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 BAS 05.0042X	Issue No: 7	Certificate history:
Status:	**Current**		Issue No. 7 (2018-04-12)
		Page 1 of 4	Issue No. 6 (2014-08-06)
Date of Issue:	**2018-04-12**		Issue No. 5 (2012-12-06)
			Issue No. 4 (2011-04-15)
			Issue No. 3 (2011-02-17)
Applicant:	**Crowcon Detection Instruments Ltd**		Issue No. 2 (2007-11-12)
	172 Brook Drive		Issue No. 1 (2006-10-20)
	Milton Park		
	Abingdon		
	Oxfordshire		
	OX14 4SD		
	United Kingdom		
Equipment:	**Xgard Gas Detector**		
Optional accessory:			
Type of Protection:	**Intrinsic Safety**		
Marking:	**Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +55°C)**		

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

Position: Technical Manager

A BELLMAN
Certification Manager

Signature:
(for printed version)

PP. ABellman

Date: 13th April 2018

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:

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

IECEx Certificate of Conformity

Certificate No:	IECEx BAS 05.0042X	Issue No: 7
Date of Issue:	**2018-04-12**	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 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 60079-11 : 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

IECEx ATR:	File Reference:
GB/BAS/ExTR11.0029/00	10/1013
GB/BAS/ExTR11.0097/00	11/0291
GB/BAS/ExTR16.0340/00	16/0384

IECEx Certificate of Conformity

Certificate No:	IECEx BAS 05.0042X	Issue No: 7
Date of Issue:	**2018-04-12**	Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within a stainless steel or glass filled nylon enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

U_i = 28V

I_i = 300mA C_i = 14.4nF

P_i = 1.2W L_i = 28µH

Oxygen Detector, Terminals + and -

U_i = 28V

I_i = 300mA C_i = 13.2nF

P_i = 1.2W L_i = 0µH

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The apparatus has a plastic enclosure (introduced in Issue 2) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

NOTE: This condition does not apply to the stainless steel enclosure version.

IECEx Certificate of Conformity

Certificate No: IECEx BAS 05.0042X Issue No: 7

Date of Issue: **2018-04-12** Page 4 of 4

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

Variation 7.1

To permit:

- Minor drawing changes that do not affect the existing assessment.
- Change of address
- Definition of range of permitted electrochemical sensors.
- Clarification of Ii and Ci parameters as permitted by previous issues but not carried forward in the description.

ExTR: **GB/BAS/ExTR16.0340/00**	File Reference: **16/0384**

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 BAS 05.0042X issue No.:6

Status: **Current**

Date of Issue: **2014-08-06** Page 1 of 4

Certificate history:
Issue No. 6 (2014-8-6)
Issue No. 5 (2012-12-6)
Issue No. 4 (2011-4-15)
Issue No. 3 (2011-2-17)
Issue No. 2 (2007-11-12)
Issue No. 1 (2006-10-20)

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +55°C)**

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

Position: General Manager

Signature:
(for printed version)

Date: 6/8/14

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

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2014-08-06** Issue No.: **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 60079-11 : 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

IECEx ATR:
UK/BAS/04/0839
GB/BAS/ExTR11.0029/00
GB/BAS/ExTR11.0097/00

File Reference:
04/089
10/1013
11/0291

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2014-08-06** Issue No.: **6**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within a stainless steel or glass filled nylon enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

$U_i = 28V$ $C_i = 14.4nF$

$P_i = 1.2W$ $L_i = 28\mu H$

Oxygen Detector, Terminals + and -

$U_i = 28V$ $C_i = 30.2nF$

$P_i = 1.2W$ $L_i = 0$

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The apparatus has a plastic enclosure (introduced in Issue 2) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

NOTE: This condition does not apply to the stainless steel enclosure version.

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2014-08-06** Issue No.: **6**

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

Variation 6.1

This issue permits existing information (for example on Schedule Drawings) to be replaced by the revised certificate holders address. No other changes may be made to the certified design

File Reference: **14/0639**

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 BAS 05.0042X issue No.:5

Status: **Current**

Date of Issue: **2012-12-06** Page 1 of 4

Certificate history:
Issue No. 5 (2012-12-6)
Issue No. 4 (2011-4-15)
Issue No. 3 (2011-2-17)
Issue No. 2 (2007-11-12)
Issue No. 1 (2006-10-20)

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T4 Ga (-40°C ≤Ta ≤+55°C)**

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

Position: General 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:

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

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2012-12-06** Issue No.: **5**

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

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 60079-11 : 2011-06 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

IECEx ATR:	File Reference:
UK/BAS/04/0839	**04/089**
GB/BAS/ExTR11.0029/00	**10/1013**
GB/BAS/ExTR11.0097/00	**11/0291**

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2012-12-06** Issue No.: **5**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within a stainless steel or glass filled nylon enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

$U_i = 28V$ $C_i = 14.4nF$

$P_i = 1.2W$ $L_i = 28\mu H$

Oxygen Detector, Terminals + and -

$U_i = 28V$ $C_i = 30.2nF$

$P_i = 1.2W$ $L_i = 0$

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The apparatus has a plastic enclosure (introduced in Issue 2) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

NOTE: This condition does not apply to the stainless steel enclosure version.

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2012-12-06** Issue No.: **5**

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

Variation 5.1

To permit a minor label change not affecting the original assessment.

Variation 5.2

To confirm the current designs of the Xgard Gas Detector have been reviewed against the requirements of IEC 60079-0: 2011 Edition 6 and IEC 60079-11: 2011 Edition 6 in respect of the differences from IEC 60079-0: 2007 Edition 5 and IEC 60079-11: 2006 Edition 5 and none of the differences affect the equipment.

ExTR: **GB/BAS/ExTR12.0315/00** File Reference: **12/0885**

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 BAS 05.0042X	issue No.:4
Status:	**Current**	
Date of Issue:	**2011-04-15**	Page 1 of 4

Certificate history:
Issue No. 4 (2011-4-15)
Issue No. 3 (2011-2-17)
Issue No. 2 (2007-11-12)
Issue No. 1 (2006-10-20)

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **IECEx BAS 05.0042**
Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +55°C)

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

Position: Managing Director

Signature:
(for printed version)

Date: 15/4/11

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:

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

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-04-15** Issue No.: **4**

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

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 60079-11 : 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

IECEx ATR:	File Reference:
UK/BAS/04/0839	**04/089**
GB/BAS/ExTR11.0029/00	**10/1013**
GB/BAS/ExTR11.0097/00	**11/0291**

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-04-15** Issue No.: **4**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within a stainless steel or glass filled nylon enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

$U_i = 28V$ $C_i = 14.4nF$

$P_i = 1.2W$ $L_i = 28\mu H$

Oxygen Detector, Terminals + and -

$U_i = 28V$ $C_i = 30.2nF$

$P_i = 1.2W$ $L_i = 0$

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The apparatus has a plastic enclosure (introduced in Issue 2) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

NOTE: This condition does not apply to the stainless steel enclosure version.

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-04-15** Issue No.: **4**

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

Variation 4.1

To permit the the re-introduction of a stainless steel enclosure option. The existing condition of certification referring to the electrostatic ignition hazard only applies to the plastic version; the conditions of certification have been updated to reflect this change.

ExTR: **GB/BAS/ExTR11.0096/00**	File Reference: **11/0291**

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 BAS 05.0042X	issue No.:3	Certificate history: Issue No. 3 (2011-2-17) Issue No. 2 (2007-11-12) Issue No. 1 (2006-10-20)
Status:	**Current**		
Date of Issue:	**2011-02-17**	Page 1 of 4	

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **IECEx BAS 05.0042**
Ex ia IIC T4 Ga (-40°C ≤ Ta ≤ +55°C)

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

Position: Managing Director

Signature:
(for printed version)

Date: 17/2/11

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:

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

Baseefa

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-02-17** Issue No.: **3**

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

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 60079-11 : 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

IECEx ATR:	File Reference:
UK/BAS/04/0839	**04/089**
GB/BAS/ExTR11.0029/00	**10/1013**

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-02-17** Issue No.: **3**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within an epoxy powder-coated aluminium alloy or stainless steel enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

$U_i = 28V$ $C_i = 14.4nF$

$P_i = 1.2W$ $L_i = 28\mu H$

Oxygen Detector, Terminals + and -

$U_i = 28V$ $C_i = 30.2nF$

$P_i = 1.2W$ $L_i = 0$

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The apparatus has a plastic enclosure (introduced at Variation 2.1) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2011-02-17** Issue No.: **3**

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

Variation 3.1

To confirm that the Xgard Gas Detector has been reviewed against the requirements of IEC 60079-0:2004 Edition 4, IEC 60079-0:2007 Edition 5 and IEC 60079-11:2006 Edition 5 in respect of the differences from IEC 60079-0:2000 Edition 3.1 and IEC 60079-11:1999 Edition 4 and none of the differences affect the equipment.

ExTR: **GB/BAS/ExTR11.0029/00**	File Reference: **10/1013**

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 BAS 05.0042X	issue No.:2	Certificate history:
Status:	**Current**		
Date of Issue:	**2007-11-12**	Page 1 of 4	

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **IECEx BAS 05.0042**
Ex ia IIC T4 (-40°C ≤ Ta ≤ +55°C)

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

Position: Managing Director

Signature:
(for printed version)

Date: 13-11-07

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:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

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IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: **2007-11-12** Issue No.: **2**

Manufacturer:

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

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: 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

IECEx ATR:
UK/BAS/04/0839

File Reference:
04/089

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: 2007-11-12 Issue No.: 2

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within an epoxy powder-coated aluminium alloy or stainless steel enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

$U_i = 28V$ $C_i = 14.4nF$

$P_i = 1.2W$ $L_i = 28\mu H$

Oxygen Detector, Terminals + and -

$U_i = 28V$ $C_i = 30.2nF$

$P_i = 1.2W$ $L_i = 0$

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The apparatus has a plastic enclosure (introduced at Variation 2.1) that constitutes a potential electrostatic hazard. The enclosure must be cleaned only with a damp cloth.

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 05.0042X

Date of Issue: 2007-11-12 Issue No.: 2

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

Variation 2.1

To permit the change of enclosure material to plastic.

Due to the potential electrostatic hazard, suffix 'X' is added to the Certificate number and a Condition of Safe Use added to the certificate to inform the user of the risk.

ExTR: **GB/BAS/ExTR07.0158/00**	File Reference: **07/0555**

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 BAS 05.0042** Issue No.: 1

Status: **Current**

Date of Issue: **2006-10-20** Page 1 of 4

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **IECEx BAS 05.0042**
Ex ia IIC T4 (-40°C ≤ Ta ≤ +55°C)

COPY

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

Position: Managing Director

Signature:
(for printed version)

Date: 14/12/6

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:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 05.0042**

Date of Issue: **2006-10-20** Issue No.: 1

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

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: 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

IECEx ATR:	File Reference:
UK/BAS/04/0839	**04/089**

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 05.0042**

Date of Issue: **2006-10-20** Issue No.: **1**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within an epoxy powder-coated aluminium alloy or stainless steel enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

U_i = 28V C_i = 14.4nF

P_i = 1.2W L_i = 28µH

Oxygen Detector, Terminals + and -

U_i = 28V C_i = 30.2nF

P_i = 1.2W L_i = 0

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 05.0042**

Date of Issue: **2006-10-20** Issue No.: **1**

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

Variation 1.1

To permit changes to various documents, the use of an alternative enclosure base, a reduction of C_i for the oxygen version, and the addition of a value for I_i. All input / output parameters are repeated here.

Input / output parameters:

Toxic Detector, Terminals + & -

U_i	=	28V			
I_i	=	300mA	C_i	=	14.4nF
P_i	=	1.2W	L_i	=	28µH

Oxygen Detector, Terminals + & -

U_i	=	28V			
I_i	=	300mA	C_i	=	13.2nF
P_i	=	1.2W	L_i	=	0

ExTR: GB/BAS/ExTR06.0131/00 File Reference: 06/0332

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 BAS 05.0042** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-09-21** Page **1** of **3**

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

Electrical Apparatus: **Xgard Gas Detector**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **IECEx BAS 05.0042**
Ex ia IIC T4 (-20°C ≤ Ta ≤ +65°C)

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

Position: Managing Director

Signature:
(for printed version)

Date: 21-9-05

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:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 05.0042**

Date of Issue: **2005-09-21** Issue No.: **0**

Page **2** of **3**

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

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: 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

IECEx ATR:	File Reference:
UK/BAS/04/0839	**04/089**

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 05.0042**

Date of Issue: **2005-09-21** Issue No.: **0**

Page **3** of **3**

Schedule

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

The Xgard Gas Detector is a loop-powered gas detector which can be used to detect Toxic gases or Oxygen depending upon the circuitry and electrochemical cell used and provide a 4-20mA output signal. It comprises an electrochemical cell (and accompanying sensor PCB) and an amplifier PCB mounted within an epoxy powder-coated aluminium alloy or stainless steel enclosure.

Electrical connections to the amplifier PCB are made to a terminal block with cable access to the enclosure being provided by a threaded entry hole. Access to the terminal block and PCB is gained by a removable threaded lid with an O-ring seal.

Toxic Detector, Terminals + and -

U_i = 28V C_i = 14.4nF

P_i = 1.2W L_i = 28µH

Oxygen Detector, Terminals + and -

U_i = 28V C_i = 15.6nF

P_i = 1.2W L_i = 0

CONDITIONS OF CERTIFICATION: NO

Annexe: