705	31/8	Total (Greenwall)	
	52111	F-12 # P/0 (4 25V mac)	
	1111	Your (dingle)	
	\$1(p)	Cayper	
100/1012/10120031	31(2)	Titue (Utyropriet)	
	32(1)	PRINTER PO (SY PA)	
	13511	Commercial (IR)	
	BAUT	Degrand	
1004-1642 01(3013022)	3104	fame (Unfrent)	
	92 (II)	Parties of PiD (4 25V mar)	
	2517	Combusable (sk)	
alog [1] Substry Carbina	3110	Oxygen	

The sequencial X-manual and shall be marked with the incompative manages & WARDHOO - DD NOT CHARGE INE
BATTERY OR CONVICT TO THE COUNTRY IN A NEXABOUR LOCATION & WARDHOO - READ AND
UNDERSTAND THE MANUAL BEFORE USE
The General stand cript be compacted to the charging circuit or communications interface circuit,
using only seasibility rated crabbes are defined in the Electrical Data. In a safe area, within a manufacum
applicant importation of 0 = CD is 40.0.
The General behavior and the Performance are Cost Opticion.
The General has not been presented for the season of the Safety Related device.



Date of teace

1205. IND 11 1904X

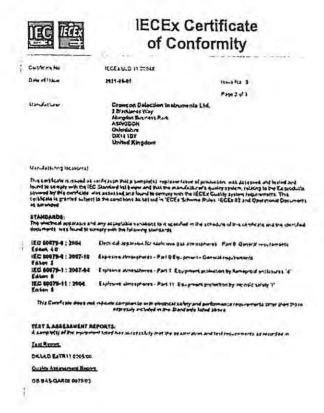
2012-22-10

Page 4 et 4

DETAILS OF DESTRECATE CHANGES (for being 1 and about)

Applicance and a removable a seriors







IECEA ULD 11 CCOUR

2371.46-01

Page 3 d 1

ale PCS Anny No.	Bontors Cardiguesdan		
consus Part Humber	Reference	Type	
100-1010(3013005)	21111	Torpe (University)	
	32(1)	Tem: (Single)	
	33111	Combustile (III)	
	Mach	Depart	
#24-1547131013201)	\$1 (Z)	Tame (Universal)	
	22(1)	Person or FO (SV mas)	
	32 (1)	Toda (Singu)	
	STIM	Osygust	
E64-1647-(11(16)13521)	\$1#1	Toma (Linguptain)	
	\$2(1)	Person H PO (4 23V PART	
	35111	Take (Streets)	
	\$41h	Coypea	
16 DE 1013(2 10130033)	31 (h)	Tame (Unreprised)	
	12/11	Palitiment PIO LSV (NAC)	
	13 (1)	Conbustos (SI)	
	64 143	Onton	
1004-1642-01(3413613)	3141	Torse (Limporphi)	
	320)	Printing or PID (4.25V mar)	
	4310	Combustale (IA)	
on [1] Substy Cyclind	84(1)	Onem	

The pro-prioral is X-marked and shirt be practed with the 16 thomps visitings. § WARNING - DO NOT CHARGE THE BATTERY OR CONFECT TO THE EQUIPMENT ON A NAZARGOUS LOCATION § WARNING - READ AND UNDERSTAND THE MANNING SEPORE USE.

The Gree-Tru shirt only be connected in the charging circuit or consenumications inferface pricuit, using only suitably rated calcules and defended in the Electrical Data, in a safe size, within a maximum ambient temperature of 0°C to 140°C.

The Gatter and to be in second for Professions as a Dat Descine.

The Gatter has not been assessed for late as a Sefety Device or Safety Related device.