

1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 EC - Type Examination Certificate Number: **Baseefa04ATEX0384 – Issue 14**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 4SD**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Reports listed in Section 20.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2012 EN 60079-11: 2012

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⊕ II 1 G Ex ia IIC T4 Ga (-20°C ≤T_a ≤+65°C)

Baseefa Customer Reference No. **0249**

Project File No. **14/0615**

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Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN



R S SINCLAIR

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa04ATEX0384 – Issue 13**

15 **Description of Equipment or Protective System**

The Gasman Oxygen or Toxic Gas Detector is designed to detect the presence of oxygen (deficiency) or toxic gas, give a visual indication of the concentration, and give audible and visual alarms if a preset level is exceeded. It comprises a battery, a gas sensor head, electronic circuits on printed circuit boards, a liquid crystal display, LED's and a piezo sounder, all contained in a plastic enclosure providing a degree of protection of at least IP20. Two types are available, one rechargeable, and one non-rechargeable. External contacts are provided for recharging, and for serial data communications.

The sensors are known as Oxygen or Toxic i-modules, and the permitted modules are listed in the User Manual provided by the manufacturer.

The apparatus is not designed for use in oxygen enriched atmospheres.

The cell in the non-chargeable apparatus must only be changed when in a non-hazardous area, and replaced only with cell type CR2.

Charging conditions:

The apparatus must only be recharged or connected to serial communications when in a non-hazardous area, using the following chargers: -

Crowcon desktop charger / interface part number C01940

Crowcon desktop charger part number C01941

Alternatively, any Crowcon charger with an output (U_m) of 9V may be used to charge the apparatus, although when both charging and data communications are required, only charger / interface part number C01940 must be used.

In the case of the non-rechargeable version being connected to charger / interface part number C01940, the charging circuit will have no effect.

16 **Report Number**

GB/BAS/ExTR14.0324/00

17 **Specific Conditions of Use**

None

18 **Essential Health and Safety Requirements**

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 **Drawings and Documents**

The following drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0039:

New drawings submitted for this issue of certificate:.

Number	Sheet	Issue	Date	Description
P-5460-A2	1 of 2	3	04/05	Gasman Charger/Interface Assembly Concession No. 14-019 dated 12/9/14

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
5490-CD-CERT	1 of 1	4	16-11-2012	i-module oxygen
P5493-PL-CER	1 & 2	8	16/11/12	Toxic i-Module Certification parts List
P5494-PL-CER	1	6	11/12/13	Oxygen i-Module Certification parts List
MCAD-000344	1 of 1	03	16/11/2011	Gasman Battery
P-5424-A2	1 of 1	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	1 of 1	3	01/06	Hybrid 1A (Circuit Diagram)
5407-CERT	1 of 1	7	10/07	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	1 of 1	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
5411-CERT	1 of 1	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5410-A3	1 of 1	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P5401 Issue 6	1 of 1	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	1 of 1	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-4A	1 of 1	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	1 of 1	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	1 of 1	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
5415-CERT	1 of 1	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	1 of 1	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5476-A3	1 of 1	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Toxic iModule (Circuit Diagram)
P-5477-A3	1 of 1	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	1 of 1	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4	1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	COSH i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1 of 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1 of 1	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
5553-CERT	1 of 1	1	05/08	Gasman Certification Instrument Names
P-5427 issue 5 Charger	1 of 1	5	12/3/07	Gasman Charger (Circuit Diagram)
P-5428	1 to 6	4	11/1/07	Gasman (Budgie) Charger PCB
P5437 issue 1 Interface	1 of 2	1	20/12/04	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1 of 1	1	02/05	Gasman Interface PCB and Track Details
P-5429-A4	1 of 1	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5439-A4	1 of 1	1	3.3.2005	Gasman External Interface Certification Parts List
P-5495-A4	1 of 1	3	02/07	Gasman Charger Label

20 Certificate History

Certificate No.	Date	Comments
Baseefa04ATEX0384	10 May 2005	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amd. 1 & 2 & EN 50020: 2002 is documented in Test Report No. 04(C)0202.
Baseefa04ATEX0384/1	22 June 2005	<p>1. To permit the use of an alternative rechargeable battery on the rechargeable versions of the apparatus.</p> <p>2. To permit changes to the general assembly and main PCB to incorporate a ½AA size cell on the non-rechargeable version. Also to permit the use of the following type C2R cells: Panasonic Power Lithium, GP Photo Lithium, Maxell Photo-Power Lithium, or Energizer Photo Lithium.</p> <p>3. To permit minor changes to the oxygen and toxic i-modules and other minor drawing changes not affecting the original assessment on all models of the apparatus.</p> <p>The changes are documented in Test Report No. 05(C)0256.</p>
Baseefa04ATEX0384/2	10 February 2006	To permit the optional use of an alternative sensor module known as dual toxic and other minor drawing changes not affect the original assessment as documented in Test Report No. 05(C)0256/1.
Baseefa04ATEX0384/3	11 April 2006	To permit a change of encapsulant in the hybrid circuits.
Baseefa04ATEX0384/4	12 July 2006	To permit the use of alternative model names Gas-Mate, Oxy-Mate CR and Toxi-Mate CR and minor additions to the Oxygen and Toxic i-Module Certification Parts Lists, and a minor change to Hybrid 1A.
Baseefa04ATEX0384/5	15 September 2006	To permit minor drawing changes, the use of alternative sounders, and the use of an alternative CO2 chemical i-module as documented in Test Report No. 06(C)0673.
Baseefa04ATEX0384/6	8 December 2006	To permit minor changes to the desktop charger units with part number C01940 and C01941. Also to permit the replacement of desktop charger C01941 with any Crowcon charger with an output (U_m) of 9V. When both charging and data communication are required, only charger / interface part number C01940 must be used as documented in Test Report No. 06(C)1022.
Baseefa04ATEX0384/7	4 July 2007	To permit minor changes to drawings and minor modification to circuits.
Baseefa04ATEX0384/8	4 April 2008	<p>To permit the use of an alternative cell type ICP653450U. When this cell is used, the marking becomes:</p> <p>Ⓔ II 1G Ex ia IIC 170°C (T3) (-20°C ≤ T_a ≤ +65°C)</p> <p>Testing documented in Test Report No. 08(C)0211</p>
Baseefa04ATEX0384/9	12 June 2008	To permit use of an alternative encapsulant in the hybrids, the use of an alternative model name Gasalarm and the introduction of a new drawing listing the possible model names.
Baseefa04ATEX0384/10	6 August 2008	<p>To permit the use of an alternative rechargeable cell Sanyo Type UF553450Z. When this cell is used the marking is:</p> <p>Ⓔ II 1G Ex ia IIC T4 (-20°C ≤ T_a ≤ +65°C)</p> <p>Also to permit minor drawing changes not affect the original assessment. Testing documented in Test Report No. GB/BAS/ExTR08.0128/00</p>

Certificate No.	Date	Comments
Baseefa04ATEX0384 Issue 11	16 December 2009	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2006 & EN 60079-11: 2007 including the revision of the marking in accordance with these standards.</p> <p>The certificate also permits: -</p> <ol style="list-style-type: none">1) The removal of the alternative rechargeable cell type ICP653450U and therefore the T3 variant of the equipment is now obsolete.2) The alternative fitting of the Hybrid 3 sub-assembly in place of the Hybrid 1A sub-assembly on the rechargeable versions of the Gasman not affecting the original assessment. <p>Certification Drawing No's. P5423 issue 4, P-5425-A4, 5552-CERT and 5392 were made obsolete.</p>
Baseefa04ATEX0384 Issue 12	2 December 2011	<p>This issue of the certificate confirms the current design meets the requirements of EN 60079-0:2009 and adds an updated rechargeable battery drawing. The marking code remains unchanged.</p>
Baseefa04ATEX0384 Issue 13	01 September 2014	<p>Confirms the current design meets the requirements of EN 60079-0:2012 and EN 60079-11:2012 and records minor changes to some drawings. The assessment is recorded in GB/BAS/ExTR14.0249/00.</p>
Baseefa04ATEX0384 Issue 14	04 November 2014	<p>Records a minor change to the Gasman Charger / Interface terminal pins not affecting the original assessment. Assessment documented in Test Report No. GB/BAS/ExTR14.0324/00.</p>
For drawings applicable to each issue, see original of that issue.		

EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- EC - Type Examination Certificate Number: **Baseefa04ATEX0384 – Issue 13**
- Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**
- Manufacturer: **Crowcon Detection Instruments Ltd**
- Address: **Abingdon, Oxfordshire, OX14 4SD**
- This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Reports listed at Item 20.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2012 EN 60079-11: 2012
- except in respect of those requirements listed at item 18 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- The marking of the equipment or protective system shall include the following :
- Ex II 1 G Ex ia IIC T4 Ga (-20°C ≤T_a ≤+65°C)**

Baseefa Customer Reference No. 0249

Project File No. 13/0719

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

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R S SINCLAIR *for Alan O'Connell*

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa04ATEX0384 – Issue 13**

15 **Description of Equipment or Protective System**

The Gasman Oxygen or Toxic Gas Detector is designed to detect the presence of oxygen (deficiency) or toxic gas, give a visual indication of the concentration, and give audible and visual alarms if a preset level is exceeded. It comprises a battery, a gas sensor head, electronic circuits on printed circuit boards, a liquid crystal display, LED's and a piezo sounder, all contained in a plastic enclosure providing a degree of protection of at least IP20. Two types are available, one rechargeable, and one non-rechargeable. External contacts are provided for recharging, and for serial data communications.

The sensors are known as Oxygen or Toxic i-modules, and the permitted modules are listed in the User Manual provided by the manufacturer.

The apparatus is not designed for use in oxygen enriched atmospheres.

The cell in the non-chargeable apparatus must only be changed when in a non-hazardous area, and replaced only with cell type CR2.

Charging conditions:

The apparatus must only be recharged or connected to serial communications when in a non-hazardous area, using the following chargers: -

Crowcon desktop charger / interface part number C01940

Crowcon desktop charger part number C01941

Alternatively, any Crowcon charger with an output (U_m) of 9V may be used to charge the apparatus, although when both charging and data communications are required, only charger / interface part number C01940 must be used.

In the case of the non-rechargeable version being connected to charger / interface part number C01940, the charging circuit will have no effect.

16 **Report Number**

GB/BAS/ExTR14.0249/00

17 **Specific Conditions of Use**

None

18 **Essential Health and Safety Requirements**

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 **Drawings and Documents**

The following drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0039:

New drawings submitted for this issue of certificate:.

Number	Sheet	Issue	Date	Description
5490-CD-CERT	1 of 1	4	16-11-2012	i-module oxygen
P5493-PL-CER	1 & 2	8	16/11/12	Toxic i-Module Certification parts List
P5494-PL-CER	1	6	11/12/13	Oxygen i-Module Certification parts List

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
MCAD-000344	1 of 1	03	16/11/2011	Gasman Battery
P-5424-A2	1 of 1	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	1 of 1	3	01/06	Hybrid 1A (Circuit Diagram)
5407-CERT	1 of 1	7	10/07	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	1 of 1	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
5411-CERT	1 of 1	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5410-A3	1 of 1	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P5401 Issue 6	1 of 1	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	1 of 1	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-4A	1 of 1	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	1 of 1	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	1 of 1	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
5415-CERT	1 of 1	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	1 of 1	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5476-A3	1 of 1	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Toxic iModule (Circuit Diagram)
P-5477-A3	1 of 1	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	1 of 1	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4	1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	COSH i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1 of 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1 of 1	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
5553-CERT	1 of 1	1	05/08	Gasman Certification Instrument Names
P-5427 issue 5 Charger	1 of 1	5	12/3/07	Gasman Charger (Circuit Diagram)
P-5428	1 to 6	4	11/1/07	Gasman (Budgie) Charger PCB
P5437 issue 1 Interface	1 of 2	1	20/12/04	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1 of 1	1	02/05	Gasman Interface PCB and Track Details
P-5429-A4	1 of 1	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5439-A4	1 of 1	1	3.3.2005	Gasman External Interface Certification Parts List
P-5460-A2	1 of 2	3	04/05	Gasman Charger / Interface Assembly
P-5495-A4	1 of 1	3	02/07	Gasman Charger Label

20 Certificate History

Certificate No.	Date	Comments
Baseefa04ATEX0384	10 May 2005	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amd. 1 & 2 & EN 50020: 2002 is documented in Test Report No. 04(C)0202.
Baseefa04ATEX0384/1	22 June 2005	<p>1. To permit the use of an alternative rechargeable battery on the rechargeable versions of the apparatus.</p> <p>2. To permit changes to the general assembly and main PCB to incorporate a ½AA size cell on the non-rechargeable version. Also to permit the use of the following type C2R cells: Panasonic Power Lithium, GP Photo Lithium, Maxell Photo-Power Lithium, or Energizer Photo Lithium.</p> <p>3. To permit minor changes to the oxygen and toxic i-modules and other minor drawing changes not affecting the original assessment on all models of the apparatus.</p> <p>The changes are documented in Test Report No. 05(C)0256.</p>
Baseefa04ATEX0384/2	10 February 2006	To permit the optional use of an alternative sensor module known as dual toxic and other minor drawing changes not affect the original assessment as documented in Test Report No. 05(C)0256/1.
Baseefa04ATEX0384/3	11 April 2006	To permit a change of encapsulant in the hybrid circuits.
Baseefa04ATEX0384/4	12 July 2006	To permit the use of alternative model names Gas-Mate, Oxy-Mate CR and Toxi-Mate CR and minor additions to the Oxygen and Toxic i-Module Certification Parts Lists, and a minor change to Hybrid 1A.
Baseefa04ATEX0384/5	15 September 2006	To permit minor drawing changes, the use of alternative sounders, and the use of an alternative CO2 chemical i-module as documented in Test Report No. 06(C)0673.
Baseefa04ATEX0384/6	8 December 2006	To permit minor changes to the desktop charger units with part number C01940 and C01941. Also to permit the replacement of desktop charger C01941 with any Crowcon charger with an output (U_m) of 9V. When both charging and data communication are required, only charger / interface part number C01940 must be used as documented in Test Report No. 06(C)1022.
Baseefa04ATEX0384/7	4 July 2007	To permit minor changes to drawings and minor modification to circuits.
Baseefa04ATEX0384/8	4 April 2008	<p>To permit the use of an alternative cell type ICP653450U. When this cell is used, the marking becomes:</p> <p>Ⓔ II 1G Ex ia IIC 170°C (T3) (-20°C ≤ T_a ≤ +65°C)</p> <p>Testing documented in Test Report No. 08(C)0211</p>
Baseefa04ATEX0384/9	12 June 2008	To permit use of an alternative encapsulant in the hybrids, the use of an alternative model name Gasalarm and the introduction of a new drawing listing the possible model names.
Baseefa04ATEX0384/10	6 August 2008	<p>To permit the use of an alternative rechargeable cell Sanyo Type UF553450Z. When this cell is used the marking is:</p> <p>Ⓔ II 1G Ex ia IIC T4 (-20°C ≤ T_a ≤ +65°C)</p> <p>Also to permit minor drawing changes not affect the original assessment. Testing documented in Test Report No. GB/BAS/ExTR08.0128/00</p>

Certificate No.	Date	Comments
Baseefa04ATEX0384 Issue 11	16 December 2009	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2006 & EN 60079-11: 2007 including the revision of the marking in accordance with these standards.</p> <p>The certificate also permits: -</p> <ol style="list-style-type: none">1) The removal of the alternative rechargeable cell type ICP653450U and therefore the T3 variant of the equipment is now obsolete.2) The alternative fitting of the Hybrid 3 sub-assembly in place of the Hybrid 1A sub-assembly on the rechargeable versions of the Gasman not affecting the original assessment. <p>Certification Drawing No's. P5423 issue 4, P-5425-A4, 5552-CERT and 5392 were made obsolete.</p>
Baseefa04ATEX0384 Issue 12	2 December 2011	<p>This issue of the certificate confirms the current design meets the requirements of EN 60079-0:2009 and adds an updated rechargeable battery drawing. The marking code remains unchanged.</p>
Baseefa04ATEX0384 Issue 13	01 September 2014	<p>Confirms the current design meets the requirements of EN 60079-0:2012 and EN 60079-11:2012 and records minor changes to some drawings. The assessment is recorded in GB/BAS/ExTR14.0249/00.</p>
For drawings applicable to each issue, see original of that issue.		



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- 1 EC - Type Examination Certificate Number: **Baseefa04ATEX0384 – Issue 12**
- 2 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**
- 3 Manufacturer: **Crowcon Detection Instruments Ltd**
- 4 Address: **Abingdon, Oxfordshire, OX14 1DY**
- 5 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
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- 11 The marking of the equipment or protective system shall include the following :

Ex II 1 G Ex ia IIC T4 Ga (-20°C ≤ T_a ≤ +65°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

Project File No. **11/0703**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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Registered in England No. 4305578. Registered address as above.

T. Brearley
PP DBREARLEY

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



Schedule

13

14

Certificate Number Baseefa04ATEX0384 – Issue 12

15 Description of Equipment or Protective System

The Gasman Oxygen or Toxic Gas Detector is designed to detect the presence of oxygen (deficiency) or toxic gas, give a visual indication of the concentration, and give audible and visual alarms if a preset level is exceeded. It comprises a battery, a gas sensor head, electronic circuits on printed circuit boards, a liquid crystal display, LED's and a piezo sounder, all contained in a plastic enclosure providing a degree of protection of at least IP20. Two types are available, one rechargeable, and one non-rechargeable. External contacts are provided for recharging, and for serial data communications.

The sensors are known as Oxygen or Toxic i-modules, and the permitted modules are listed in the User Manual provided by the manufacturer.

The apparatus is not designed for use in oxygen enriched atmospheres.

The cell in the non-chargeable apparatus must only be changed when in a non-hazardous area, and replaced only with cell type CR2.

Charging conditions:

The apparatus must only be recharged or connected to serial communications when in a non-hazardous area, using the following chargers: -

Crowcon desktop charger / interface part number C01940

Crowcon desktop charger part number C01941

Alternatively, any Crowcon charger with an output (U_m) of 9V may be used to charge the apparatus, although when both charging and data communications are required, only charger / interface part number C01940 must be used.

In the case of the non-rechargeable version being connected to charger / interface part number C01940, the charging circuit will have no effect.

16 Report Number

None.

17 Special Conditions for Safe Use

None.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

The following drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0039

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
MCAD-000344	1 of 1	03	16/11/2011	Gasman Battery



Current drawings also associated with this certificate:

Number	Sheet	Issue	Date	Description
P-5424-A2	1 of 1	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	1 of 1	3	01/06	Hybrid 1A (Circuit Diagram)
5407-CERT	1 of 1	7	10/07	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	1 of 1	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
5411-CERT	1 of 1	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5410-A3	1 of 1	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P5401 Issue 6	1 of 1	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	1 of 1	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-4A	1 of 1	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	1 of 1	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	1 of 1	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
5415-CERT	1 of 1	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	1 of 1	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5490 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Oxygen iModule (Circuit Diagram)
P-5494-A4	1 of 1	4	Sept 2006	Oxygen i-Module Certification Parts List
P-5476-A3	1 of 1	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Toxic iModule (Circuit Diagram)
P-5493-A4 Sheets 1 & 2	1 & 2	7	Jan 2007	Toxic i-Module Certification Parts List
P-5477-A3	1 of 1	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	1 of 1	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4	1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	COSH i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1 of 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1 of 1	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
5553-CERT	1 of 1	1	05/08	Gasman Certification Instrument Names
P-5427 issue 5 Charger	1 of 1	5	12/3/07	Gasman Charger (Circuit Diagram)
P-5428	1 to 6	4	11/1/07	Gasman (Budgie) Charger PCB
P5437 issue 1 Interface	1 of 2	1	20/12/04	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1 of 1	1	02/05	Gasman Interface PCB and Track Details
P-5429-A4	1 of 1	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5439-A4	1 of 1	1	3.3.2005	Gasman External Interface Certification Parts List
P-5460-A2	1 of 2	3	04/05	Gasman Charger / Interface Assembly
P-5495-A4	1 of 1	3	02/07	Gasman Charger Label



20 Certificate History

Certificate No.	Date	Comments
Baseefa04ATEX0384	10 May 2005	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amd. 1 & 2 & EN 50020: 2002 is documented in Test Report No. 04(C)0202.
Baseefa04ATEX0384/1	22 June 2005	<p>1. To permit the use of an alternative rechargeable battery on the rechargeable versions of the apparatus.</p> <p>2. To permit changes to the general assembly and main PCB to incorporate a ½AA size cell on the non-rechargeable version. Also to permit the use of the following type C2R cells: Panasonic Power Lithium, GP Photo Lithium, Maxell Photo-Power Lithium, or Energizer Photo Lithium.</p> <p>3. To permit minor changes to the oxygen and toxic i-modules and other minor drawing changes not affecting the original assessment on all models of the apparatus.</p> <p>The changes are documented in Test Report No. 05(C)0256.</p>
Baseefa04ATEX0384/2	10 February 2006	To permit the optional use of an alternative sensor module known as dual toxic and other minor drawing changes not affect the original assessment as documented in Test Report No. 05(C)0256/1.
Baseefa04ATEX0384/3	11 April 2006	To permit a change of encapsulant in the hybrid circuits.
Baseefa04ATEX0384/4	12 July 2006	To permit the use of alternative model names Gas-Mate, Oxy-Mate CR and Toxi-Mate CR and minor additions to the Oxygen and Toxic i-Module Certification Parts Lists, and a minor change to Hybrid 1A.
Baseefa04ATEX0384/5	15 September 2006	To permit minor drawing changes, the use of alternative sounders, and the use of an alternative CO2 chemical i-module as documented in Test Report No. 06(C)0673.
Baseefa04ATEX0384/6	8 December 2006	To permit minor changes to the desktop charger units with part number C01940 and C01941. Also to permit the replacement of desktop charger C01941 with any Crowcon charger with an output (U_m) of 9V. When both charging and data communication are required, only charger / interface part number C01940 must be used as documented in Test Report No. 06(C)1022.
Baseefa04ATEX0384/7	4 July 2007	To permit minor changes to drawings and minor modification to circuits.
Baseefa04ATEX0384/8	4 April 2008	<p>To permit the use of an alternative cell type ICP653450U. When this cell is used, the marking becomes:</p> <p>Ⓔ II 1G Ex ia IIC 170°C (T3) (-20°C ≤ T_a ≤ +65°C)</p> <p>Testing documented in Test Report No. 08(C)0211</p>
Baseefa04ATEX0384/9	12 June 2008	To permit use of an alternative encapsulant in the hybrids, the use of an alternative model name Gasalarm and the introduction of a new drawing listing the possible model names.



Certificate No.	Date	Comments
Baseefa04ATEX0384/10	6 August 2008	To permit the use of an alternative rechargeable cell Sanyo Type UF553450Z. When this cell is used the marking is: Ex II 1G Ex ia IIC T4 $(-20^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C})$ Also to permit minor drawing changes not affect the original assessment. Testing documented in Test Report No. GB/BAS/ExTR08.0128/00
Baseefa04ATEX0384 Issue 11	16 December 2009	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2006 & EN 60079-11: 2007 including the revision of the marking in accordance with these standards. The certificate also permits: - <ol style="list-style-type: none">1) The removal of the alternative rechargeable cell type ICP653450U and therefore the T3 variant of the equipment is now obsolete.2) The alternative fitting of the Hybrid 3 sub-assembly in place of the Hybrid 1A sub-assembly on the rechargeable versions of the Gasman not affecting the original assessment. Certification Drawing No's. P5423 issue 4, P-5425-A4, 5552-CERT and 5392 were made obsolete.
Baseefa04ATEX0384 Issue 12	2 December 2011	This issue of the certificate confirms the current design meets the requirements of EN 60079-0:2009 and adds an updated rechargeable battery drawing. The marking code remains unchanged.
For drawings applicable to each issue, see original of that issue.		



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

EC - Type Examination Certificate Number: Baseefa04ATEX0384 – Issue 11

Equipment or Protective System: Gasman Oxygen or Toxic Gas Detector

Manufacturer: Crowcon Detection Instruments Ltd

Address: Abingdon, Oxfordshire, OX14 1DY

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No's. GB/BAS/ExTR09.0166/00

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006 EN 60079-11: 2007

except in respect of those requirements listed at item 18 of the Schedule.

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

The marking of the equipment or protective system shall include the following :

(Ex) II 1 G Ex ia IIC T4 Ga (-20°C ≤ T_a ≤ +65°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

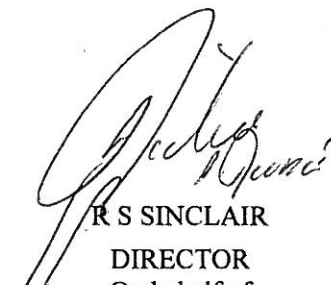
Baseefa Customer Reference No. 0249

Project File No. 09/0551

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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Baseefa is a trading name of Baseefa Ltd
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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa04ATEX0384 – Issue 11

15 Description of Equipment or Protective System

The Gasman Oxygen or Toxic Gas Detector is designed to detect the presence of oxygen (deficiency) or toxic gas, give a visual indication of the concentration, and give audible and visual alarms if a preset level is exceeded. It comprises a battery, a gas sensor head, electronic circuits on printed circuit boards, a liquid crystal display, LED's and a piezo sounder, all contained in a plastic enclosure providing a degree of protection of at least IP20. Two types are available, one rechargeable, and one non-rechargeable. External contacts are provided for recharging, and for serial data communications.

The sensors are known as Oxygen or Toxic i-modules, and the permitted modules are listed in the User Manual provided by the manufacturer.

The apparatus is not designed for use in oxygen enriched atmospheres.

The cell in the non-chargeable apparatus must only be changed when in a non-hazardous area, and replaced only with cell type CR2.

Charging conditions:

The apparatus must only be recharged or connected to serial communications when in a non-hazardous area, using the following chargers: -

Crowcon desktop charger / interface part number C01940

Crowcon desktop charger part number C01941

Alternatively, any Crowcon charger with an output (U_m) of 9V may be used to charge the apparatus, although when both charging and data communications are required, only charger / interface part number C01940 must be used.

In the case of the non-rechargeable version being connected to charger / interface part number C01940, the charging circuit will have no effect.

16 Report Number

GB/BAS/ExTR09.0166/00

17 Special Conditions for Safe Use

None.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

The following drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0039

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
5430-CERT	1 of 1	7	10/09	Gasman Instrument G A - Rechargeable
5423-CD-CERT	1 of 1	6	27/10/09	Gasman Rechargeable - Main PCB (Circuit Diagram)



Number	Sheet	Issue	Date	Description
5425-PL	1 & 2	4	27/10/09	Gasman Rechargeable Main Board Certification Parts List
P-5456-A4	1 of 1	5	08/09	Toxic / Oxygen Gasman Serial / Model No Label
P-5472-A2	1 of 1	3	08/09	Gasman Instrument G A - Non Rechargeable
P-5516 Issue 4	1 of 1	4	08/09	Hybrid 1B (Circuit Diagram)
5567-CD-CERT	1 of 1	1	29/10/09	Hybrid 3 (Circuit Diagram)
5567-PCB-CERT	1 of 1	1	29/10/09	Hybrid 3 PCB Drawing
5567-PL-CERT	1 of 1	1	28/10/09	Crowcon Type 3 Hybrid Certification Parts List

Current drawings also associated with this certificate:

Number	Sheet	Issue	Date	Description
P-5424-A2	1 of 1	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	1 of 1	3	01/06	Hybrid 1A (Circuit Diagram)
5407-CERT	1 of 1	7	10/07	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	1 of 1	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
5411-CERT	1 of 1	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5410-A3	1 of 1	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P5401 Issue 6	1 of 1	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	1 of 1	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-A4	1 of 1	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	1 of 1	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	1 of 1	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
5415-CERT	1 of 1	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	1 of 1	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5490 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Oxygen iModule (Circuit Diagram)
P-5494-A4	1 of 1	4	Sept 2006	Oxygen i-Module Certification Parts List
P-5476-A3	1 of 1	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	1 of 1	3	13/9/06	Tetra / Gasman Toxic iModule (Circuit Diagram)
P-5493-A4 Sheets 1 & 2	1 & 2	7	Jan 2007	Toxic i-Module Certification Parts List
P-5477-A3	1 of 1	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	1 of 1	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4	1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	COSH i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1 of 1	1	6/9/05	Alphasense COSH iModule Adapter



Number	Sheet	Issue	Date	Description
P-5527-A3	1 of 1	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
5553-CERT	1 of 1	1	05/08	Gasman Certification Instrument Names
P-5427 issue 5 Charger	1 of 1	5	12/3/07	Gasman Charger (Circuit Diagram)
P-5428	1 to 6	4	11/1/07	Gasman (Budgie) Charger PCB
P5437 issue 1 Interface	1 of 2	1	20/12/04	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1 of 1	1	02/05	Gasman Interface PCB and Track Details
P-5429-A4	1 of 1	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5439-A4	1 of 1	1	3.3.2005	Gasman External Interface Certification Parts List
P-5460-A2	1 of 2	3	04/05	Gasman Charger / Interface Assembly
P-5495-A4	1 of 1	3	02/07	Gasman Charger Label

20 Certificate History

Certificate No.	Date	Comments
Baseefa04ATEX0384	10 May 2005	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amd. 1 & 2 & EN 50020: 2002 is documented in Test Report No. 04(C)0202.
Baseefa04ATEX0384/1	22 June 2005	<p>1. To permit the use of an alternative rechargeable battery on the rechargeable versions of the apparatus.</p> <p>2. To permit changes to the general assembly and main PCB to incorporate a ½AA size cell on the non-rechargeable version. Also to permit the use of the following type C2R cells: Panasonic Power Lithium, GP Photo Lithium, Maxell Photo-Power Lithium, or Energizer Photo Lithium.</p> <p>3. To permit minor changes to the oxygen and toxic i-modules and other minor drawing changes not affecting the original assessment on all models of the apparatus.</p> <p>The changes are documented in Test Report No. 05(C)0256.</p>
Baseefa04ATEX0384/2	10 February 2006	To permit the optional use of an alternative sensor module known as dual toxic and other minor drawing changes not affect the original assessment as documented in Test Report No. 05(C)0256/1.
Baseefa04ATEX0384/3	11 April 2006	To permit a change of encapsulant in the hybrid circuits.
Baseefa04ATEX0384/4	12 July 2006	To permit the use of alternative model names Gas-Mate, Oxy-Mate CR and Toxi-Mate CR and minor additions to the Oxygen and Toxic i-Module Certification Parts Lists, and a minor change to Hybrid 1A.
Baseefa04ATEX0384/5	15 September 2006	To permit minor drawing changes, the use of alternative sounders, and the use of an alternative CO2 chemical i-module as documented in Test Report No. 06(C)0673.
Baseefa04ATEX0384/6	8 December 2006	To permit minor changes to the desktop charger units with part number C01940 and C01941. Also to permit the replacement of desktop charger C01941 with any Crowcon charger with an output (U_m) of 9V. When both charging and data communication are required, only charger / interface part number C01940 must be used as documented in Test Report No. 06(C)1022.



Certificate No.	Date	Comments
Baseefa04ATEX0384/7	4 July 2007	To permit minor changes to drawings and minor modification to circuits.
Baseefa04ATEX0384/8	4 April 2008	To permit the use of an alternative cell type ICP653450U. When this cell is used, the marking becomes: Ex II 1G Ex ia IIC 170°C (T3) $(-20^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C})$ Testing documented in Test Report No. 08(C)0211
Baseefa04ATEX0384/9	12 June 2008	To permit use of an alternative encapsulant in the hybrids, the use of an alternative model name Gasalarm and the introduction of a new drawing listing the possible model names.
Baseefa04ATEX0384/10	6 August 2008	To permit the use of an alternative rechargeable cell Sanyo Type UF553450Z. When this cell is used the marking is: Ex II 1G Ex ia IIC T4 $(-20^{\circ}\text{C} \leq T_a \leq +65^{\circ}\text{C})$ Also to permit minor drawing changes not affect the original assessment. Testing documented in Test Report No. GB/BAS/ExTR08.0128/00
Baseefa04ATEX0384 Issue 11	16 December 2009	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0:2006 & EN 60079-11:2007 including the revision of the marking in accordance with these standards. The certificate also permits: - 1) The removal of the alternative rechargeable cell type ICP653450U and therefore the T3 variant of the equipment is now obsolete. 2) The alternative fitting of the Hybrid 3 sub-assembly in place of the Hybrid 1A sub-assembly on the rechargeable versions of the Gasman not affecting the original assessment. Certification Drawing No's. P5423 issue 4, P-5425-A4, 5552-CERT and 5392 were made obsolete.
For drawings applicable to each issue, see original of that issue.		

Certificate Number
Baseefa04ATEX0384/10



Issued 6 August 2008
Page 1 of 2

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/10**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0249

Project File No. 08/0305

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Baseefa is a trading name of Baseefa Ltd
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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa04ATEX0384/10

15

Description of the variation to the Equipment or Protective System

Variation 10.1

To permit: -

- i) the use of an alternative rechargeable cell Sanyo Type UF553450Z. When this cell is used the marking is Ex ia IIC T4(-20°C ≤ T_a ≤ +65°C).
- ii) minor drawing changes not affecting the original assessment.

16

Report Number

GB/BAS/ExTR08.0128/00

17

Special Conditions for Safe Use

None

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Sheet	Issue	Date	Description
5430-CERT	1 of 1	5	07/08	Gasman Instrument G A - Rechargeable
P-5456-A4	1 of 1	4	05/08	Toxic / Oxygen Gasman Serial / Model No Label

The above drawings are common to and held with IECEX Certificate No. IECEX BAS 05.0039 Issue 10



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/9**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0249

Project File No. 07/1070

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa04ATEX0384/9

15 Description of the variation to the Equipment or Protective System

Variation 9.1

To permit the use of alternative encapsulants in the hybrids as listed on the appropriate parts lists, the use of an alternative model name Gasalarm and the introduction of a new drawing listing the possible model names.

16 Report Number

None

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents changed or added in this Supplement

Number	Issue	Date	Description
5407-CERT Replaces P-5407-A4	7	10/07	Crowcon Type 1A("Rechargeable") Hybrid Certification Parts List
5411-CERT Replaces P-5411-A4	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
5415-CERT Replaces P-5415-A4	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
5553-CERT Replaces P-5538-A4	1	05/08	Gasman Certification Instrument Names

The above drawings are common to and held with Certificate IECEx BAS 05.0039/9 (report GB/BAS/ExTR07.0191/00)

Drawings and Documents showing the current build options for this apparatus

Number	Issue	Date	Description
5430-CERT	4	03/08	Gasman Instrument G A - Rechargeable
P5423 issue 4	4	10/8/06	Gasman Rechargeable - Main PCB (Circuit Diagram)
P-5425-A4	3	Sept 2006	Gasman Rechargeable Main Board Certification Parts List
P-5424-A2	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	3	01/06	Hybrid 1A (Circuit Diagram)
5407-CERT Replaces P-5407-A4	7	10/07	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
P-5406-A3	2	2005/02	Gasman Type 1A Hybrid Mech and Tracking Details



Number	Issue	Date	Description
5411-CERT Replaces P-5411-A4	6	10/07	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5516 issue 3	3	10/06	Hybrid 1B (Circuit Diagram)
P-5410-A3	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P-5472-A2	2	06/05	Gasman Instrument G A - Non Rechargeable
P5401 Issue 6	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-A4	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
5415-CERT Replaces P-5415-A4	5	10/07	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5490 issue 3	3	13/9/06	Oxygen iModule (Circuit Diagram)
P-5494-A4	4	Sept 2006	Oxygen iModule Certification Parts List
P-5476-A3	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	3	13/9/06	Toxic iModule (Circuit Diagram)
P-5493-A4 Sheets 1 & 2	7	Jan 2007	Toxic i-Module Certification Parts List
P-5477-A3	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4 Sheets 1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1	10/05	Dual Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
P-5456-A4	3	04/06	Toxic / Oxygen Gasman Serial / Model No Label
5552-CERT	1	03/08	T3 Rated Toxic / Oxygen Gasman, Serial / Model No Label
5553-CERT Replaces P-5538-A4	1	05/08	Gasman Certification Instrument Names
P5427 issue 5 Charger	5	12/3/07	Gasman Charger (Circuit Diagram)
P5427 issue 2 Charger Sheet 1	2	2005/03/15	Gasman Charger (Circuit Diagram)
P-5428 Sheets 1 to 6	4	11/1/07	Gasman (Budgie) Charger
P-5428-A3	2	2005/03	Gasman Charger PCB and Track Details
P5437 issue 1 Interface Sheet 2	1	2004/12/20	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1	2005/02	Gasman Interface PCB and Track Details
P-5429-A4	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5429-A4	2	2005/03/15	Gasman External Charger Certification Parts List

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Number	Issue	Date	Description
P-5439-A4	1	2005/03/03	Gasman External Interface Certification Parts List
P-5460-A2	3	2005/04	Gasman Charger / Interface Assembly
P-5495-A4	3	02/07	Gasman Charger Label
5392	1	3/07	Gasman Charger Issue 2 PCB Modifications



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/8**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0249

Project File No. 08/0211

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa04ATEX0384/8

15 **Description of the variation to the Equipment or Protective System**

Variation 8.1

To permit the use of an alternative rechargeable cell type ICP653450U. When this cell is used, the marking becomes:

Ⓔ II 1G Ex ia IIC 170°C (T3) (-20°C ≤ Ta ≤ +65°C)

16 **Report Number**

08(C)0211

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
5430-CERT	4	03/08	Gasman Instrument G A - Rechargeable
5552-CERT	1	03/08	T3 Rated Toxic / Oxygen Gasman, Serial / Model No Label

The above drawings are common to, and held with, Certificate IECEX BAS 05.0039

Drawing 5430-CERT is also common to Certificates Baseefa04ATEX0383 and IECEX BAS 05.0038



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/7**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0249

Project File No. 06/0781

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DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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Schedule

14

Certificate Number Baseefa04ATEX0384/7

15

Description of the variation to the Equipment or Protective System

Variation 7.1

To permit minor changes to drawings and minor modifications to circuits as listed below.

16

Report Number

None

17

Special Conditions for Safe Use

None

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents changed or added in this Supplement

Number	Issue	Date	Description
P-5430-A2	3	10/06	Gasman Instrument G A - Rechargeable
P-5517 issue 3	3	01/06	Hybrid 1A (Circuit Diagram)
P-5407-A4	6	August 2006	Crowcon Type 1A("Rechargeable) Hybrid Certification Parts List
P-5516 issue 3	3	10/06	Hybrid 1B (Circuit Diagram)
P-5411-A4	5	08/06	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5414-A3	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5415-A4	4	Sept 2006	Crowcon Type 2("Non Rechargeable) Hybrid Certification Parts List
P-5518 issue 3	3	22/09/06	Tetra / Gasman COSH iModule (Circuit Diagram)
P-5844-A4 Sheets 1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5490 issue 3	3	13/9/06	Tetra / Gasman Oxygen i-Module (Circuit Diagram)
P-5494-A4	4	Sept 2006	Oxygen i-Module Certification Parts List
P-5488 issue 3	3	13/9/06	Tetra / Gasman Toxic i-Module (Circuit Diagram)
P-5493-A4 Sheets 1 & 2	7	Jan 2007	Toxic i-Module Certification Parts List
P5423 issue 4	4	10/8/06	Gasman Rechargeable Main PCB (Circuit Diagram)
P-5425-A4	3	Sept 2006	Gasman Rechargeable Main Board Certification Parts List
P5506 issue 2	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)



Number	Issue	Date	Description
P-5401 issue 6	6	10/8/06	Gasman (Budgie) Non-Rechargeable (Main Circuit Diagram)
P-5403-A4	5	Sept 2006	Gasman Non-Rechargeable Main Board Certification Parts List
P-5427 issue 5 Charger	5	12/3/07	Gasman Charger (Circuit Diagram)
P-5429-A4	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5428 Sheets 1 to 6	4	11/1/07	Gasman (Budgie) Charger PCB
P-5495-A4	3	02/07	Gasman Charger Label
5392	1	3/07	Gasman Charger Issue 2 PCB Modifications

The above drawings are common to and held with Certificate IECEx BAS 05.0039 (report GB/BAS/ExTR 06.0177/00)

Drawings and Documents showing the current build options for this apparatus

Number	Issue	Date	Description
P-5430-A2	3	10/06	Gasman Instrument G A - Rechargeable
P5423 issue 4	4	10/8/06	Gasman Rechargeable - Main PCB (Circuit Diagram)
P-5425-A4	3	Sept 2006	Gasman Rechargeable Main Board Certification Parts List
P-5424-A2	2	08/05	Main Board Rechargeable PCB & Track Details
P-5517 issue 3	3	01/06	Hybrid 1A (Circuit Diagram)
P-5407-A4	6	August 2006	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	4	07/06	Gasman Type 1A Hybrid Mech and Tracking Details
P-5406-A3	2	2005/02	Gasman Type 1A Hybrid Mech and Tracking Details
P-5411-A4	5	08/06	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5516 issue 3	3	10/06	Hybrid 1B (Circuit Diagram)
P-5410-A3	3	07/06	Gasman Type 1B Hybrid Mech and Tracking Details
P-5472-A2	2	06/05	Gasman Instrument G A - Non Rechargeable
P5401 Issue 6	6	10/8/06	Gasman (Budgie) non-rechargeable (Schematic)
P-5403-A4	5	Sept 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5402-4A	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5499-A4	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P5506 issue 2	2	13/9/06	Gasman Type 2 Hybrid (Circuit Diagram)
P-5415-A4	4	Sept 2006	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	4	01/07	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5490 issue 3	3	13/9/06	Oxygen iModule (Circuit Diagram)
P-5494-A4	4	Sept 2006	Oxygen iModule Certification Parts List
P-5476-A3	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 3	3	13/9/06	Toxic iModule (Circuit Diagram)



Number	Issue	Date	Description
P-5493-A4 Sheets 1 & 2	7	Jan 2007	Toxic i-Module Certification Parts List
P-5477-A3	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5518 issue 3	3	22/09/06	Tetra/Gasman COSH iModule (Circuit Diagram)
P-5844-A4 Sheets 1 & 2	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1	10/05	Dual Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
P-5456-A4	3	04/06	Toxic / Oxygen Gasman Serial / Model No Label
P-5538-A4	1	05/06	Toxic / Oxygen Gasman Certification Instrument Names
P5427 issue 5 Charger	5	12/3/07	Gasman Charger (Circuit Diagram)
P5427 issue 2 Charger Sheet 1	2	2005/03/15	Gasman Charger (Circuit Diagram)
P-5428 Sheets 1 to 6	4	11/1/07	Gasman (Budgie) Charger
P-5428-A3	2	2005/03	Gasman Charger PCB and Track Details
P5437 issue 1 Interface Sheet 2	1	2004/12/20	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1	2005/02	Gasman Interface PCB and Track Details
P-5429-A4	3,4,5	12.3.2007	Gasman External Charger Certification Parts List
P-5429-A4	2	2005/03/15	Gasman External Charger Certification Parts List
P-5439-A4	1	2005/03/03	Gasman External Interface Certification Parts List
P-5460-A2	3	2005/04	Gasman Charger / Interface Assembly
P-5495-A4	3	02/07	Gasman Charger Label
5392	1	3/07	Gasman Charger Issue 2 PCB Modifications



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/6**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0249

Project File No. 06/1022

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa04ATEX0384/6

15 Description of the variation to the Equipment or Protective System

Variation 6.1

To permit minor changes to the desktop charger units with part number C01940 and C01941.

Variation 6.2

When only charging of the apparatus is required, the desktop charger part number C01941 may be replaced by any Crowcon charger with an output (U_m) of 9V.

When both charging and data communication are required, only charger / interface part number C01940 must be used.

16 Report Number

06(C)1022, held with Certificate Baseefa04ATEX0383/6.

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
P-5427 issue 3 Charger	3	23/11/06	Gasman Charger (Circuit Diagram)
P-5429-A4	3	7.12.2006	Gasman External Charger Certification Parts List
P-5428 Sheets 1 to 6	3	6/12/06	Gasman (Budgie) Charger PCB

The above drawings are common to and held with Certificate IECEx BAS 05.0039 (report GB/BAS/ExTR 06.0172/00)



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/5**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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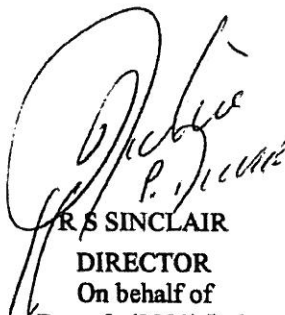
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Project File No. 06/0673

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DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa04ATEX0384/5

15 Description of the variation to the Equipment or Protective System

Variation 5.1

To permit minor changes to drawings, the use of alternative sounders, and the use of an optional alternative CO2 chemical i-module.

16 Report Number

06(C)0673

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
P5401 issue 5	5	4/5/06	Gasman (Budgie) non-rechargeable (schematic)
P-5402-A4	4	05/06	Gasman (2005) Non-rechargeable Main PCB Details
P-5403-A4	5	Aug 2006	Gasman Non Rechargeable Main Board Certification Parts List
P-5414-A3	3	07/06	Gasman, Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5425-A4	3	August 2006	Gasman Rechargeable Main Board Certification Parts List
P-5406-A3	4	07/06	Gasman, Type 1A Hybrid Mech and Tracking Details
P-5410-A3	3	07/06	Gasman, Type 1B Hybrid Mech and Tracking Details
P5867-CERT-issue 1 Sheets 1 & 2	1	27/7/2006	CO2 electro-chemical sensor i-module
P-5879-CERT ISSUE 1 Sheets 1 to 7	1	27/7/06	CO2 chemical i-module

The above drawings are common to and held with Certificate IECEX BAS 05.0039 (report GB/BAS/ExTR 06.0104/00)



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/4**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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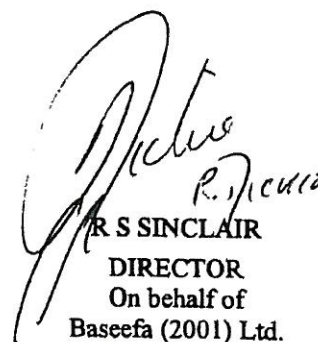
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Project File No. 06/0425

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On behalf of
Baseefa (2001) Ltd.



13 **Schedule**

14 **Certificate Number Baseefa04ATEX0384/4**

15 **Description of the variation to the Equipment or Protective System**

Variation 4.1

To permit the use of alternative model names **Oxy-Mate C**, **Oxy-Mate CR**, **Toxi-Mate C** and **Toxi-Mate CR**, minor additions to the Oxygen and Toxic i-Module Certification Parts Lists, and a minor change to Hybrid 1A.

16 **Report Number**

None

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
P-5456-A4	3	04/06	Toxic / Oxygen Gasman Serial / Model No Label
P-5538-A4	1	05/06	Toxic / Oxygen Gasman Certification Instrument Names
P-5493-A4 Sheets 1 & 2	5	Apr 2006	Toxic i-Module Certification Parts List
P-5494-A4	3	Apr 2006	Oxygen i-Module Certification Parts List
P-5517 issue 1	2	01/06	Hybrid 1A (Circuit Diagram)

The above drawings are common to and held with IECEx BAS 05.0039/4.



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/3**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0249

Project File No. 06/0285

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On behalf of
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Schedule

14

Certificate Number Baseefa04ATEX0384/3

15 Description of the variation to the Equipment or Protective System

Variation 3.1

To permit a change of encapsulant in the hybrid circuits.

16 Report Number

None

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
The following drawings are common to and held with report GB/BAS/ExTR06.0029/00 (Certificate IECEx BAS 05.0038)			
P-5407-A4	5	March 2006	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	3	03/06	Gasman Type 1A Hybrid Mech and Tracking Details
P-5411-A4	4	03/06	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5410-A3	2	03/06	Gasman Type 1B Hybrid Mech and Tracking Details
The following drawings are only used on this Certificate and IECEx BAS 05.0039, but are held with report GB/BAS/ExTR06.0029/00 (Certificate IECEx BAS 05.0038)			
P-5415-A4	3	Mar 2006	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	2	03/06	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details

Certificate Number
Baseefa04ATEX0384/2



Issued 10 February 2006
Page 1 of 2

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa04ATEX0384/2**

4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **Abingdon, Oxfordshire, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0249

Project File No. 05/0256

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Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa04ATEX0384/2

15 Description of the variation to the Equipment or Protective System

Variation 2.1

To permit various changes to the drawings listed below and the optional use of an alternative sensor module known as dual toxic. These changes do not impair the safety assessment of the apparatus and do not affect the marking.

16 Report Number

05(C)0256/1

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
P-5403-A4	3	Oct 2005	Gasman Non Rechargeable Main Board Certification Parts List
P-5407-A4	4	Sept 2005	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5411-A4	3	10/05	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5516	2	07/05	Hybrid 1B (Circuit Diagram)
P-5424-A2	2	08/05	Main Board Rechargeable PCB & Track Details
P-5493-A4 Sheets 1 & 2	4	Nov 2005	Toxic i-Module Certification Parts List
P-5518 issue 1	1	12/10/05	Tetra/Gasman COSH iModule (Circuit Diagram including C and L)
P-5844-A4 Sheets 1 & 2	1	20.10.2005	Dual Toxic i-Module Certification Parts List
P-5526-A3	1	10/05	Dual Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5520 Issue 1	1	6/9/05	Alphasense COSH iModule Adapter
P-5527-A3	1	10/05	Alphasense D2 COSH i-Module Adapter PCB & Track Details

The above drawings are common to and held with reports UK/BAS/04/0202 and UK/BAS/05/0256/1 (Certificate IECEx BAS 05.0038)



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa04ATEX0384/1

4 Equipment or Protective System: Gasman Oxygen or Toxic Gas Detector

5 Manufacturer: Crowcon Detection Instruments Ltd

6 Address: Abingdon, Oxfordshire, OX14 1DY

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa04ATEX0384 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

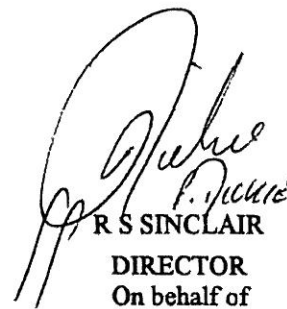
Baseefa Customer Reference No. 0249

Project File No. 05/0256

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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13

Schedule

14

Certificate Number Baseefa04ATEX0384/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit for the rechargeable version:

- a) The use of an alternative rechargeable battery as defined on the G A

Variation 1.2

To permit for the non-rechargeable version:

- a) General Assembly and main PCB changes to accommodate a 1/2AA size cell
- b) The use of the following type CR2 cells: Panasonic Power Lithium, GP Photo Lithium, Maxell Photo-Power Lithium, or Energizer Photo Lithium

Variation 1.3

To permit for all versions:

- a) Minor changes to the oxygen and toxic i-modules
- b) Various changes to drawings which affect documentation but do not make any technical change

16 Report Number

05(C)0256

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
P-5430-A2	2	06/05	Gasman Instrument G A - Rechargeable
P5423-3	3	7/6/05	Gasman Rechargeable - Main PCB (circuit diagram, also gives total C and L)
P-5425-A4	2	June 2005	Gasman Rechargeable Main Board Certification Parts List
P-5407-A4	2	May 2005	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5517 Issue 1	1	06/05	Hybrid 1A (Circuit Diagram)
P-5411-A4	2	June 2005	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List
P-5516	1	06/05	Hybrid 1B (Circuit Diagram)
P-5472-A2	2	06/05	Gasman Instrument G A - Non Rechargeable



Number	Issue	Date	Description
P5401 Issue 3	3	5/5/05	Gasman (Budgie) non-rechargeable SM6361 (circuit diagram, also gives total C and L)
P-5403-A4	2	May 2005	Gasman non Rechargeable Main Board Certification Parts List
P-5402-A2	2	05/05	Main Board Non-rechargeable PCB & Track Details
P-5499-A4	2	06/05	Gasman Conformal Coating of Non-rechargeable Main PCB
P-5415-A4	2	June 2005	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P5506 Issue 1	1	1/2/05	Gasman Type 2 Hybrid (Circuit Diagram)
P-5490 issue 2 Sheet 1 of 3	2	4-2-2005	Tetra/Gasman Oxygen iModule (Circuit Diagram including C and L)
P-5494-A4	2	May 2005	Oxygen iModule Certification Parts List
P-5476-A3	2	06/05	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 2	2	15/6/05	Tetra/Gasman Toxic iModule (Circuit Diagram including C and L)
P-5493-A4 Sheets 1 & 2	2	May 2005	Toxic i-Module Certification Parts List
P-5477-A3	2	06/05	Toxic i-Module PCB & Track Details (used only for general physical size of module)

The above drawings are held with Certificate IECEX BAS 05.0038



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

- 1
- 2
- 3 EC - Type Examination Certificate Number: **Baseefa04ATEX0384**
- 4 Equipment or Protective System: **Gasman Oxygen or Toxic Gas Detector**
- 5 Manufacturer: **Crowcon Detection Instruments Ltd**
- 6 Address: **Abingdon, Oxfordshire, OX14 1DY**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. 04(C)0202
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 + Amendments 1 & 2 EN 50020: 2002 EN 50284: 1999
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

Ex II 1G EEx ia IIC T4 (-20°C ≤ Ta ≤ +65°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0249

Project File No. 04/0202

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Schedule

14

Certificate Number Baseefa04ATEX0384

15 Description of Equipment or Protective System

The Gasman Oxygen or Toxic Gas Detector is designed to detect the presence of oxygen (deficiency) or toxic gas, give a visual indication of the concentration, and give audible and visual alarms if a preset level is exceeded. It comprises a battery, a gas sensor head, electronic circuits on printed circuit boards, a liquid crystal display, LED's and a piezo sounder, all contained in a plastic enclosure providing a degree of protection of at least IP20. Two types are available, one rechargeable, and one non-rechargeable. External contacts are provided for recharging, and for serial data communications.

The sensors are known as Oxygen or Toxic i-modules, and the permitted i-modules are listed in the User Manual provided by the manufacturer.

The apparatus must only be recharged or connected to serial communications when in a non-hazardous area, and using a Crowcon desktop charger or charger / interface part number C01940 or C01941. In the case of the non-rechargeable apparatus the charging circuit will have no effect.

The cell in the non-rechargeable apparatus must only be changed when in a non-hazardous area, and replaced only with cell type CR2477.

The apparatus is not designed for use in oxygen enriched atmospheres.

16 Report Number

04(C)0202

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
P-5430-A2	1	2005/02	Gasman Instrument G A - Rechargeable
P5423-2	2	2005/02/16	Gasman Rechargeable - Main PCB (circuit diagram, also gives total C and L)
P-5425-A4	1	2005/02	Gasman Rechargeable Main Board Certification Parts List
P-5424-A2	1	2005/02	Main Board Rechargeable PCB & Track Details
P-5407-A4	1	2005/02	Crowcon Type 1A ("Rechargeable") Hybrid Certification Parts List
P-5406-A3	1	2005/02	Gasman Type 1A Hybrid Mech and Tracking Details
P-5406-A3	2	2005/02	Gasman Type 1A Hybrid Mech and Tracking Details
P-5411-A4	1	2005/02	Crowcon Type 1B ("Encapsulated Fuse") Hybrid Certification Parts List



Number	Issue	Date	Description
P-5410-A3	1	2005/02	Gasman Type 1B Hybrid Mech and Tracking Details
P-5472-A2	1	2005/02	Gasman Instrument G A - Non Rechargeable
P5401-1	1	2005/02/01	Gasman (Budgie) non-rechargeable SM6361 (circuit diagram, also gives total C and L)
P-5403-A4	1	2005/02	Gasman non Rechargeable Main Board Certification Parts List
P-5402-A2	1	2005/02	Main Board Non-rechargeable PCB & Track Details
P-5499-A4	1	2005/03	Gasman Conformal Coating of Non-rechargeable Main PCB
P-5415-A4	1	2005/02	Crowcon Type 2 ("Non Rechargeable") Hybrid Certification Parts List
P-5414-A3	1	2005/02	Gasman Type 2 Non-rechargeable Hybrid Mech and Tracking Details
P-5490 issue 1 Sheet 1 of 3	1	2005/01/12	Oxygen iModule (Circuit Diagram including C and L)
P-5494-A4	1	2005/02	Oxygen iModule Certification Parts List
P-5476-A3	1	2005/02	Oxygen i-Module PCB & Track Details (used only for general physical size of module)
P-5488 issue 1	1	2005/02/25	Toxic iModule (Circuit Diagram including C and L)
P-5493-A4 Sheets 1 & 2	1	2005/02	Toxic i-Module Certification Parts List
P-5477-A3	1	2005/02	Toxic i-Module PCB & Track Details (used only for general physical size of module)
P-5456-A4	2	2005/05	Toxic / Oxygen Gasman Serial / Model No Label
P5427 issue 1 Charger	1	2004/11/30	Gasman Charger (Circuit Diagram)
P5427 issue 2 Charger Sheet 1	2	2005/03/15	Gasman Charger (Circuit Diagram)
P-5428-A3	1	2005/02	Gasman Charger PCB and Track Details
P-5428-A3	2	2005/03	Gasman Charger PCB and Track Details
P5437 issue 1 Interface Sheet 2	1	2004/12/20	Gasman Interface PCB (Circuit Diagram)
P-5438-A3	1	2005/02	Gasman Interface PCB and Track Details
P-5429-A4	1	2005/03/03	Gasman External Charger Certification Parts List
P-5429-A4	2	2005/03/15	Gasman External Charger Certification Parts List
P-5439-A4	1	2005/03/03	Gasman External Interface Certification Parts List
P-5460-A2	3	2005/04	Gasman Charger / Interface Assembly

The above drawings are held with Certificate IECEx BAS 05.0038