

1 **EU - TYPE EXAMINATION CERTIFICATE**

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

3 EU - Type Examination Certificate **BAS02ATEX2303 – Issue 9**  
Number:

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

4 Product: **Trace Oxygen Analyzer Models 311TC, 311PC & 311TCXL**

5 Manufacturer: **Teledyne Analytical Instruments, a business unit of Teledyne Instruments Inc.**

6 Address: **16830 Chestnut Street, City of Industry, CA 91748-1017, USA**

7 This re-issued certificate extends EC - Type Examination Certificate No. BAS02ATEX2303 to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to

8 The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. SGS Baseefa, Notified Body Number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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. **17(C)0575**

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

**EN 60079-0:2012 + A11: 2013 EN 60079-11: 2012**

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

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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

12 The marking of the product shall include the following :

⊕ II 2 G Ex ib IIC T3 Gb

SGS Baseefa Customer Reference No. **1081**

Project File No. **17/0575**

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

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R S SINCLAIR  
TECHNICAL MANAGER

On behalf of SGS Baseefa Limited



13

## Schedule

14

Certificate Number BAS02ATEX2303 – Issue 9

### 15 Description of Product

A Trace Oxygen Analyser Model 311TC is designed to measure the oxygen content of a sample and provide an indication on a built-in meter. It is a portable unit having an aluminium alloy enclosure which houses NiCd rechargeable batteries with current limiting resistors, charging circuit, electronic circuits on printed circuit boards, an oxygen cell, fuses and a charging connector. A “range/on-off/battery check” switch, potentiometer for calibration and a meter are mounted on the front panel.

Note: The rechargeable batteries must only be charged in the non-hazardous (safe) area.

Models 311PC and 311TCXL are similar to the Model 311TC but each has minor circuit and mechanical differences.

### 16 Report Number

17(C)0575

### 17 Specific Conditions of Use

None

### 18 Essential Health and Safety Requirements

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

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

### 19 Drawings and Documents

New drawings submitted for this issue of certificate:

| Number  | Sheet | Issue | Date    | Description   |
|---------|-------|-------|---------|---|
| C-37924 | 1     | 14    | 8/23/17 | Back Panel Subassembly Portable Trace Oxygen analyser, MDL 311TC/PC |
| C-37926 | 1     | 12    | 8/1/17  | P.C. Board Assembly Trace / Percent Oxygen Model 311TC / PC         |
| C-70248 | 1     | 4     | 7/31/17 | Schematic Trace Oxygen Analyser Model 311TCXL                       |
| C-70252 | 1     | 5     | 8/24/17 | Back Panel Sub Ass’y MDL 311TCXL                                    |
| C-70280 | 1     | 4     | 8/1/17  | Assembly PC Board Model 311TCXL                                     |

Current drawings which remain unaffected by this issue:

| Number  | Sheet | Issue | Date     | Description   |
|---------|-------|-------|----------|---|
| B-14159 | 2     | 7     | 4.14.94  | PCB Tracks Component Side   |
| B-14159 | 3     | 7     | 4.14.94  | PCB Tracks Solder Side  |
| C-37936 | 1     | 9     | 2/18/11  | Schematic, Analyzer Trace/Percent Oxygen Model 311TC/PC             |
| D-37927 | 1     | 6     | 10-07-09 | Front Cover Subassy Portable Trace O <sub>2</sub> Anal. Model 311TC |
| D-37928 | 1     | 7     | 10.28.99 | General Assembly 311TC  |
| A-37932 | 1     | 3     | 5.24.94  | Warning Label 311TC   |

| Number    | Sheet | Issue | Date     | Description   |
|-----------|-------|-------|----------|---|
| A-37934   | 1     | 11    | 2/3/14   | Approval Label Trace Oxygen Analyzer Model 311TC                                    |
| B-37937   | 1 & 2 | 6     | 09-11-09 | Battery Subassy Portable Trace O <sub>2</sub> Anal. Model 311TC/PC                  |
| A-37944   | 1     | 3     | 4.12.94  | Battery Label   |
| B41357    | 1     | 5     | 02/10/03 | Rectifier Bridge Assembly   |
| B-41358   | 2     | 2     | 4.14.94  | Diode Tracks Component Side   |
| B-41358   | 3     | 2     | 4.14.94  | Diode Tracks Solder side  |
| A-61361   | 1     | 1     | 5.24.94  | Warning Label 311PC   |
| A-61362   | 1     | 6     | 2/3/14   | Approval Label Trace Oxygen Analyzer Model 311 PC                                   |
| D-61391   | 1     | 3     | 10-08-09 | Front Cover Subassembly Portable Percent Oxygen Analyzer Model 311PC                |
| D-61392   | 1     | 2     | 10.28.99 | General Assembly 311PC  |
| A-69403   | 1     | 0     | 5.8.98   | Identification Label  |
| C-70220   | 1     | 2     | 11/1/10  | PCB Assembly Amplifier Board Model 311  |
| C-70220PL | 1     | 2     | 11/1/10  | PCB Assembly Amplifier Board Model 311 Parts List                                   |
| C-70250   | 1     | 3     | 10-08-09 | Front Cover Subassembly Model 311TCXL   |
| C-70254   | 1     | 1     | 6.6.00   | Case Sub-assy 311TCXL   |
| C-70256   | 1     | 1     | 3.15.00  | General Assembly 311TCXL  |
| A-70275   | 1     | 1     | 3.15.00  | Warning Label 311TCXL   |
| A-70276   | 1     | 5     | 2/3/14   | Approval Label MDL 311TCXL  |
| C-71706   | 1     | 0     | 3.29.00  | PCB Plug-in Amplifier assy C-71706  |
| C-71706PL | 1     | 0     | 3.29.00  | PCB Plug-in Amplifier Parts List C71706   |
| B-75582   | 1     | 1     | 11/30/06 | Transformer Manufacturing Specification Drawing Model 311 TCXL, 311TC, 311PC        |
| B-83256   | 1 & 2 | 0     | 10-08-09 | Battery Subassy (T3 Rating) Portable Trace O <sub>2</sub> Anal. Model 311TC/PC/TCXL |
| A-83260   | 1     | 0     | 10-08-09 | Detail, Label Trace O <sub>2</sub> Analyzer Model 311TC/PC/TCXL                     |

## 20 Certificate History

| Certificate No. | Date             | Comments  |
|-----------------|------------------|---|
| BAS02ATEX2303   | 9 September 2002 | The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997+Amds 1 & 2 and EN 50020:1994 is documented in Test Report No. 00(C)0893. |
| BAS02ATEX2303/1 | 13 March 2003    | To permit minor changes not affecting intrinsic safety. Project Number 03/0152.   |
| BAS02ATEX2303/2 | 16 December 2004 | To permit increased tolerance for some components. Project Number 04/0787.  |
| BAS02ATEX2303/3 | 21 February 2007 | To permit minor electrical changes that do not affect the original certification. Project Number 07/0022.   |
| BAS02ATEX2303/4 | 6 June 2007      | To permit minor electrical changes that do not affect the intrinsic safety assessment. Project Number: 07/0295.   |
| BAS02ATEX2303/5 | 12 February 2008 | To confirm that the current design meets the requirements of EN 60079-0:2006 and EN 60079-11: 2007 including the revision of the equipment marking in accordance with these standards.      |

| Certificate No.       | Date              | Comments   |
|-----------------------|-------------------|--|
| BAS02ATEX2303/6       | 28 October 2009   | To permit minor electrical change that do not affect the original assessment and to permit the use of an alternative battery pack with part No. B-83256 and minor drawing changes. When this battery pack is used, the temperature classification becomes T3. Report Number: 09(C)0745.  |
| BAS02ATEX2303/7       | 19 May 2011       | To permit minor electrical changes that do not affect the original assessment. Project Number: 11/0342.  |
| BAS02ATEX2303/8       | 12 February 2014  | To confirm 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. Report Number 14(C)0104.  |
| BAS02ATEX2303 Issue 9 | 29 September 2017 | This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate, permits minor electrical and mechanical changes that do not affect the intrinsic safety assessment and confirms that the equipment meets the requirements of EN 60079-0:2012+A11:2013. Report number: 17(C)0575. |

For drawings applicable to each issue, see original of that issue.