



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: **Baseefa03ATEX0193**

4 Equipment or Protective System: **TETRA GAS DETECTOR**

5 Manufacturer: **CROWCON DETECTION INSTRUMENTS LTD**

6 Address: **Abingdon, Oxon, 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. 02(C)0165

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

**EN50014:1997 + Amds 1 & 2 EN50020:2002 EN50018:2000**

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 2 G EEx ia d IIC T4 (-20°C ≤ Ta ≤ +55°C)**

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

Baseefa (2001) Ltd. Customer Reference No. 0249

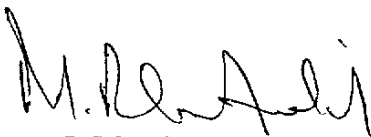
Project File No. 02/0165

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 (2001) Ltd.**

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



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## Schedule

14

Certificate Number Baseefa03ATEX0193

### 15 Description of Equipment or Protective System

The Tetra Gas Detector is 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 is optional and the maximum possible is one flammable, one oxygen and two toxic.

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 flammable sensor used is type VQ500 series by E2V Technologies, to Certificate Sira01ATEX1073U, with a Code of EEx d IIC and a maximum permitted ambient temperature of +55°C. Other suitably certified EEx d IIC sensors with an appropriate permitted ambient temperature range and permitted input power of at least 1W may be used.

The battery must only be recharged in a non-hazardous area, using a Crowcon charger with part number E01839, E01840 or E01841.

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

### 16 Report Number

02(C)0165

### 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-4957-A4    | 4     | 07/03        | Tetra Instrument Certification Label (Rechargeable) |
| P-4910-A1    | 3     | 07/03        | Tetra General Assembly. (Rechargeable Version)      |
| P-4981-A4    | 1     | 05-03        | Tetra Ribbon Cable Insulator                        |
| P-4901-CD    | 1     | June 03      | Tetra Main Board (Circuit Diagram)                  |
| Sheets 1 & 2 |       |              |   |
| P-4943-A4    | H     | May 2003     | Main Board (Issue E PCB) Certification Parts List   |
| Sheets 1 & 2 |       |              |   |
| CUS-2107-A4  | 4     | 06/03        | Fuse Encapsulation Details                          |
| P-4945-PCA   | 1     | 06/03        | Main Board Component Side (Layer 1, Top) Copper     |
| P-4945-PCB   | 1     | 06/03        | Main Board Inner Ground (Layer 2) Copper            |
| P-4945-PCC   | 1     | 06/03        | Main Board Inner Tracks (Layer 3) Copper            |
| P-4945-PCD   | 1     | 06/03        | Main Board Solder Side (Layer 4, Bottom) Copper     |
| P-4945-CL    | 1     | 06/03        | Main Board Component Side (Top) Component Location  |
| P-4945-SL    | 1     | 06/03        | Main Board Solder Side (Bottom) Component Location  |
| P-4991-A3    | 1     | 06/03        | Tetra Hardware Modification 4/6/03                  |
| P-4899-A2    | 2     | 07-03        | Tetra Main PCB Modification                         |
| P-4905-CD    | 1     | 06/03        | Tetra Switch Board Switch/Indicator Cct             |
| P-4947-A4    | 1     | 23 June 2003 | Tetra Switch Board Certification Parts List         |



|                           |         |           |  |
|---------------------------|---------|-----------|--|
| P-4948-PCA                | 1       | 06/03     | Switch Module Component Side Copper  |
| P-4948-PCB                | 1       | 06/03     | Switch Module Solder Side Copper   |
| P-4948-CL                 | 1       | 06/03     | Switch Module Comp. Side Component Location                                      |
| P-4948-SL                 | 1       | 06/03     | Switch Module Solder Side Component Location                                     |
| P-4902                    | 1       | 24-02-03  | Tetra Flammable Module Sensor Cct  |
| P-4941-A4                 | 1       | May 2003  | Tetra Flammable Module Certification Parts List                                  |
| P-4942-CL                 | 1       | 05/03     | Flammable Module Comp. Side Component Location (gives physical size of PCB)      |
| P-4907                    | 2       | 08-07-03  | Tetra Standard Toxic Module Sensor Cct   |
| P-4935-A4<br>Sheets 1 & 2 | 1       | May 2003  | Tetra Standard Toxic Module Certification Parts List                             |
| P-4936-CL                 | 2       | 07/03     | Standard Toxic Module Comp. Side Component Location (gives physical size of PCB) |
| P-4903                    | 1       | 24-02-03  | Tetra Oxygen Module Sensor Cct   |
| P-4938-A4                 | 1       | May 2003  | Tetra Oxygen Module Certification Parts List                                     |
| P-4939-CL                 | 1       | 05/03     | Oxygen Module Comp. Side Component Location (gives physical size of PCB)         |
| P-4882-A2                 | 1       | 07/03     | Tetra Battery Charging Unit Certification Drawing                                |
| P-4878                    | initial | 24-07-03  | Tetra Internal Charger Assembly (Circuit for Issue E Charger PCB)                |
| P-4998-A4<br>Sheets 1 & 2 | 2       | July 2003 | Tetra (Internal) Charger Assembly Certification Parts List (Internal)            |
| P-4999-PCA                | 1       | 06/03     | Tetra (Internal) Charger Board Component Side Copper                             |
| P-4999-PCB                | 1       | 06/03     | Tetra (Internal) Charger Board Solder Side Copper                                |
| P-4999-CL                 | 1       | 06/03     | Tetra (Internal) Charger Board Comp. Side Component Location                     |
| P-4992-A4                 | 1       | 06/03     | Tetra Charger PCB Modification 16/6/03   |
| P-4994-CD                 | 1       | 24/06/03  | Manby Park PSU (External Charger Cct )   |
| P-4995-A4                 | 1       | June 2003 | Tetra External PSU Certification Parts List                                      |
| P-4996-PCB                | 1       | 06/03     | Manby Park PSU Solder Side Copper  |
| P-4996-CL                 | 1       | 06/03     | Manby Park PSU Comp. Side Component Location                                     |
| P-4879-A4<br>Sheets 1 & 2 | 1       | May 2003  | Tetra External Power Supply General Assembly                                     |