1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **Baseefa05ATEX0187 - Issue 17**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **TETRA 3**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

6 Address: **172 Brook Drive, Milton Park, Abingdon, Oxfordshire OX14 4SD**

7 This re-issued certificate extends EU Type Examination Certificate No. Baseefa05ATEX187 to apply to product 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.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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. **See Certificate History**

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

EN 60079-0: 2012 + A11: 2013 EN 60079-1: 2014 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 product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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

12 The marking of the product shall include the following :

Ex II 2G Ex db ia IIC T4 Gb (-20°C ≤ T_a ≤ +55°C)

SGS Baseefa Customer Reference No. **0249** Project File No. **19/0718**

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 # Schedule

14 ## Certificate Number Baseefa05ATEX0187 – Issue 17

15 Description of Product

The TETRA 3 is a three bay four gas monitor, designed to monitor the concentration of oxygen (deficiency), toxic or flammable gas, and provide visual, audible and physical (vibrator) warnings if preset limits are exceeded. The presence of any sensor (known as an i-Module) is optional and the maximum possible is one flammable i-Module, one oxygen i-Module and one toxic i-Module. The toxic i-Module may contain a dual sensor to measure two toxic gases.

It comprises electronic circuits on printed circuit boards, a display, various LED indicators, a pump, a vibrator, a sounder and a rechargeable lithium-ion battery, all contained in a plastic enclosure providing a degree of protection of at least IP20.

The permitted sensors used in the i-Modules are specified in the Crowcon documentation.

The flammable sensor used is either type VQ500 series by SGX Europe Sp. z.o.o, to Certificate SIRA01ATEX1073U, or 4P series by City Technology to Certificate SIRA01ATEX1205U, with a Code of Ex db IIC Gb and a maximum permitted ambient temperature of +55°C. These sensors are certified to EN 60079-0: 2012 and EN 60079-1: 2014.

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

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 part number C011018
Crowcon desktop charger / interface part number C011019
Crowcon desktop charger / Bluetooth interface part number C011022

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's C011019 & C011022 may be used**.**

16 Report Number

See Certificate History

17 Specific Conditions of Use

None

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product:

Clause	Subject	Compliance
1.4.1	External effects	The Purchaser should make the manufacturer aware of such issues.
1.4.2	Aggressive substances, etc.	The Purchaser should make the manufacturer aware of such issues.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
P-5821-A2	1 of 1	5	07/20	Tetra 3 Charger Assembly
P-5823-A4	1 of 1	6	05/20	Mini Tetra Charger Label
ECAD-000212-CD-CERT	1 of 1	1	30/06/2020	T3 & Gasman Bluetooth Dock Board (Circuit Diagram)

Number	Sheet	Issue	Date	Description
ECAD-000212-PCB-CERT	1 to 6	1	03/07/2020	T3 & Gasman Bluetooth Charger Board (PCB & Track Layout)
ECAD-000212-PL-CERT	1 of 1	1	30/06/2020	T3 & Gasman Bluetooth Dock Board (Safety Critical Parts List)

The above drawings are associated and held with IECEx BAS 05.0059 Iss. 18

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
P-5887	1 of 1	03	31/08/2012	T3 Battery Assembly Drawing
P-5820-A2	1 of 1	6	10/13	TETRA 3 Certification GA
P-5825-A4	1 of 1	07	31/01/18	Tetra 3 ATEX & IEC Ex Certification Label
-5488-CD-CERT	1 of 1	4	16/11/2012	Mini I-module Toxic
-5518-CD-CERT	1 of 1	4	16/11/2012	I-Module Dual Toxic (COSH)
5800-CD-CERT	1 & 2	5	30/11/2016	TETRA3 Main Board
5802-CD-CERT	1 to 15	4	04/04/2016	TETRA 3 Display PCB
5832-PL-CERT	1 of 1	7	03-01-2017	Tetra3 (Mini-Tetra) Main Certification Parts List
5840-PCB-CERT	1 to 8	5.1	29/11/2016	TETRA 3 Main Board
5840-PCB-CERT	1 to 8	7	15/12/2016	TETRA 3 Main Board
5842-PCB-CERT	1 to 8	5	15/12/2016	TETRA 3 Display PCB
-5490-CD-CERT	1 of 1	4	16/11/2012	I-Module Oxygen
P-5516	1 of 1	4	08.09	Hybrid 1B
5567-CD-CERT	1 of 1	1	29.10.09	Hybrid 3
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
P-5820-A2	1 of 1	4	06.06	Tetra 3 Certification GA
P-5829-A4	1 of 1	1	12.05	Tetra 3 Ribbon Cable Insulator
P-5847-A4	1 of 1	1	10.05	Tetra 3 Main Board Insulating Label
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
P-5517	1 of 1	3	01.06	Hybrid 1A
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
P-5801	1 of 1	1	12.10.05	Tetra 3 iModule Terminal Board (Mini-Tetra)
P-5836-A4	1 of 1	1	17.10.05	Mini-Tetra iModule Interface Board Certification Parts List
P-5841-A2	1 of 1	1	10.05	Tetra 3 iModule Terminal PCB & Track Details
P-5802	1 – 15	2	27.10.06	Tetra 3 Display Board (Mini-Tetra)
P-5834-A4	1 of 1	2	04.08.06	Mini-Tetra (Tetra 3) Display Board Certification Parts List
P-5842-A2	1 of 1	2	11.06	Tetra 3 Display PCB & Track Details
P-5486	1 of 1	4	22.09.06	Flammable i-Module Tetra, Tetra 3, Gasman
P-5475	1 – 7	3	14.09.06	Flammable i-Module board

Number	Sheet	Issue	Date	Description
5492-PL-CERT	1 of 1	12	28/11/17	Flammable i-Module Certification Parts List
P-5476-A3	1 of 1	2	06.05	Oxygen i-Module PCB And Track Details
5494-PL-CERT	1 & 2	7	18/09/17	Oxygen I-Module Certification Parts List
P-5477-A3	1 of 1	2	06.05	Toxic i-Module PCB And Track Details
5493-PL-CERT	1 & 2	9	12/09/17	Toxic I-Module Certification Parts List
P-5526-A3	1 of 1	1	10.05	COSH i-Module PCB And Track Details
P-5520-PL	1 of 1	1	01.02.06	Alphasense COSH iModule Adapter
P-5527-A3	1 of 1	1	10.05	Alphasense D2 COSH i-Module Adapter PCB & Track Details
5844-PL-CERT	1 & 2	4	12/09/17	Dual Toxic i-Module Certification Parts List
P-5817	1 of 1	5	12.03.07	Tetra 3 (Mini-Tetra) Charger
P-5843	1 – 6	4	11.01.07	Tetra 3 Charger PCB
P-5838-A4	1 of 1	4	12.03.07	Tetra 3 Charger Certification Parts List
P-5437	1 of 1	1	20.12.04	Gasman Interface PCB
P-5438-A3	1 of 1	1	02.05	Gasman External Interface PCB And Track Details
P-5439-A4	1 of 1	1	03.03.05	Gasman External Interface Certification Parts List
MCAD-003520	1 of 1	01	11/07/2016	Rear Case
MCAD-003521	1 of 1	01	11/07/2016	Front Case
ENG-000948	1 to 3	2	08/12/2016	Ground Plane Rework to Tetra3 Mainboard (5800, SM6385) Issue 5

All drawings are associated and held with IECEx Certificate No. IECEx BAS 05.0059.

20 Certificate History

Certificate No.	Date	Comments
Baseefa05ATEX0187	21 December 2005	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amd. 1 & 2, EN 50018: 2000 and EN 50020: 2002 is documented in Test Report No. 05(C)0554.
Baseefa05ATEX0187/1	10 February 2006	To permit changes to drawings to enable the IR i-Module to be listed separately from the flammable i-Module. This is a documentation change and does not affect the safety assessment of the apparatus.
Baseefa05ATEX0187/2	11 April 2006	To permit a change of encapsulants in the hybrid circuits.
Baseefa05ATEX0187/3	12 July 2006	To permit the use of an alternative model name, **Combi-Mate 3**, minor additions to the oxygen and toxic i-Module parts lists and minor changes to the GA, Hybrid 1A and charger PCB.
Baseefa05ATEX0187/4	15 September 2006	To permit minor changes to drawings and the use of alternative sounders.
Baseefa05ATEX0187/5	15 November 2006	To permit changes to the display PCB to form an issue two version and the addition of a conformal coating in a localised area of existing issue one PCBs.

Certificate No.	Date	Comments
Baseefa05ATEX0187/6	8 December 2006	To permit minor changes to the desktop charger units with part numbers C011018 and C011019. To permit the replacement of desktop charger C011018 with any Crowcon charger with an output (U_m) of 9V. When both charging and data communication are required, only charger / interface part number C011019 may be used. As documented in Test Report No. 06(C)1022.
Baseefa05ATEX0187/7	4 July 2007	To permit minor changes to drawings and minor modification to circuits.
Baseefa05ATEX0187/8	12 June 2008	To permit use of alternative encapsulants in the hybrid circuits.
Baseefa04ATEX0187 Issue 9	30 November 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 60079-0:2004 and EN 60079-11:2007. The marking meets the requirements of IEC 60079-0:2007. This issue also incorporates the addition of the Hybrid 3 as an optional Hybrid module. Certification Drawings 5896, P-5867-CERT, P-5879-CERT and P-5888-2A are also made obsolete.
Baseefa04ATEX0187 Issue 10	2 December 2011	This issue of the certificate confirms the current design meets the requirements of EN 60079-0:2009 and EN 60079-1:2007. The marking code is unchanged.
Baseefa05ATEX0187 Issue 11	6 February 2013	This issue of the certificate confirms the current design meets the requirements of EN 60079-0: 2012 and EN 60079-11: 2012. This issue also incorporates the following changes: - i) To permit the fitting of an alternative battery in the equipment. ii) To permit minor changes to the main PCB not affect the original assessment. iii) To permit minor component changes to the i-Modules not affecting the original assessment. iv) To permit minor drawing changes not affecting the original assessment. As a result of the drawing changes, previous Drawing No's P-5492-A4, 5832-PL, P-5887-A2, P-5800, P-5840-A2, P-5490, P-5494-A4, P-5488, P-5493-A4, P-5518 & P-5844-A4 were replaced. The above test and assessment is documented in IECEx ExTR No. GB/BAS/ExTR13.0035/00.
Baseefa05ATEX0187 Issue 12	11 September 2014	To permit minor drawing changes not affecting the original assessment. The assessment is documented in IECEx ExTR No. GB/BAS/ExTR14.0249/00.
Baseefa05ATEX0187 Issue 13	7 August 2015	To permit minor change to the battery not affecting the previous assessment. This issue confirms the current design meets the requirements of EN 60079-0: 2012+A11:2013 in respect of the differences from EN 60079-0: 2012. The assessment is documented in IECEx ExTR No. GB/BAS/ExTR15.0234/00.
Baseefa05ATEX0187 Issue 14	14 July 2016	To permit minor changes to the display PCB drawings and Flammable i-Module Parts List, and changes to the case materials. The assessment is documented in IECEx ExTR No. GB/BAS/ExTR16.0195/00. Project 16/0381.

Certificate No.	Date	Comments
Baseefa05ATEX0187 Issue 15	16 January 2017	To permit: - i) Minor changes to the circuit and PCB layout of the Main PCB not affecting the previous assessment. ii) Minor changes to the Display PCB not affecting the previous assessment. The assessment is documented in IECEx ExTR No. GB/BAS/ExTR16.0368/00. Project 16/0891.
Baseefa05ATEX0187 Issue 16	25 April 2018	To permit: - i) Minor component changes to the i-Modules fitted in the equipment not affecting the original assessment. ii) To confirm the current designs of the TETRA 3 have been reviewed against the requirements of EN 60079-1: 2014 in respect of the differences from EN 60079-1: 2007, and with exception of the marking, none of the differences affect the equipment. In accordance with the marking requirements of EN 60079-1: 2014, the equipment is now marked as follows: - ⟨Ex⟩ II 2G Ex db ia IIC T4 Gb (-20°C ≤ T_a ≤ +55°C) The assessment is documented in IECEx ExTR No. GB/BAS/ExTR18.0011/00 (held with IECEx BAS 05.0059 Iss. 16), Project File 17/0818.
Baseefa05ATEX0187 Issue 17	10 August 2020	This issue of the certificate permits the use of an alternative charger & Bluetooth Interface with the equipment. The Certificate Schedule on page 2 of the certificate was revised to list details of the new accessory. The test and assessment is detailed in Certification Report No. GB/BAS/ExTR20.0114/00 (held with IECEx BAS 05.0038 Iss. 16), Project File 19/0718.
For drawings applicable to each issue, see original of that issue.		