



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: 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)
Status:	Current	Page 1 of 5	
Date of Issue:	2016-04-29		
Applicant:	Crowcon Detection Instruments Ltd. 172 Brook Drive Milton Park Abingdon Oxfordshire OX14 4SD United Kingdom		
Electrical Apparatus:	Gas-Pro Portable Hand-held Gas Detector		
Optional accessory:	<i>Pump, Flow Plate</i>		
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 behalf of the IECEx
Certification Body:

Katy A. Holdrege

Position:

Senior Staff Engineer

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:



IECEX Certificate of Conformity

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





IECEX Certificate of Conformity

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

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](#)



IECEX Certificate of Conformity

Certificate No: IECEx ULD 11.0004X

Issue No: 6

Date of Issue: 2016-04-29

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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.



IECEX Certificate of Conformity

Certificate No: IECEx ULD 11.0004X

Issue No: 6

Date of Issue: 2016-04-29

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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](#)

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/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 (S013005)	Toxic (Universal)
	Toxic (Single)
	Combustible (IR)
	Oxygen
1004-1047 (S013001)	Toxic (Universal)
	Pellistor or PID (5V max)
	Toxic (Single)
	Oxygen
1004-1047-01 (S013021)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Toxic (Single)
	Oxygen
1004-1042 (S013002)	Toxic (Universal)
	Pellistor or PID (5V max)
	Combustible (IR)
	Oxygen
1004-1042-01 (S013022)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Combustible (IR)
	Oxygen
ECAD-000106 (S013004)	Toxic (Universal)
	Pellistor or PID (5V max)
	Pellistor or PID (5V max)
	Oxygen
ECAD-000106-01 (S013024)	Toxic (Universal)
	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 re-chargeable 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.

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).	IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition
Gas Sensor Head, IR1 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, 4P75 Series, Manufactured by City Technology Limited.	IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition

		<h2 style="margin: 0;">IECEx Certificate of Conformity</h2>	
<p>INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEx Scheme visit www.iecex.com</small></p>			
Certificate No.:	IECEx ULD 11.0004X	Issue No.:	5
Status:	Current	Certificate history: Issue No. 5 (2015-10-19) Issue No. 4 (2015-5-20) Issue No. 3 (2013-12-2) Issue No. 2 (2012-7-2) Issue No. 1 (2012-2-19) Issue No. 0 (2011-6-1)	
Date of Issue:	2015-10-19	Page 1 of 4	
Applicant:	Crowcon Detection Instruments Ltd. 172 Brook Drive Milton Park Abingdon Oxfordshire OX14 4SD United Kingdom		
Electrical Apparatus: <i>Optional accessory:</i>	Gas-Pre, hand-held battery operated Gas Detector Pump, Flow Plate		
Type of Protection:	Flameproof "d" and Intrinsic Safety "ia"		
Marking:	Ex d ia IIC T4 Gb -20 °C to +55 °C		
Approved for issue on behalf of the IECEx Certification Body:	Jasmin Omerovic Program Manager		
Signature: <i>(for printed version)</i>	_____		
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		
			



IECEx Certificate of Conformity

Certificate No. IECEx ULD 11.0004X

Date of Issue 2015-10-19

Issue No.: 5

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/EXTR11.0005/04](#)

Quality Assessment Report:
[GB/BAS/QAR06.0070/04](#)

	IECEX Certificate of Conformity	
Certificate No.	IECEX ULD 11 0004X	
Date of Issue	2015-10-19	Issue No. 5
		Page 3 of 4
Schedule		
EQUIPMENT:		
<i>Equipment and systems covered by this certificate are as follows:</i>		
<p>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 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</p>		
Refer to Annex for additional information.		
CONDITIONS OF CERTIFICATION: YES as shown below:		
Refer to Annex for additional information.		



IECEx Certificate of Conformity

Certificate No. IECEx ULD 11.0004X

Date of Issue 2015-10-19

Issue No. 5

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](#)

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 (S013005)	Toxic (Universal)
	Toxic (Single)
	Combustible (IR)
	Oxygen
1004-1047 (S013001)	Toxic (Universal)
	Pellistor or PID (5V max)
	Toxic (Single)
	Oxygen
1004-1047-01 (S013021)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Toxic (Single)
	Oxygen
1004-1042 (S013002)	Toxic (Universal)
	Pellistor or PID (5V max)
	Combustible (IR)
	Oxygen
1004-1042-01 (S013022)	Toxic (Universal)
	Pellistor or PID (4.25V max)
	Combustible (IR)
	Oxygen
ECAD-000106 (S013004)	Toxic (Universal)
	Pellistor or PID (5V max)
	Pellistor or PID (5V max)
	Oxygen
ECAD-000106-01 (S013024)	Toxic (Universal)
	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 re-chargeable 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.

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

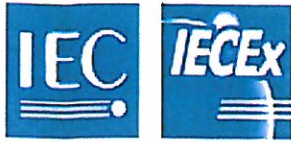
WARNING – DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS LOCATION

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).	IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition
Gas Sensor Head, IR1 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, 4P75 Series, Manufactured by City Technology Limited.	IEC 60079-0: 2007-10, 5th Edition, IEC 60079-1: 2007-04, 6th Edition



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: 4	Certificate history:
Status:	Current	Page 1 of 6	Issue No. 4 (2015-05-20)
Date of Issue:	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)
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:

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Certificate issued by:

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





IECEX Certificate of Conformity

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

*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/ExTR11.0005/01	DK/ULD/ExTR11.0005/02
DK/ULD/ExTR11.0005/03		

Quality Assessment Report:

GB/BAS/QAR06.0070/04



IECEX Certificate of Conformity

Certificate No: IECEx ULD 11.0004X

Issue No: 4

Date of Issue: 2015-05-20

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Schedule

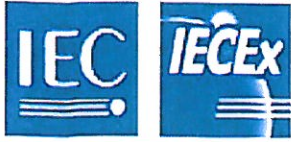
EQUIPMENT:

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.

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

Notes: (1) Suitably Certified Sensors; (2) Non Certified Sensors.



IECEX Certificate of Conformity

Certificate No: IECEx ULD 11.0004X

Issue No: 4

Date of Issue: 2015-05-20

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CONDITIONS OF CERTIFICATION: YES as shown below.

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



IECEx Certificate of Conformity

Certificate No: IECEx ULD 11.0004X

Issue No: 4

Date of Issue: 2015-05-20

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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
(IS) Ltd. (Previously E2V).

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

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

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



IECEX Certificate of Conformity

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).

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



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.	3	Certificate history: Issue No. 3 (2013-12-2)
Status:	Current			Issue No. 2 (2012-7-2)
Date of Issue:	2013-12-02		Page 1 of 4	Issue No. 1 (2012-7-19)
				Issue No. 0 (2011-6-1)
Applicant:	Crowcon Detection Instruments Ltd. 2 Blacklands Way Abingdon Business Park. ABINGDON, Oxfordshire, OX14 1DY United Kingdom			
Electrical Apparatus:	Gas-Pro, hand-held battery operated Gas Detector			
Optional accessory:	Pump, Flow Plate			
Type of Protection:	d 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:	Certification Project Engineer			
Signature: (for printed version)				
Date:	_____			

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Certificate issued by

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





IECEx Certificate of Conformity

Certificate No: IECEx ULD 11.0004X
Date of Issue: 2013-12-02 Issue No: 3
Page 2 of 4

Manufacturer: Crowcon Detection Instruments Ltd.
2 Blacklands Way
Abingdon Business Park,
ABINGDON
Oxfordshire
OX14 1DY
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 : 2004 Edition 4.0 Electrical apparatus for explosive gas atmospheres - Part 0 General requirements
- IEC 60079-0 : 2007-10 Edition 5 Explosive atmospheres - Part 0: Equipment - General requirements
- IEC 60079-1 : 2007-04 Edition 6 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
- IEC 60079-11 : 2006 Edition 5 Explosive atmospheres - Part 11 Equipment protection by intrinsic safety "I"

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 0005/01 DK/ULD/ExTR11 0005/02

Quality Assessment Report:
GB/BAS/QAR06 0070/03



IECEx Certificate of Conformity

Certificate No.: IECEx ULD 11 0004X

Date of issue: 2013-12-02

Issue No. 3

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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.

Main PCB Assy No. (Crowcon Part Number)	Sensors Configuration	
	Reference	Type
1004-1080 (S013005)	S1 (2)	Universal Toxic
	S2 (1)	Single Toxic
	S3 (1)	IR
	S4 (2)	Oxygen
1004-1047 (S013001)	S1 (2)	Universal Toxic
	S2 (1)	PellistorPID (5V max)
	S3 (1)	Single Toxic
	S4 (2)	Oxygen
1004-1047-01 (S013021)	S1 (2)	Universal Toxic
	S2 (1)	PellistorPID (4.25V max)
CONDITIONS OF CERTIFICATION: YES	S3 (1)	Single Toxic
	S4 (2)	Oxygen
1004-1042-01 (S013022)	S1 (2)	Universal Toxic
	S2 (1)	PellistorPID (4.25V max)
	S3 (1)	IR
	S4 (2)	Oxygen
ECAD-000106 (S013004)	S1 (2)	Universal Toxic
	S2 (1)	PellistorPID (5V max)
	S3 (1)	PellistorPID (5V max)
	S4 (2)	Oxygen
ECAD-000106-01 (S013024)	S1 (2)	Universal Toxic
	S2 (1)	PellistorPID (4.25V max)
	S3 (1)	PellistorPID (4.25V max)
	S4 (2)	Oxygen

Notes (1) Suitably Certified Sensors, (2) Not Certified Sensors.



IECEX Certificate of Conformity

Certificate No: IECEX ULD 11 0004X

Date of Issue: 2013-12-02

Issue No: 3

Page 4 of 4

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

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



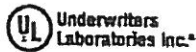
IECEX Certificate of Conformity

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	2	Certificate history
Status	Current			Issue No 2 (2012-7-2)
				Issue No 1 (2012-2-19)
				Issue No 0 (2011-6-1)
Date of Issue	2012-07-02	Page	1 of 4	
Applicant	Crowcon Detection Instruments Ltd. 2 Blackbarn Way Abingdon Business Park, ABINGDON, Oxfordshire, OX14 1DY United Kingdom			
Electrical Apparatus	Gas-Pro, hand-held battery operated Gas Detector			
Optional accessory	Pump, Flow Plate			
Type of Protection	d 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:	Certification Project Engineer			
Signature, (for printed version)	_____			
Date	_____			

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- 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 DENMARK A/S
 Borupvang 5A
 DK-2750 Børup
 Denmark





IECEx Certificate of Conformity

Certificate No: IECEx ULD 11 0004X

Date of Issue: 2012-07-02

Issue No: 2

Page 2 of 4

Manufacturer: Crowcon Detection Instruments Ltd.
2 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire
OX14 1DY
United Kingdom

Additional Manufacturing location
(1)

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 set 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 60073-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60073-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60073-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60073-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"

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:
DX/ULD/ExTR11 0005-00

DX/ULD/ExTR11 0005-01

Quality Assessment Report:
GB/BAS-QAR06 007E-03



IECEx Certificate of Conformity

Certificate No: ECEX ULD 11 0004X

Date of Issue: 2012-07-02

Issue No: 2

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 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 and with orange or red over-moulding and display window. 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.

Main PCB Assy No. (Circuit Part Number)	Sensors Configuration	
	Reference	Type
1004-1060(5013005)	S1 (2)	Toxic (Universal)
	S2 (1)	Toxic (Single)
	S3 (1)	Combustible (IR)
	S4 (2)	Oxygen
1004-1047(51013001)	S1 (2)	Toxic (Universal)
	S2 (1)	Pellistor or PID (5V max)
	S3 (1)	Toxic (Single)
	S4 (2)	Oxygen
1004-1047-01(5013221)	S1 (2)	Toxic (Universal)
	S2 (1)	Pellistor or PID (4.25V max)
	S3 (1)	Toxic (Single)
	S4 (2)	Oxygen
1004-1047-01(5013002)	S1 (2)	Toxic (Universal)
	S2 (1)	Combustible (IR)
	S3 (1)	Toxic (Single)
	S4 (2)	Oxygen

CONDITIONS OF CERTIFICATION: YES as follows:

The equipment shall be marked with the following information: **DO NOT CHARGE THE BATTERY OR CONNECT TO THE EQUIPMENT IN A HAZARDOUS AREA. READ AND UNDERSTAND THE MANUAL BEFORE USE.**
 The Gas-Pro shall only be connected to the charging or communications interface circuit using only suitable cables as defined in the Electrical Safety Manual.
 The Gas-Pro has not been assessed for use as a Gas Detector in a safe area, within a maximum ambient temperature of 0 °C to 40 °C.
 The Gas-Pro has not been assessed for use as a Safety (Emergency) Related device.

Notes: (1) Substantially Certified Sensors (2) Non Certified Sensors.



IECEx Certificate of Conformity

Certificate No	IECEx ULD 11 0004X	Issue No	2
Date of Issue	2012-07-02	Page	4 of 4

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

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



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

51, Avenue de la Sélaz, CH-1015 Vevey, Switzerland

Certificate No.	IECEX ULD 11.0004X	Issue No.	1	Certificate History
Status	Current	Issue No.	1 (2012-12-12)	Issue No. 0 (2011-01-11)
Date of Issue	2012-02-10	Page 1 of 4		
Applicant	Crispcom Detection Instruments Ltd. 7 Becklimes Way Abingdon Business Park Abingdon Oxfordshire OX14 1DY United Kingdom			
Electrical Apparatus	Gas-Pro, hand-held battery operated Gas Detector			
Optional accessory	Pump Flow Rate			
Type of Protection	d ia			
Marking	Ex d ia IIC Gb Tamb -20 °C to +55 °C IECEX ULD 11.0004X			
Approved for issue on behalf of the IECX Certification Body	Iain M. O'Connell			
Position	Certification Project Engineer			
Signature (for printed version)				
Date				

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3. The status and authenticity of this certificate may be verified by visiting the Online IECEX Website.

Certificate issued by
UL International DEWLD AG
Bürschweg 3A
DK-27254 Badstube
Germany





IECEx Certificate of Conformity

Certificate No IECEx ULD 11.0004X
Date of Issue 2012-04-18 **Issue No.** 1
Page 2 of 4
Manufacturer CrownCam Detection Instruments Ltd.
 2 Blackstone Way
 Aberdeen Business Park
 ABERDEEN
 OAB10 8PH
 OXFORD
 United Kingdom

Manufacturing Declaration

This certificate is issued on the condition that a sample(s) representative of production, was assessed and tested and found to comply with the IEC Standard(s) 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 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 scope of this certificate and the certified documents, was found to comply with the following standards:

- IEC 60770-0 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
Edition 4.0
- IEC 60770-0 : 2007-10 Explosive atmospheres - Part 0: Equipment - General requirements
Edition 3
- IEC 60770-1 : 2007-04 Explosive atmospheres - Part 1: Equipment protection by non-sparking enclosed 'e'
Edition 4
- IEC 60770-11 : 2006 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'
Edition 3

This Certificate does not state 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 tested has successfully met the assessment and test requirements detailed in:

Test Report
 OXLADEX1R11 001462 OXLADEX1R11 001501

Quality Assessment Report

CB 9430406 0010 03



IECEx Certificate of Conformity

Certificate No: IECEx ULD 11.0004X
 Date of Issue: 2012-02-10
 Issue No: 1
 Page 3 of 4

Schedule

(EQUIPMENT)

Equipment and systems covered by this certificate are as follows:

Gas-Pro is a portable, handheld, re-chargable battery powered 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 special Gas Clip. The charger is housed within a polycarbonate enclosure with separate dimensions of 110 mm by 43 mm by 45 mm and with straps for the over-shoulder and display window. Battery charging and data transfer to the management 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 venting.

Main PCB Assy No. (Crossed Part Number)	Secondary Configuration Reference	Type
1004-1047-01(5013025)	g1 (R)	Toxic (Universal)
	g2 (R)	Toxic (Single)
	g3 (R)	Combustible (IR)
	g4 (R)	Oxygen
1004-1047-01(5013021)	g1 (R)	Toxic (Universal)
	g2 (R)	Poisoner or PID (UV max)
	g3 (R)	Toxic (Single)
	g4 (R)	Oxygen
1004-1047-01(5013027)	g1 (R)	Toxic (Universal)
	g2 (R)	Poisoner or PID (4.25V max)
	g3 (R)	Toxic (Single)
	g4 (R)	Oxygen
1004-1047-01(5013023)	g1 (R)	Toxic (Universal)
	g2 (R)	Poisoner or PID (5V max)
	g3 (R)	Combustible (IR)
	g4 (R)	Oxygen
1004-1047-01(5013022)	g1 (R)	Toxic (Universal)
	g2 (R)	Poisoner or PID (4.25V max)
	g3 (R)	Combustible (IR)
	g4 (R)	Oxygen

Notes: (1) Suitable Certified Sumpers (2) Non Certified Sumpers.

CONDITIONS OF CERTIFICATION: YES as shown below:

The equipment is Recharged and shall be marked with the following 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 Gas-Pro has not been assessed for Performance as a Gas Detector.

The Gas-Pro has not been assessed for use as a Safety Device or Safety Related device.



IECEX Certificate of Conformity

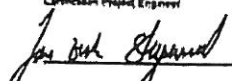
Certificate No. IECEX ULD 11.0004X
Date of Issue 2012-02-18 Issue No. 1
Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Application of red overrules version



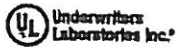
IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
For rules and details of the IECEx Scheme visit www.iec.ch

Certificate No.	IECEx ULD 11.0004X	Issue No. 0	Certificate History
Status	Current		
Date of Issue	2011-06-01	Page 1 of 3	
Applicant	Crowcon Detection Instruments Ltd. 2 Blacklands Way Abingdon Business Park ABINGDON, Oxfordshire, OX14 1DY United Kingdom		
Electrical Apparatus	Gas-Fire, hand-held battery operated Gas Detector		
Optional accessory	Pump, Flow Rate		
Type of Protection	dLs		
Marking	Ex d Ie DC Gb Tamb. -20°C to +35°C		
Approved for issue on behalf of the IECEx Certification Body	JASMIN OTHMAN		
Position	Certification Project Engineer		
Signature (for printed version)	 _____		
Date			

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3. The status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by
 UL International DEKRA A/S
 Lyngby 3
 P.O. Box 814
 2730 Nordtorv
 Denmark





IECEX Certificate of Conformity

Certificate No IECEX ULD 11 0004X
Date of Issue 2011-06-01 **Issue No** 8
 Page 2 of 3
Manufacturer Cameron Detection Instruments Ltd.
 2 Bracklands Way
 Abingdon Business Park
 ASWEGDON
 Oxfordshire
 OX14 1DY
 United Kingdom

Manufacturing location(s)

This certificate is issued as evidence that a sample(s) representative of production was assessed and tested and found to comply with the IEC Standard(s) above 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 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 certified documents was found to comply with the following standards:

IEC 60079-0 : 2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
 Edition 0
IEC 60079-1 : 2007-10 Explosive atmospheres - Part 1: Equipment - General requirements
 Edition 3
IEC 60079-11 : 2007-04 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i'
 Edition 0
IEC 60079-15 : 2004 Explosive atmospheres - Part 15: Equipment protection by intrinsic safety 'i'
 Edition 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 accessibility with the examination and test requirements as recorded in:

Test Report

DU14LD EXTR11 0004X00

Quality Assessment Report

08 045-04RDE 007003



IECEx Certificate of Conformity

Certificate No. IECEx ULD 11.0004X
 Date of Issue 2011-06-01
 Issue No. 8
 Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Gas-Pro is a portable, handheld, re-chargable battery operated Gas Detector used for the detection of Combustible and Toxic gases, and oxygen depletion. The unit functions as an alarm and display when selected to a person by means of a metal Grip Cap. The circuitry is housed within a polymer enclosure with approximate dimensions of 150 mm by 83 mm by 43 mm and with orange over-moulding and display window. Battery charging and data transfer to the equipment is by the use of an optical charging and communications cables, for use in a safe area only. An optional pump & flow rate is available in suitable gas sampling.

Main PCB Assy No. (Circuit Board Number)	Standard Configuration Reference	Type
1004-1043-01(1013003)	31(1)	Toxic (Universal)
	32(1)	Toxic (Single)
	33(1)	Combustible (R)
1004-1043-01(1013001)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (5V read)
	33(1)	Toxic (Single)
1004-1043-01(1013002)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (4.25V read)
	33(1)	Toxic (Single)
1004-1043-01(1013002)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (5V read)
	33(1)	Combustible (R)
1004-1043-01(1013002)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (4.25V read)
	33(1)	Combustible (R)
1004-1043-01(1013002)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (4.25V read)
	33(1)	Combustible (R)
1004-1043-01(1013002)	31(1)	Toxic (Universal)
	32(1)	Pulsar or PID (4.25V read)
	33(1)	Combustible (R)

Notes (1) Battery Certified (2) Non Certified (3) Non Certified (4) Non Certified

CONDITIONS OF CERTIFICATION: YES as shown below:

The equipment is marked and shall be marked with the following message: **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 Gas-Pro has not been assessed for Performance as a Gas Detector.

The Gas-Pro has not been assessed for use as a Safety Device or Safety Related device.