



EC - TYPE EXAMINATION CERTIFICATE

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

- 3 EC - Type Examination Certificate Number: **Baseefa03ATEX0193 – Issue 17**
- 4 Equipment or Protective System: **TETRA Gas Detector**
- 5 Manufacturer: **Crowcon Detection Instruments Limited**
- 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, 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.
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN60079-0:2009 EN60079-1:2007 EN60079-11:2007
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 2G Ex ia d IIC T3 Gb (-20°C ≤Ta ≤+55°C)**
- This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0249**

Project File No. **12/0597**

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.

A handwritten signature in blue ink, appearing to read "R S Sinclair".

Baseefa

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Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

14

Certificate Number Baseefa03ATEX0193 – Issue 17

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 either type VQ500 series by E2V Technologies, to Certificate SIRA01ATEX1073U, or 4P series by City Technology to Certificate SIRA01ATEX1205U, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +55°C. These sensors are certified to EN60079-0:2009 and EN60079-1:2007.

The IR Sensor used is type MSH-P Series by Dynament to Certificate SIRA04ATEX1357U, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +60°C. This sensor is certified to EN60079-0:2009 and EN60079-1:2007.

Charging conditions:

The battery must only be recharged in a non-hazardous area, using the following chargers:

Crowcon charger with part number E01839, E01840 or E01841.

Crowcon chargers with numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket.

As an alternative to the above, chargers with specific part numbers may be replaced by any Crowcon charger with an output (U_m) of 9V.

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

Non-rechargeable instrument:

There is a non-rechargeable version of the instrument; marking is unchanged.

The batteries must only be changed in a non-hazardous area.

16 Report Number

GB/BAS/ExTR12.0225/00.

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

All drawings are common to, and held with, Certificate IECEx BAS04.0024.

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
P-4998-A4	1	4	July 2012	TETRA (Internal) Charger Assembly Certification parts List
MCAD-001721	1	1	07/12	TETRA ATEX & IECEx Instrument label T3 Temp Rating (Rechargeable)
MCAD-001724	1	1	08/12	Unitor Combi-Mate OFT2 label (Rechargeable) Manufacturing Drawing T3 Temp Rating

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
General (Main Instrument & Chargers)				
P-4957-A4	1 of 1	16	08/09	Tetra ATEX & IECEx Instrument Certification Label (Rechargeable)
P-4967-A4	1 of 1	14	08/09	Tetra ATEX & IECEx Instrument Certification Label (Non Rechargeable)
P-4910-A1	1 of 1	6	05/09	Tetra General Assembly
P-4882-A2	1 of 1	4	05-09	Tetra Battery Charging Unit Certification Drawing
P-4941-A4	1 of 1	2	09/09	Tetra Flammable Module Certification Parts List
P-5492-A4	1 of 1	8	Aug 2009	Flammable i-Module Certification Parts List
P-4851-A1	1 of 1	3	10/04	Tetra Non-rechargeable General Assembly
P-4852-A4	1 of 1	2	01/04	Tetra Battery Label (Internal, Non Rechargeable)
P-4981-A4	1 of 1	2	11/03	Tetra Ribbon Cable Insulator
P-4901	1 & 2	2	Aug 03	Tetra Main Board (Circuit Diagram)
P-4943-A4	1 of 1	2	Dec 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-5109-A4	1 of 1	1	10/04	IEC Ex Tetra Fuse Encapsulation Details
P-4945-PCA	1 of 1	2	08/03	Main Board Component Side (Layer 1, Top) Copper
P-4945-PCB	1 of 1	2	08/03	Main Board Inner Ground (Layer 2) Copper
P-4945-PCC	1 of 1	2	08/03	Main Board Inner Tracks (Layer 3) Copper
P-4945-PCD	1 of 1	2	08/03	Main Board Solder Side (Layer 4, Bottom) Copper
P-4945-CL	1 of 1	2	08/03	Main Board Component Side (Top) Component Location
P-4945-SL	1 of 1	2	08/03	Main Board Solder Side (Bottom) Component Location
P-4948-3B	1 of 1	3	9/05	Tetra Switch Board (Zilog IRDA) PCB & Track Details
P-5130-1B	1 of 1	1	9/05	Tetra Switch Board (Vishay IRDA) PCB & Track Details
P-5132 Issue 4	1 & 2	4	16/3/06	Tetra Switch / Indicator Board Zilog IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-5137 Issue 2	1 & 2	2	31/3/06	Tetra Switch / Indicator Board Vishay IRDA Transceiver Build (Circuit Diagram & Certification Parts List)



Number	Sheet	Issue	Date	Description
P-4904-CD	1 of 1	2	05-08-03	Tetra (Internal) Charger Board (Circuit)
P-4999-PCA	1 of 1	2	08/03	Tetra (Internal) Charger Board Component Side Copper
P-4999-PCB	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Copper
P-4999-CL	1 of 1	2	08/03	Tetra (Internal) Charger Board Comp. Side Component Location
P-4999-SL	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Component Location
Optional Sensor Modules (i-modules)				
P-5475-A3	1 to 7	3	14/9/06	Flammable i-Module Board
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 iModule 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 i-Module (Circuit Diagram)
P-5493-A4	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 Sheets 1 & 2	1 of 1	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	Dual Toxic i-Module PCB & Track Details
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
Optional Sensor Modules (Original Standard Sensor Modules)				
P-4907	1 of 1	2	08-07-03	Tetra Standard Toxic Module Sensor Cct
P-4902	1 of 1	1	24-02-03	Tetra Flammable Module Sensor Cct
P-4903	1 of 1	1	24-02-03	Tetra Oxygen Module Sensor Cct
P-4935-A4 Sheets 1 & 2	1 of 1	3	April 2004	Tetra Standard Toxic Module Certification Parts List
P-4936-CL	1 of 1	2	07/03	Standard Toxic Module Comp. Side Component Location (gives physical size of PCB)
P-4909	1 of 1	C	8-9-03	Tetra Biased Toxic Module Sensor Cct
P-4872-A4	1 of 1	D	Dec 2003	Tetra Biased Toxic Module Certification Parts List
P-4931-A4	1 of 1	1	Feb-04	Tetra Biased Toxic PCB Assy
P-4873-CL	1 of 1	C	10/03	Biased Toxic Module Comp. Side Component Location
P-4873-PCA	1 of 1	C	10/03	Biased Toxic Module Component Side Copper
P-4873-PCB	1 of 1	C	10/03	Biased Toxic Module Gnd (Layer 2) Copper
P-4873-PCC	1 of 1	C	10/03	Biased Toxic Module 5Van (Layer 3) Copper
P-4873-PCD	1 of 1	C	10/03	Biased Toxic Module Solder Side Copper
P-4873-SL	1 of 1	C	10/03	Biased Toxic Module Solder Side Component Location
P-4938-A4	1 of 1	1	May 2003	Tetra Oxygen Module Certification Parts List



Number	Sheet	Issue	Date	Description
P-4939-CL	1 of 1	1	05/03	Oxygen Module Comp. Side Component Location (gives physical size of PCB)
P-4942-CL	1 of 1	1	06/03	Flammable Module Comp. Side Component Location (gives physical size of PCB)
Alternative IR module for rechargeable instruments only:				
P-5528-A4	1 of 1	1	Feb 2006	IR i-module Certification Parts List (Dynament Sensor)

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0193	25 July 2003	Initial issue of the Certificate
Baseefa03ATEX0193/1	28 Aug 2003	Changes to the Main board, Switch / Indicator board, and (Internal) Charger board, minor mechanical changes to the battery assembly and the addition of further alternative sensors on the toxic module.
Baseefa03ATEX0193/2	3 Oct 2003	The introduction of alternative battery chargers labelled with the Crowcon name and numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket. The chargers may only be used in a non hazardous area.
Baseefa03ATEX0193/3	25 Feb 2004	<ol style="list-style-type: none"> 1. Introduction of an alternative toxic sensor module with biased sensors. This can be used in any instrument. 2. Introduction of a non-rechargeable instrument which uses three size AA manganese alkaline cells. <p>The code for this apparatus is Ex II 2 G, EEx ia d IIC T3 (-20°C ≤ Ta ≤ +55°C).</p> <ol style="list-style-type: none"> 3. To permit minor amendments to the main board parts list, and to the certification labels.
Baseefa03ATEX0193/4	11 Mar 2004	Minor changes to a drawing.
Baseefa03ATEX0193/5	13 Aug 2004	A change of label material.
Baseefa03ATEX0193/6	1 Nov 2004	A change of material for the instrument case.
Baseefa03ATEX0193/7	22 Mar 2005	Minor changes to drawings.
Baseefa03ATEX0193/8	16 July 2005	Minor mechanical changes that do not affect the original intrinsic safety assessment.
Baseefa03ATEX0193/9	2 Sept 2005	The use of alternative Switch Boards containing alternative IR Transceivers. Only one Switch Board is fitted at any time and the particular one used depends on the type of Transceiver which is fitted.
Baseefa03ATEX0193/10	6 Jan 2006	The use of an alternative multi-way charger labelled TETRA MULTICHARGER.



Certificate No.	Date	Comments
Baseefa03ATEX0193/11	24 Feb 2006	<p>1. For all instruments, the use of alternative sensor modules known as flammable, oxygen or toxic i-modules in place of the original flammable, oxygen and toxic modules. Also to permit minor changes to the label drawings.</p> <p>2. For rechargeable instruments only, to permit the use of a further alternative sensor module known as IR i-module in place of the original flammable module.</p>
Baseefa03ATEX0193/12	15 Aug 2006	<p>1. For all instruments, to introduce various minor changes to drawings.</p> <p>2. For rechargeable instruments, to permit the use of alternative batteries type GP1865L220.</p>
Baseefa03ATEX0193/13	15 Sept 2006	Minor changes to drawing P-5846, and the introduction of an optional alternative CO2 chemical i-module.
Baseefa03ATEX0193/14	4 July 2007	<p>1. To permit minor changes to various drawings.</p> <p>2. To permit the chargers with specific part numbers to be replaced by any Crowcon charger with an output (U_m) of 9V.</p> <p>3. To permit the optional use of an alternative sensor, known as the Dual Toxic or COSH sensor.</p>
Baseefa03ATEX0193 Issue 15	10 September 2009	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate, confirms the current design meets the requirements of EN60079-0:2006, EN60079-1:2004, EN60079-1:2007 & EN60079-11:2007 as detailed in the schedule and records minor changes to some drawings.</p> <p>The marking is in accordance with IEC60079-0:2007.</p>
Baseefa03ATEX0193 Issue 16	2 December 2011	This issue of the certificate confirms the current design meets the requirements of EN60079-0:2009 as detailed in the schedule.
Baseefa03ATEX0193 Issue 17	9 November 2012	To permit the use of an alternative cell, Tenergy Cell Part No 30012. The Temperature class of the rechargeable version is changed to T3.
For drawings applicable to each issue, see original of that issue.		



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 – Issue 16**

4 Equipment or Protective System: **TETRA Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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, 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.

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

EN60079-0:2009 EN60079-1:2007 EN60079-11:2007

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

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

Baseefa Customer Reference No. **0249**

Project File No. **11/0701**

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.

A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

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



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Schedule

14

Certificate Number Baseefa03ATEX0193 – Issue 15

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 either type VQ500 series by E2V Technologies, to Certificate SIRA01ATEX1073U, or 4P series by City Technology to Certificate SIRA01ATEX1205U, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +55°C. These sensors are certified to EN60079-0:2009 and EN60079-1:2007.

The IR Sensor used is type MSH-P Series by Dynament to Certificate SIRA04ATEX1357U, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +60°C. This sensor is certified to EN60079-0:2009 and EN60079-1:2007.

Charging conditions:

The battery must only be recharged in a non-hazardous area, using the following chargers:

Crowcon charger with part number E01839, E01840 or E01841.

Crowcon chargers with numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket.

As an alternative to the above, chargers with specific part numbers may be replaced by any Crowcon charger with an output (U_m) of 9V.

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

Non-rechargeable instrument:

There is a non-rechargeable version of the instrument which is marked

⊕ II 2 G, Ex ia d IIC T3 Gb (-20°C ≤ Ta ≤ +55°C).

The batteries must only be changed in a non-hazardous area.

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

All drawings are common to, and held with, Certificate IECEX BAS04.0024.

New drawings submitted for this issue of certificate.

None.

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
General (Main Instrument & Chargers)				
P-4957-A4	1 of 1	16	08/09	Tetra ATEX & IECEX Instrument Certification Label (Rechargeable)
P-4967-A4	1 of 1	14	08/09	Tetra ATEX & IECEX Instrument Certification Label (Non Rechargeable)
P-4910-A1	1 of 1	6	05/09	Tetra General Assembly
P-4882-A2	1 of 1	4	05-09	Tetra Battery Charging Unit Certification Drawing
P-4941-A4	1 of 1	2	09/09	Tetra Flammable Module Certification Parts List
P-5492-A4	1 of 1	8	Aug 2009	Flammable i-Module Certification Parts List
P-4851-A1	1 of 1	3	10/04	Tetra Non-rechargeable General Assembly
P-4852-A4	1 of 1	2	01/04	Tetra Battery Label (Internal, Non Rechargeable)
P-4981-A4	1 of 1	2	11/03	Tetra Ribbon Cable Insulator
P-4901	1 & 2	2	Aug 03	Tetra Main Board (Circuit Diagram)
P-4943-A4	1 of 1	2	Dec 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-5109-A4	1 of 1	1	10/04	IEC Ex Tetra Fuse Encapsulation Details
P-4945-PCA	1 of 1	2	08/03	Main Board Component Side (Layer 1, Top) Copper
P-4945-PCB	1 of 1	2	08/03	Main Board Inner Ground (Layer 2) Copper
P-4945-PCC	1 of 1	2	08/03	Main Board Inner Tracks (Layer 3) Copper
P-4945-PCD	1 of 1	2	08/03	Main Board Solder Side (Layer 4, Bottom) Copper
P-4945-CL	1 of 1	2	08/03	Main Board Component Side (Top) Component Location
P-4945-SL	1 of 1	2	08/03	Main Board Solder Side (Bottom) Component Location
P-4948-3B	1 of 1	3	9/05	Tetra Switch Board (Zilog IRDA) PCB & Track Details
P-5130-1B	1 of 1	1	9/05	Tetra Switch Board (Vishay IRDA) PCB & Track Details
P-5132 Issue 4	1 & 2	4	16/3/06	Tetra Switch / Indicator Board Zilog IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-5137 Issue 2	1 & 2	2	31/3/06	Tetra Switch / Indicator Board Vishay IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-4998-A4	1 of 1	3	August 2006	Tetra (Internal) Charger Assembly Certification Parts List (Internal)
P-4904-CD	1 of 1	2	05-08-03	Tetra (Internal) Charger Board (Circuit)
P-4999-PCA	1 of 1	2	08/03	Tetra (Internal) Charger Board Component Side Copper



Number	Sheet	Issue	Date	Description
P-4999-PCB	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Copper
P-4999-CL	1 of 1	2	08/03	Tetra (Internal) Charger Board Comp. Side Component Location
P-4999-SL	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Component Location
Optional Sensor Modules (i-modules)				
P-5475-A3	1 to 7	3	14/9/06	Flammable i-Module Board
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 iModule 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 i-Module (Circuit Diagram)
P-5493-A4	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 Sheets 1 & 2	1 of 1	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	Dual Toxic i-Module PCB & Track Details
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
Optional Sensor Modules (Original Standard Sensor Modules)				
P-4907	1 of 1	2	08-07-03	Tetra Standard Toxic Module Sensor Cct
P-4902	1 of 1	1	24-02-03	Tetra Flammable Module Sensor Cct
P-4903	1 of 1	1	24-02-03	Tetra Oxygen Module Sensor Cct
P-4935-A4 Sheets 1 & 2	1 of 1	3	April 2004	Tetra Standard Toxic Module Certification Parts List
P-4936-CL	1 of 1	2	07/03	Standard Toxic Module Comp. Side Component Location (gives physical size of PCB)
P-4909	1 of 1	C	8-9-03	Tetra Biased Toxic Module Sensor Cct
P-4872-A4	1 of 1	D	Dec 2003	Tetra Biased Toxic Module Certification Parts List
P-4931-A4	1 of 1	1	Feb-04	Tetra Biased Toxic PCB Assy
P-4873-CL	1 of 1	C	10/03	Biased Toxic Module Comp. Side Component Location
P-4873-PCA	1 of 1	C	10/03	Biased Toxic Module Component Side Copper
P-4873-PCB	1 of 1	C	10/03	Biased Toxic Module Gnd (Layer 2) Copper
P-4873-PCC	1 of 1	C	10/03	Biased Toxic Module 5VAn (Layer 3) Copper
P-4873-PCD	1 of 1	C	10/03	Biased Toxic Module Solder Side Copper
P-4873-SL	1 of 1	C	10/03	Biased Toxic Module Solder Side Component Location
P-4938-A4	1 of 1	1	May 2003	Tetra Oxygen Module Certification Parts List
P-4939-CL	1 of 1	1	05/03	Oxygen Module Comp. Side Component Location (gives physical size of PCB)



Number	Sheet	Issue	Date	Description
P-4942-CL	1 of 1	1	06/03	Flammable Module Comp. Side Component Location (gives physical size of PCB)
Alternative IR module for rechargeable instruments only:				
P-5528-A4	1 of 1	1	Feb 2006	IR i-module Certification Parts List (Dynamant Sensor)

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0193	25 July 2003	Initial issue of the Certificate
Baseefa03ATEX0193/1	28 Aug 2003	Changes to the Main board, Switch / Indicator board, and (Internal) Charger board, minor mechanical changes to the battery assembly and the addition of further alternative sensors on the toxic module.
Baseefa03ATEX0193/2	3 Oct 2003	The introduction of alternative battery chargers labelled with the Crowcon name and numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket. The chargers may only be used in a non hazardous area.
Baseefa03ATEX0193/3	25 Feb 2004	<p>1. Introduction of an alternative toxic sensor module with biased sensors. This can be used in any instrument.</p> <p>2. Introduction of a non-rechargeable instrument which uses three size AA manganese alkaline cells.</p> <p>The code for this apparatus is Ex II 2 G, EEx ia d IIC T3 (-20°C ≤ Ta ≤ +55°C).</p> <p>3. To permit minor amendments to the main board parts list, and to the certification labels.</p>
Baseefa03ATEX0193/4	11 Mar 2004	Minor changes to a drawing.
Baseefa03ATEX0193/5	13 Aug 2004	A change of label material.
Baseefa03ATEX0193/6	1 Nov 2004	A change of material for the instrument case.
Baseefa03ATEX0193/7	22 Mar 2005	Minor changes to drawings.
Baseefa03ATEX0193/8	16 July 2005	Minor mechanical changes that do not affect the original intrinsic safety assessment.
Baseefa03ATEX0193/9	2 Sept 2005	The use of alternative Switch Boards containing alternative IR Transceivers. Only one Switch Board is fitted at any time and the particular one used depends on the type of Transceiver which is fitted.
Baseefa03ATEX0193/10	6 Jan 2006	The use of an alternative multi-way charger labelled TETRA MULTICHARGER.



Certificate No.	Date	Comments
Baseefa03ATEX0193/11	24 Feb 2006	<ol style="list-style-type: none"> For all instruments, the use of alternative sensor modules known as flammable, oxygen or toxic i-modules in place of the original flammable, oxygen and toxic modules. Also to permit minor changes to the label drawings. For rechargeable instruments only, to permit the use of a further alternative sensor module known as IR i-module in place of the original flammable module.
Baseefa03ATEX0193/12	15 Aug 2006	<ol style="list-style-type: none"> For all instruments, to introduce various minor changes to drawings. For rechargeable instruments, to permit the use of alternative batteries type GP1865L220.
Baseefa03ATEX0193/13	15 Sept 2006	Minor changes to drawing P-5846, and the introduction of an optional alternative CO2 chemical i-module.
Baseefa03ATEX0193/14	4 July 2007	<ol style="list-style-type: none"> To permit minor changes to various drawings. To permit the chargers with specific part numbers to be replaced by any Crowcon charger with an output (U_m) of 9V. To permit the optional use of an alternative sensor, known as the Dual Toxic or COSH sensor.
Baseefa03ATEX0193 Issue 15	10 September 2009	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate, confirms the current design meets the requirements of EN60079-0:2006, EN60079-1:2004, EN60079-1:2007 & EN60079-11:2007 as detailed in the schedule and records minor changes to some drawings.</p> <p>The marking is in accordance with IEC60079-0:2007.</p>
Baseefa03ATEX0193 Issue 16	2 December 2011	This issue of the certificate confirms the current design meets the requirements of EN60079-0:2009 as detailed in the schedule.
For drawings applicable to each issue, see original of that issue.		



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 – Issue 15**

4 Equipment or Protective System: **TETRA Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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, 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. GB/BAS/ExTR09.0167/00

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

EN60079-0:2006 EN60079-1:2004 EN60079-1:2007 EN60079-11:2007

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

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

Baseefa Customer Reference No. **0249**

Project File No. **09/0520**

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

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa03ATEX0193 – Issue 15

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 either type VQ500 series by E2V Technologies, to Certificate SIRA01ATEX1073U, or 4P series by City Technology to Certificate SIRA01ATEX1205X, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +55°C. These sensors are certified to EN60079-0:2006 and EN60079-1:2007.

The IR Sensor used is type MSH-P Series by Dynament to Certificate SIRA04ATEX1357U, with a Code of Ex d IIC Gb and a maximum permitted ambient temperature of +60°C. This sensor is certified to EN60079-0:2006, EN60079-1:2004 and EN60079-11:2007.

Charging conditions:

The battery must only be recharged in a non-hazardous area, using the following chargers:

Crowcon charger with part number E01839, E01840 or E01841.

Crowcon chargers with numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket.

As an alternative to the above, chargers with specific part numbers may be replaced by any Crowcon charger with an output (U_m) of 9V.

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

Non-rechargeable instrument:

There is a non-rechargeable version of the instrument which is marked

Ⓔ II 2 G, Ex ia d IIC T3 Gb (-20°C ≤ Ta ≤ +55°C).

The batteries must only be changed in a non-hazardous area.

16 Report Number

GB/BAS/ExTR09.0167/00

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

All drawings are common to, and held with, Certificate IECEX BAS04.0024.

New drawings submitted for this issue of certificate.

Number	Sheet	Issue	Date	Description
P-4957-A4	1 of 1	16	08/09	Tetra ATEX & IECEX Instrument Certification Label (Rechargeable)
P-4967-A4	1 of 1	14	08/09	Tetra ATEX & IECEX Instrument Certification Label (Non Rechargeable)
P-4910-A1	1 of 1	6	05/09	Tetra General Assembly
P-4882-A2	1 of 1	4	05-09	Tetra Battery Charging Unit Certification Drawing
P-4941-A4	1 of 1	2	09/09	Tetra Flammable Module Certification Parts List
P-5492-A4	1 of 1	8	Aug 2009	Flammable i-Module Certification Parts List

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
General (Main Instrument & Chargers)				
P-4851-A1	1 of 1	3	10/04	Tetra Non-rechargeable General Assembly
P-4852-A4	1 of 1	2	01/04	Tetra Battery Label (Internal, Non Rechargeable)
P-4981-A4	1 of 1	2	11/03	Tetra Ribbon Cable Insulator
P-4901	1 & 2	2	Aug 03	Tetra Main Board (Circuit Diagram)
P-4943-A4	1 of 1	2	Dec 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-5109-A4	1 of 1	1	10/04	IEC Ex Tetra Fuse Encapsulation Details
P-4945-PCA	1 of 1	2	08/03	Main Board Component Side (Layer 1, Top) Copper
P-4945-PCB	1 of 1	2	08/03	Main Board Inner Ground (Layer 2) Copper
P-4945-PCC	1 of 1	2	08/03	Main Board Inner Tracks (Layer 3) Copper
P-4945-PCD	1 of 1	2	08/03	Main Board Solder Side (Layer 4, Bottom) Copper
P-4945-CL	1 of 1	2	08/03	Main Board Component Side (Top) Component Location
P-4945-SL	1 of 1	2	08/03	Main Board Solder Side (Bottom) Component Location
P-4948-3B	1 of 1	3	9/05	Tetra Switch Board (Zilog IRDA) PCB & Track Details
P-5130-1B	1 of 1	1	9/05	Tetra Switch Board (Vishay IRDA) PCB & Track Details
P-5132 Issue 4	1 & 2	4	16/3/06	Tetra Switch / Indicator Board Zilog IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-5137 Issue 2	1 & 2	2	31/3/06	Tetra Switch / Indicator Board Vishay IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-4998-A4	1 of 1	3	August 2006	Tetra (Internal) Charger Assembly Certification Parts List (Internal)
P-4904-CD	1 of 1	2	05-08-03	Tetra (Internal) Charger Board (Circuit)



Number	Sheet	Issue	Date	Description
P-4999-PCA	1 of 1	2	08/03	Tetra (Internal) Charger Board Component Side Copper
P-4999-PCB	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Copper
P-4999-CL	1 of 1	2	08/03	Tetra (Internal) Charger Board Comp. Side Component Location
P-4999-SL	1 of 1	2	08/03	Tetra (Internal) Charger Board Solder Side Component Location
Optional Sensor Modules (i-modules)				
P-5475-A3	1 to 7	3	14/9/06	Flammable i-Module Board
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 iModule 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 i-Module (Circuit Diagram)
P-5493-A4	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 Sheets 1 & 2	1 of 1	2	22.9.2006	Dual Toxic i-Module Certification Parts List
P-5526-A3	1 of 1	1	10/05	Dual Toxic i-Module PCB & Track Details
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
Optional Sensor Modules (Original Standard Sensor Modules)				
P-4907	1 of 1	2	08-07-03	Tetra Standard Toxic Module Sensor Cct
P-4902	1 of 1	1	24-02-03	Tetra Flammable Module Sensor Cct
P-4903	1 of 1	1	24-02-03	Tetra Oxygen Module Sensor Cct
P-4935-A4 Sheets 1 & 2	1 of 1	3	April 2004	Tetra Standard Toxic Module Certification Parts List
P-4936-CL	1 of 1	2	07/03	Standard Toxic Module Comp. Side Component Location (gives physical size of PCB)
P-4909	1 of 1	C	8-9-03	Tetra Biased Toxic Module Sensor Cct
P-4872-A4	1 of 1	D	Dec 2003	Tetra Biased Toxic Module Certification Parts List
P-4931-A4	1 of 1	1	Feb-04	Tetra Biased Toxic PCB Assy
P-4873-CL	1 of 1	C	10/03	Biased Toxic Module Comp. Side Component Location
P-4873-PCA	1 of 1	C	10/03	Biased Toxic Module Component Side Copper
P-4873-PCB	1 of 1	C	10/03	Biased Toxic Module Gnd (Layer 2) Copper
P-4873-PCC	1 of 1	C	10/03	Biased Toxic Module 5VAn (Layer 3) Copper
P-4873-PCD	1 of 1	C	10/03	Biased Toxic Module Solder Side Copper
P-4873-SL	1 of 1	C	10/03	Biased Toxic Module Solder Side Component Location
P-4938-A4	1 of 1	1	May 2003	Tetra Oxygen Module Certification Parts List



Number	Sheet	Issue	Date	Description
P-4939-CL	1 of 1	1	05/03	Oxygen Module Comp. Side Component Location (gives physical size of PCB)
P-4942-CL	1 of 1	1	06/03	Flammable Module Comp. Side Component Location (gives physical size of PCB)
Alternative IR module for rechargeable instruments only:				
P-5528-A4	1 of 1	1	Feb 2006	IR i-module Certification Parts List (Dynament Sensor)

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0193	25 July 2003	Initial issue of the Certificate
Baseefa03ATEX0193/1	28 Aug 2003	Changes to the Main board, Switch / Indicator board, and (Internal) Charger board, minor mechanical changes to the battery assembly and the addition of further alternative sensors on the toxic module.
Baseefa03ATEX0193/2	3 Oct 2003	The introduction of alternative battery chargers labelled with the Crowcon name and numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket. The chargers may only be used in a non hazardous area.
Baseefa03ATEX0193/3	25 Feb 2004	<p>1. Introduction of an alternative toxic sensor module with biased sensors. This can be used in any instrument.</p> <p>2. Introduction of a non-rechargeable instrument which uses three size AA manganese alkaline cells.</p> <p>The code for this apparatus is Ex II 2 G, EEx ia d IIC T3 (-20°C ≤ Ta ≤ +55°C).</p> <p>3. To permit minor amendments to the main board parts list, and to the certification labels.</p>
Baseefa03ATEX0193/4	11 Mar 2004	Minor changes to a drawing.
Baseefa03ATEX0193/5	13 Aug 2004	A change of label material.
Baseefa03ATEX0193/6	1 Nov 2004	A change of material for the instrument case.
Baseefa03ATEX0193/7	22 Mar 2005	Minor changes to drawings.
Baseefa03ATEX0193/8	16 July 2005	Minor mechanical changes that do not affect the original intrinsic safety assessment.
Baseefa03ATEX0193/9	2 Sept 2005	The use of alternative Switch Boards containing alternative IR Transceivers. Only one Switch Board is fitted at any time and the particular one used depends on the type of Transceiver which is fitted.
Baseefa03ATEX0193/10	6 Jan 2006	The use of an alternative multi-way charger labelled TETRA MULTICHARGER.



Certificate No.	Date	Comments
Baseefa03ATEX0193/11	24 Feb 2006	<ol style="list-style-type: none"> For all instruments, the use of alternative sensor modules known as flammable, oxygen or toxic i-modules in place of the original flammable, oxygen and toxic modules. Also to permit minor changes to the label drawings. For rechargeable instruments only, to permit the use of a further alternative sensor module known as IR i-module in place of the original flammable module.
Baseefa03ATEX0193/12	15 Aug 2006	<ol style="list-style-type: none"> For all instruments, to introduce various minor changes to drawings. For rechargeable instruments, to permit the use of alternative batteries type GP1865L220.
Baseefa03ATEX0193/13	15 Sept 2006	Minor changes to drawing P-5846, and the introduction of an optional alternative CO2 chemical i-module.
Baseefa03ATEX0193/14	4 July 2007	<ol style="list-style-type: none"> To permit minor changes to various drawings. To permit the chargers with specific part numbers to be replaced by any Crowcon charger with an output (U_m) of 9V. To permit the optional use of an alternative sensor, known as the Dual Toxic or COSH sensor.
Baseefa03ATEX0193 Issue 15	10 September 2009	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate, confirms the current design meets the requirements of EN60079-0:2006, EN60079-1:2004, EN60079-1:2007 & EN60079-11:2007 as detailed in the schedule and records minor changes to some drawings.</p> <p>The marking is in accordance with IEC60079-0:2007.</p>
For drawings applicable to each issue, see original of that issue.		



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: **Baseefa03ATEX0193/14**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0193 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. 06/0781

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.

A handwritten signature in black ink, appearing to read "R S Sinclair".

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



Schedule

14 Certificate Number Baseefa03ATEX0193/14

15 Description of the variation to the Equipment or Protective System

Variation 14.1

To permit minor changes to various drawings.

Variation 14.2

To permit the chargers with specific part numbers to be replaced by any Crowcon charger with an output (U_m) of 9V.

Variation 14.3

To permit the optional use of an alternative sensor, known as the Dual Toxic or COSH sensor.

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-4957-A4	14	02/07	Tetra ATEX & IECEx Instrument Label (Rechargeable)
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-5486 issue 4	4	22-9-06	Flammable i-Module Tetra, Tetra 3, Gasman
P-5492-A4	6	Sept 2006	Flammable i-Module Certification Parts List
P-5475 issue 3 Sheets 1 to 7	3	14/9/06	Flammable i-Module Board
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
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
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-4882-A2	3	09-03	Tetra Battery Charging Unit Certification Drawing

All the above drawings are common to and held with Certificate IECEx BAS 04.0024/6 (report GB/BAS/ExTR06.0177/00).



Drawings and Documents showing the current build options for this apparatus

Number	Issue	Date	Description
P-4957-A4	14	02/07	Tetra ATEX & IECEx Instrument Certification Label (Rechargeable)
P-4910-A1	5	10/04	Tetra General Assembly
P-4967-A4	13	06/06	Tetra ATEX & IECEx Instrument Certification Label (Non Rechargeable)
P-4851-A1	3	10/04	Tetra Non-rechargeable General Assembly
P-4852-A4	2	01/04	Tetra Battery Label (Internal, Non Rechargeable)
P-4981-A4	2	11/03	Tetra Ribbon Cable Insulator
P-4901	2	Aug 03	Tetra Main Board (Circuit Diagram)
Sheets 1 & 2			
P-4943-A4	2	Dec 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-5109-A4	1	10/04	IEC Ex Tetra Fuse Encapsulation Details
P-4945-PCA	2	08/03	Main Board Component Side (Layer 1,Top) Copper
P-4945-PCB	2	08/03	Main Board Inner Ground (Layer 2) Copper
P-4945-PCC	2	08/03	Main Board Inner Tracks (Layer 3) Copper
P-4945-PCD	2	08/03	Main Board Solder Side (Layer 4, Bottom) Copper
P-4945-CL	2	08/03	Main Board Component Side (Top) Component Location
P-4945-SL	2	08/03	Main Board Solder Side (Bottom) Component Location
P-4948-3B	3	9/05	Tetra Switch Board (Zilog IRDA) PCB & Track Details
P-5130-1B	1	9/05	Tetra Switch Board (Vishay IRDA) PCB & Track Details
P-5132 Issue 4	4	16/3/06	Tetra Switch / Indicator Board Zilog IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
Sheets 1 & 2			
P-5137 Issue 2	2	31/3/06	Tetra Switch / Indicator Board Vishay IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
Sheets 1 & 2			
P-5486 issue 4	4	22-9-06	Tetra / Gasman Flammable iModule
P-5492-A4	6	Sept 2006	Flammable i-Module Certification Parts List
P-5475-A3	3	14/9/06	Flammable i-Module Board
Sheets 1 to 7			
P-5490 issue 3	3	13/9/06	Tetra / Gasman 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	Tetra/Gasman Toxic I-Module (Circuit Diagram)
P-5493-A4	7	Jan 2007	Toxic i-Module Certification Parts List
Sheets 1 & 2			
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	2	22.9.2006	Dual Toxic i-Module Certification Parts List
Sheets 1 & 2			
P-5526-A3	1	10/05	Dual Toxic i-Module PCB & Track Details
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-4882-A2	3	09-03	Tetra Battery Charging Unit Certification Drawing
P-4998-A4	3	August 2006	Tetra (Internal) Charger Assembly Certification Parts List (Internal)
P-4904-CD	2	05-08-03	Tetra (Internal) Charger Board (Circuit)
P-4999-PCA	2	08/03	Tetra (Internal) Charger Board Component Side Copper
P-4999-PCB	2	08/03	Tetra (Internal) Charger Board Solder Side Copper
P-4999-CL	2	08/03	Tetra (Internal) Charger Board Comp. Side Component Location
P-4999-SL	2	08/03	Tetra (Internal) Charger Board Solder Side Component Location
Alternative IR module for rechargeable instruments only:			
P-5528-A4	1	Feb 2006	IR i-module Certification Parts List (Dynamment Sensor)



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: **Baseefa03ATEX0193/13**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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. 06/0673

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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Baseefa is a trading name of Baseefa (2001) Ltd
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A handwritten signature in black ink, appearing to read "R/S Sinclair".
R/S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa03ATEX0193/13

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

Variation 13.1

To permit minor changes to drawing P-5846, and to introduce 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
P-5486 issue 3	3	10-11-05	Tetra / Gasman Flammable i-module
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

All the above drawings are common to and held with Certificate IECEX BAS 04.0024 (report GB/BAS/ExTR06.0104/00).



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: **Baseefa03ATEX0193/12**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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. 06/0479

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

A handwritten signature in black ink, appearing to read "R S Sinclair".

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



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: Baseefa03ATEX0193/11**

4 **Equipment or Protective System: Tetra Gas Detector**

5 **Manufacturer: Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0193 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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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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14

Certificate Number Baseefa03ATEX0193/12

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

Variation 12.1

For all instruments, to permit various minor changes to drawings.

Variation 12.2

For rechargeable instruments, to permit the use of alternative batteries type GP1865L220.

16 **Report Number**

06(C)0479

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-4998-A4	3	August 2006	Tetra (Internal) Charger Assembly Certification Parts List
P-5132 Issue 4 Sheets 1 & 2	4	16/3/06	Tetra Switch / Indicator Board Zilog IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-5137 Issue 2 Sheets 1 & 2	2	31/3/06	Tetra Switch / Indicator Board Vishay IRDA Transceiver Build (Circuit Diagram & Certification Parts List)
P-5493-A4 Sheets 1 & 2	5	Apr 2006	Toxic i-Module Certification Parts List
P-4957-A4	13	06/06	Tetra ATEX & IECEX Instrument Certification Label (Rechargeable)
P-4967-A4	13	06/06	Tetra ATEX & IECEX Instrument Certification Label (Non Rechargeable)

All the above drawings are common to, and held with, report GB/BAS/ExTR06.0085/00 (Certificate IECEX BAS 04.0024).



13

Schedule

14

Certificate Number Baseefa03ATEX0193/11

15 Description of the variation to the Equipment or Protective System

Variation11.1

For all instruments, to permit the use of alternative sensor modules known as flammable, oxygen or toxic i-modules in place of the original flammable, oxygen and toxic modules. Also to permit minor changes to the label drawings.

Variation11.2

For rechargeable instruments only, to permit the use of a further alternative sensor module known as IR i-module in place of the original flammable module.

16 Report Number

05(C)0256/2

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
Alternative modules and label material change for all instruments:			
P-4957-A4	10	08/05	Tetra Instrument Certification Label (Rechargeable)
P-4967-A4	10	08/05	Tetra Instrument Certification Label (Non Rechargeable)
P-5486 issue 3 Sheet 1 of 2	3	10-11-05	Flammable iModule (Circuit Diagram including C and L)
P-5492-A4	5	Feb 2006	Flammable i-Module Certification Parts List
P-5475-A3	2	06 / 05	Flam i-Module PCB & Track Details (used only for general physical size of module)
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 Sheet 1 of 3	2	15/6/05	Tetra/Gasman Toxic iModule (Circuit Diagram including C and L)
P-5493-A4 Sheets 1 & 2	4	Nov 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)

Certificate Number
Baseefa03ATEX0193/11



Issued 24 February 2006
Page 3 of 3

Number	Issue	Date	Description
Alternative IR module for rechargeable instruments only:			
P-5528-A4	1	Feb 2006	IR i-module Certification Parts List (Dynamant Sensor)

All the above drawings are common to report UK/BAS/05/0256/2 (Certificate IECEx BAS 05.0037).

Certificate Number
Baseefa03ATEX0193/10



Issued 6 January 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: **Baseefa03ATEX0193/10**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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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Project File No. 05/0685

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



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14

Certificate Number Baseefa03ATEX0193/10

15 Description of the variation to the Equipment or Protective System

Variation 10.1

To permit the use of an alternative multi-way charger labelled TETRA MULTICHARGER.

16 Report Number

05(C)0685

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
P5108	1	3	08-09-05
P-5131-A2	1	1	12/05
P-5122-A2	1	C	01/05
P-5120-A3	1	A	11/04

All the above drawings are common to UK/BAS/05/0685 (IECEX BAS 05.0037).

Certificate Number
Baseefa03ATEX0193/9



Issued 2 September 2005
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: **Baseefa03ATEX0193/9**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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. 05/0555

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Baseefa (2001) Ltd.



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Certificate Number Baseefa03ATEX0193/9

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

Variation 9.1

To permit the use of alternative Switch Boards containing alternative IR Transceivers. Only one Switch Board is fitted at any time and the particular one used depends on the type of Transceiver which is fitted.

16 **Report Number**

05(C)0555

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-4905 Issue 3	3	1/2/05	Tetra Switch Board Switch/Indicator Cct (Zilog)
P-4947-A4	4	10 May 2005	Tetra Switch Board Certification Parts List (Zilog)
P-4948-3B	3	9/05	Tetra Switch Board (Zilog IRDA) PCB & Track Details
P-5127-CD	1	11/8/05	Tetra Switch Board Switch/Indicator Cct (Vishay)
P-5129-A4	1	19 Aug 2005	Tetra Switch Board Certification Parts List (Vishay)
P-5130-1B	1	9/05	Tetra Switch Board (Vishay IRDA) PCB & Track Details

Note

1. Drawings P4948-3B and P-5130-1B are alternatives to P-4948-PCA, P-4948-PCB, P-4948-CL and P-4948-SL shown in the original Certificate.
2. All the above drawings are common to UK/BAS/05/0555

Certificate Number
Baseefa03ATEX0193/8



Issued 16th July 2005
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: **Baseefa03ATEX0193/8**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Limited**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0193 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. 05/0407

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On behalf of
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14

Certificate Number Baseefa03ATEX0193/8

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

Variation 8.1

To permit minor mechanical changes that does not affect the original intrinsic safety assessment.

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	Sheet	Issue	Date	Description
P-5109-A4	1 of 1	1	10/04	IEC Ex Tetra Fuse Encapsulation Details



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: **Baseefa03ATEX0193/7**
4 Equipment or Protective System: **Tetra Gas Detector**
5 Manufacturer: **Crowcon Detection Instruments Ltd**
6 Address: **Abingdon, Oxon, OX14 1DY**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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. 05/0012

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Certificate Number Baseefa03ATEX0193/7

15 Description of the variation to the Equipment or Protective System

Variation 7.1

To permit minor changes to drawings.

16 Report Number

None

17 Special Conditions for Safe Use

None additional to those listed previously

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
P-4935-A4	1 to 3	3	April 2004	Tetra Standard Toxic Module Certification Parts List
P-4947-A4	1 of 1	3	April 2004	Tetra Switch Board Certification Parts List
P-4957-A4	1 of 1	9	12/04	Tetra Instrument Certification Label (Rechargeable)
P-4967-A4	1 of 1	9	12/04	Tetra Instrument Certification Label (Non-Rechargeable)
P-4981-A4	1 of 1	2	11/03	Tetra Ribbon Cable Insulator



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: **Baseefa03ATEX0193/6**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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. 04/0764

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Certificate Number Baseefa03ATEX0193/6

15 Description of the variation to the Equipment or Protective System

Variation 6.1

To permit a change of material for the instrument case.

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-4851-A1	3	10/04	Tetra non-rechargeable General Assembly
P-4910-A1	5	10/04	Tetra General Assembly



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: **Baseefa03ATEX0193/5**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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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A handwritten signature in black ink, appearing to read "R S Sinclair".

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On behalf of
Baseefa (2001) Ltd.



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Certificate Number Baseefa03ATEX0193/5

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

Variation 5.1

To permit a change of label material.

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-4957-A4	8	07/04	Tetra Instrument Certification Label (Rechargeable)
P-4967-A4	8	07/04	Tetra Instrument Certification Label (Non Rechargeable)



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: **Baseefa03ATEX0193/4**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

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

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa03ATEX0193 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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Project File No. 04/0201

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A handwritten signature in dark ink, appearing to read "R S Sinclair".
R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



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Schedule

14

Certificate Number Baseefa03ATEX0193/4

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

Variation 4.1

To permit minor changes to a drawing.

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-4852-A4	2	01/04	Tetra Battery Label (Internal, Non Rechargeable)

Certificate Number
Baseefa03ATEX0193/3



Issued 25 February 2004
Page 1 of 3

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: **Baseefa03ATEX0193/3**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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 (2001) Ltd. Customer Reference No. 0249

Project File No. 03/0529

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M.R. CORFIELD

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



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14

Certificate Number Baseefa03ATEX0193/3

15 Description of the variation to the Equipment or Protective System

Variation 3.1

To permit the use of an alternative toxic sensor module with biased sensors. This can be used in any instrument.

Variation 3.2

To permit the introduction of a non-rechargeable instrument which uses three size AA manganese alkaline cells.

The code for this apparatus is Ex II 2 G, EEx ia d IIC T3(-20°C<Ta<+55°C).

Variation 3.3

To permit minor amendments to the main board parts list, and to the certification labels.

16 Report Number

03(C)0529/2

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-4957-A4	7	01/04	Tetra Instrument Certification Label (Rechargeable)
P-4967-A4	7	01/04	Tetra Instrument Certification Label (Non Rechargeable)
P-4851-A1	2	02/04	Tetra Non-rechargeable General Assembly
P-4852-A4	1	09/03	Tetra Battery Label (Internal, Non Rechargeable)
P-4943-A4	2	Dec 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-4909	C	8-9-03	Tetra Biased Toxic Module Sensor Cct
P-4872-A4	D	Dec 2003	Tetra Biased Toxic Module Certification Parts List
P-4931-A4	1	Feb-04	Tetra Biased Toxic PCB Assy
P-4873-CL	C	10/03	Biased Toxic Module Comp. Side Component Location
P-4873-PCA	C	10/03	Biased Toxic Module Component Side Copper
P-4873-PCB	C	10/03	Biased Toxic Module Gnd (Layer 2) Copper
P-4873-PCC	C	10/03	Biased Toxic Module 5Van (Layer 3) Copper

Certificate Number
Baseefa03ATEX0193/3



Issued 25 February 2004
Page 3 of 3

Number	Issue	Date	Description
P-4873-PCD	C	10/03	Biased Toxic Module Solder Side Copper
P-4873-SL	C	10/03	Biased Toxic Module Solder Side Component Location



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: **Baseefa03ATEX0193/2**

4 Equipment or Protective System: **Tetra Gas Detector**

5 Manufacturer: **Crowcon Detection Instruments Ltd**

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

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A handwritten signature in black ink, appearing to read "R S Sinclair".

R S SINCLAIR
DIRECTOR
On behalf of

Baseefa (2001) Ltd.



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Certificate Number Baseefa03ATEX0193/2

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

Variation 2.1

To permit the use of alternative battery chargers labelled with the Crowcon name and numbers 955160, 955161, 955185, 955218, 955219, 955224 or 955221. These alternatives cover a range of input connectors and ac inputs between 90V and 230V, and a version for connection to a vehicle accessory (cigar lighter) socket. The chargers may only be used in a non hazardous area.

16 **Report Number**

03(C)0529/1

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-4995-A4 Sheets 1 & 2	2	Sept 2003	Tetra External PSU Certification Parts List (for mains versions of chargers)
P-4862-PCB	1	09/03	Manby Park IEC Charger (115/230V), Solder Side Copper
P-4862-CL	1	09/03	Manby Park IEC Charger (115/230V), Comp. Side Component Location
P-4858-PCB	1	10/03	Manby Park IEC Charger (Universal Input), Solder Side Copper
P-4858-CL	1	10/03	Manby Park IEC Charger (Universal Input), Comp. Side Component Location
P-4879-A4 Sheets 1 to 3	2	Oct 2003	Tetra External Power Supply General Assembly
P-4867-CD	A	07/08/03	Vehicle Charger (Circuit Diagram)
P-4868-A4	1	August 2003	Tetra Vehicle Charger External PSU Certification Parts List
P-4869-PCB	1	10/03	Manby Park Vehicle Charger, Solder Side Copper
P-4869-CL	1	10/03	Manby Park Vehicle Charger, Comp. Side Component Location

Certificate Number
Baseefa03ATEX0193/1



Issued 28 August 2003
Page 1 of 3

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: **Baseefa03ATEX0193/1**

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

5 Manufacturer: **CROWCON DETECTION INSTRUMENTS LTD**

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

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa03ATEX0193 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 (2001) Ltd. Customer Reference No. 0249

Project File No. 03/0529

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



13

Schedule

14

Certificate Number Baseefa03ATEX0193/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit changes to the Main board, Switch / Indicator board, and (Internal) Charger board, minor mechanical changes to the battery assembly and the addition of further alternative sensors on the toxic module. With the introduction of these changes, drawings P-4991-A3, P-4899-A2, P-4878 and P-4992-A4 become obsolete.

16 Report Number

03(C)0529

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-4910-A1	4	08/03	Tetra General Assembly. (Rechargeable Version)
P-4882-A2	2	08-03	Tetra Battery Charging Unit Certification Drawing
P-4901 Sheets 1 & 2	2	Aug 03	Tetra Main Board (Circuit Diagram)
P-4943-A4 Sheets 1 & 2	1	August 2003	Tetra Main Board (Issue 2 PCB) Certification Parts List
P-4945-PCA	2	08/03	Main Board Component Side (Layer 1,Top) Copper
P-4945-PCB	2	08/03	Main Board Inner Ground (Layer 2) Copper
P-4945-PCC	2	08/03	Main Board Inner Tracks (Layer 3) Copper
P-4945-PCD	2	08/03	Main Board Solder Side (Layer 4, Bottom) Copper
P-4945-CL	2	08/03	Main Board Component Side (Top) Component Location
P-4945-SL	2	08/03	Main Board Solder Side (Bottom) Component Location
P-4905-CD	2	22/08/03	Tetra Switch Board Switch/Indicator Cct
P-4947-A4	2	August 2003	Tetra Switch Board Certification Parts List
P-4948-PCA	2	08/03	Switch Module Component Side Copper
P-4948-PCB	2	08/03	Switch Module Solder Side Copper
P-4948-CL	2	08/03	Switch Module Comp. Side Component Location
P-4948-SL	2	08/03	Switch Module Solder Side Component Location



Number	Issue	Date	Description
P-4935-A4 Sheets 1 & 2	2	August 2003	Tetra Standard Toxic Module Certification Parts List
P-4904-CD	2	05-08-03	Tetra (Internal) Charger Board (Circuit)
P-4999-PCA	2	08/03	Tetra (Internal) Charger Board Component Side Copper
P-4999-PCB	2	08/03	Tetra (Internal) Charger Board Solder Side Copper
P-4999-CL	2	08/03	Tetra (Internal) Charger Board Comp. Side Component Location
P-4999-SL	2	08/03	Tetra (Internal) Charger Board Solder Side Component Location



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 :

(Ex) 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.

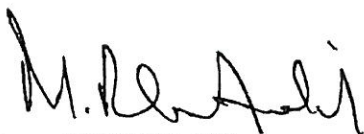
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DIRECTOR
On behalf of
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13

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 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 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 Sheets 1 & 2	1	May 2003	Tetra External Power Supply General Assembly

