

1 **EC - TYPE EXAMINATION CERTIFICATE**

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

4 EC - Type Examination Certificate Number: **BAS01ATEX1421X – Issue 2**

5 Equipment or Protective System: **Oxygen Probe Types TOP2 and TOP4**

6 Manufacturer: **Teledyne Analytical Instruments**

7 Address: **16830 Chestnut Street, City of Industry, California 91748 – 1017, USA**

8 This re-issued certificate extends EC – Type Examination Certificate No. BAS01ATEX1421X 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

9 The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1180, is responsible only for the additional work relating to this re-issued certificate and any other supplementary certificate it has issued.

The examination and test results are recorded in confidential Report No's, 13(C)0550

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

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

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

11 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.

12 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.

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

Ex II IG Ex ia IIC T6 Ga (-20°C ≤ Ta ≤ +40°C)

Baseefa Customer Reference No. 1081

Project File No. 13/0550

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SGS Baseefa Limited

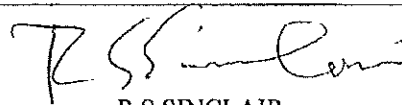
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R S SINCLAIR
GENERAL MANAGER
On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number BAS01ATEX1421X – Issue 2

15 Description of Equipment or Protective System

The TOP2 and TOP4 Oxygen Probes are designed to monitor the percentage of oxygen concentration in the range 0 to 21% v/v in air and other atmospheres.

The Oxygen Probe consists of an electrolytic fuel cell and an encapsulated thermistor assembly, housed in a cylindrical enclosure made of brass, stainless steel or plastic. The plastic enclosure is a possible electrostatic risk and carries an appropriate warning label.

Electrical connections are made via a 2 core (type TOP2) or a 4 core (Type TOP4) cable of length not exceeding 2 metre.

The Oxygen Probe Type TOP4 may be modified to use a sensor adaptor as an alternative method of connecting the cable to the cell assembly. This version of the Oxygen Probe is known as the Type TOP4L.

$$P_i = 2.8W$$

$$C_i = 0$$

$$L_i = 0$$

16 Report Number

13(C)0550

17 Specific Conditions of Use

1. The versions which use a plastic enclosure with exposed metal parts, may present an electrostatic risk; therefore the apparatus must not be installed in a position where it may be subjected to an excessive air/fluid flow that may cause an electrostatic build-up. A suitable warning is included on the certification label.

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

New drawings submitted for this issue of certificate.

Number	Sheet	Issue	Date	Description
A-37916A	1 of 1	9	10/29/13	Label Detail (ATEX) T.S. Oxygen Probe – TOP 2
A-37916B	1 of 1	9	10/29/13	Label Detail (ATEX) T.S. Oxygen Probe – TOP 4
B-37917	1 of 1	3	11/12/13	Oxygen Probe Type TOP 2
B-37918	1 of 1	5	11/12/13	Oxygen Probe Type TOP 4
C-66354	1 of 1	1	11/12/13	TOP 4L Trace Oxygen Probe Final Assembly
A-67872	1 of 1	3	10/29/13	Label Detail (ATEX) I.S. Oxygen Probe – TOP 4L
A-90882	1 of 1	0	07.10.13	Class INSTA-TRACE Micro Fuel Cell
A-90883	1 of 1	0	07.10.13	Class B2C-XL Micro Fuel Cell
A-90884	1 of 1	0	07.10.13	Class A2C Micro Fuel Cell
A-90885	1 of 1	0	07.10.13	Class INSTA-TRACE XL Micro Fuel Cell
A-90886	1 of 1	0	07.10.13	Class A2CXL INSTA-TRACE Micro Fuel Cell
A-90887	1 of 1	0	07.10.13	Class A2C INSTA-TRACE Micro Fuel Cell
A-90901	1 of 1	0	07.10.13	Class A2C-XL Micro Fuel Cell

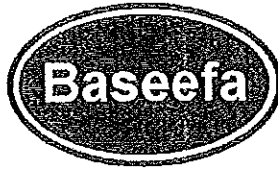
Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
A-13882	1 of 1	2	10.21.81	Class B-3 Micro-Fuel Cell (was A4-5538)
A-27430	1 of 1	2	10.21.81	Class B-1 Micro-Fuel Cell (was A4-5541)
A-27471	1 of 1	1	10.21.81	Class A-1 Micro-Fuel Cell (A4-5534)
A-27474	1 of 1	1	10.21.81	Class A-3X Micro-Fuel Cell (A4-5535)
A-27475	1 of 1	1	10.21.81	Class B-2 Micro-Fuel Cell (A4-5540)
A-27476	1 of 1	1	10.21.81	Class C-2 Micro-Fuel Cell (was A4-5537)
A-27477	1 of 1	1	10.21.81	Class B-4 Micro-Fuel Cell (A4-5539)
A-27478	1 of 1	1	10.21.81	Class C-1 Micro-Fuel Cell (was A4-5536)
A-27479	1 of 1	1	10.21.81	Class C-3 Micro-Fuel Cell (was A4-5542)
A-27480	1 of 1	1	10.21.81	Class E-1 Micro-Fuel Cell (was A4-5543)
A-35786	1 of 1	1	07.12.84	Class A-5 Micro-Fuel Cell (was A4-5545)
A-66201	1 of 1	1	05.28.96	Class L2C Micro-Fuel Cell
A-66613	1 of 1	0	05.28.96	Class L2CI Micro-Fuel Cell
A-66614	1 of 1	0	05.28.96	Class L2CL Micro-Fuel Cell
C-63853	1 to 2	1	11.07.96	Cell Assembly Type TOP4
A-73293	1 to 2	0	12.07.00	PCB Assembly
B-73224	1 to 2	1	12.05.01	Assembly Type TOP2 Model 327RAC, RBC
B-73225	1 to 2	1	12.05.01	Assembly Type TOP2 Model 335X

20 Certificate History

Certificate No.	Date	Comments
BAS01ATEX1421X	20 December 2001	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amds 1 & 2; EN 50020: 1994; and EN 50284: 1999 is documented in Test Report No. 01(C)1040.
BAS01ATEX1421X/1	2 September 2005	To permit the use of the equipment in dust. The associated test and assessment against the requirements of EN 61241-0: 2004; and EN 61241-1: 2004 for Ex tD A65 is documented in Test Report No. 05(C)0187.
BAS01ATEX1421X Issue 2	22 November 2013	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2012 & EN 60079-11: 2012 including the revision of the equipment marking in accordance with these standards. Note: Dust certification and the corresponding condition of safe use have been removed. The associated test and assessment report is 13(C)0550.

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**
3 **Directive 94/9/EC**

3 Supplementary EC - Type **BAS01ATEX1421X/1**
4 Examination Certificate Number:

4 Equipment or Protective System: **Oxygen Probe Types TOP2 and TOP4**

5 Manufacturer: **Teledyne Instruments, Analytical Instruments**

6 Address: **PO Box 1580, California 91749-1580, USA**

7 This supplementary certificate extends EC – Type Examination Certificate No. BAS01ATEX1421X 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.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa (2001) Ltd., Notified Body Number 1180, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

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

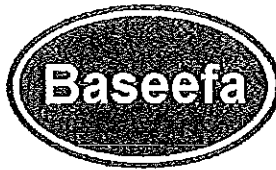
Baseefa Customer Reference No. 1081

Project File No. 05/0187

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
Registered in England No. 4305578 at the above address

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



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Schedule

14

Certificate Number BAS01ATEX1421X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

This supplement applies to the Oxygen Probe, Type TOP4L only and allows the apparatus to be additionally used in hazardous areas containing combustible dust.

The marking of the apparatus is to be extended to include the following:

Ⓔ II 1 GD T65°C EEx ia IIC T6 (-20°C ≤ T_a ≤ +40°C)
EEx tD A65

16 Report Number

05(C)0187

17 Special Conditions for Safe Use

In addition to those listed previously:

1. The gas sample applied to the apparatus via the gas ports must be filtered so as to prevent the ingress of combustible dust into the gas sampling chamber.

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
A- 78176	1 of 1	0	08/19/05	Label Detail Baseefa I.S. Oxygen Probe



EC-TYPE EXAMINATION CERTIFICATE

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

EC-Type Examination Certificate Number : BAS01ATEX1421X

Equipment or Protective System: OXYGEN PROBE TYPES TOP2 AND TOP4

Manufacturer: TELEDYNE ELECTRONIC TECHNOLOGIES / ANALYTICAL
INSTRUMENTS

Address: 16830 Chestnut Street, PO Box 1580, City of Industry, CA 91749-1580, USA

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

The Electrical Equipment Certification Service, notified body number 600 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 N°

01(C)1040 dated 17 December 2001

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 + Amds 1 & 2 EN 50020: 1994 EN 50284: 1999
except in respect of those requirements listed at item 18 of the Schedule.

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

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

II 1 G EEx ia IIC T6 (-20°C ≤ T_a ≤ +40°C)

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

File No: EECS 1081/02/008

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



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I M CLEARE
DIRECTOR
20 December 2001



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX1421X

15

Description of Equipment or Protective System

The Oxygen Probe Types TOP2 and TOP4 is designed to monitor the percentage of oxygen concentration in the range 0 to 21% in air and other atmospheres.

The Oxygen Probe consists of an electrolytic fuel cell and an encapsulated thermistor assembly, housed in a cylindrical enclosure made of brass, stainless steel or plastic. The plastic enclosure is a possible electrostatic risk and carries an appropriate warning label.

Electrical connections are made via a 2 core (Type TOP2) or 4 core (Type TOP4) cable of length not exceeding 2 metre.

The Oxygen Probe Type TOP4 may be modified to use a sensor adapter as an alternative method of connecting the cable to the cell assembly. This version of the Oxygen probe is known as the Type TOP4L.

$$P_i = 2.8W$$

$$C_i = 0$$

$$L_i = 0$$

16

Report No

01(C)1040

17

Special Conditions For Safe Use

1. The version which uses a plastic enclosure, by virtue of its shape, design and position of use, is not considered to be an electrostatic risk, however, the apparatus must not be installed in a position where it may be subjected to an excessive air/fluid flow that may cause an electrostatic build-up. A suitable warning is included on the certification label.

18

Essential Health and Safety Requirements

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by standards listed in Section 9		
Clause	Subject	Compliance
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 01(C)1040 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 01(C)1040 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 01(C)1040 Clause 5.1.2.5
1.2.7	Protection against other hazards	Report No 01(C)1040 Clause 5.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 01(C)1040 Clause 5.1.4.2



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Schedule

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EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX1421X

19

DRAWINGS

Number	Sheet	Issue	Date	Description
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A-27478	1	1	10.21.81	Class C-1 Micro-Fuel Cell (was A4-5536)
A-27479	1	1	10.21.81	Class C-3 Micro-Fuel Cell (was A4-5542)
A-27480	1	1	10.21.81	Class E-1 Micro-Fuel Cell (was A4-5543)
A-35786	1	1	07.12.84	Class A-5 Micro-Fuel Cell (was A4-5545)
A-66201	1	1	05-28-96	Class L2C Micro-Fuel Cell
A-66613	1	0	05-28-96	Class L2CI Micro-Fuel Cell
A-66614	1	0	05-28-96	Class L2CL Micro-Fuel Cell
C-63853	1 & 2	1	11.07.96	Cell Assembly Type TOP4
C-66354	1	0	01.24.97	Cell Assembly Type TOP4L
B-37917	1	2	07.08.96	Probe Assembly Type TOP2
B-37918	1	4	07.08.96	Probe Assembly Type TOP4
A-73293	1 & 2	0	12.07.00	PCB Assembly
B-73224	1 & 2	1	12.05.01	Assembly Type TOP2 Model 327RAC, RBC
B-73225	1 & 2	1	12.05.01	Assembly Type TOP2 Model 335X
A- 37916A	1	7	12.05.01	Certification Label TOP2
A- 37916B	1	7	12.05.01	Certification Label TOP4
A- 67872	1	1	12.05.01	Certification Label TOP4L

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BASEEFA List Keywords
2OXYDETE