

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 **BAS02ATEX1001X – Issue 4**
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: **16XXX Flame Sensor**

5 Manufacturer: **FFE Ltd**

6 Address: **9 Hunting Gate, Wilbury Way, Hitchin, Hertfordshire, SG04 0TJ**

7 This re-issued certificate extends EC - Type Examination Certificate No. BAS02ATEX1001X 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. **See Certificate History**

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

EN IEC 60079-0: 2018 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 1 G Ex ia IIC T4 Ga**

SGS Baseefa Customer Reference No. **7221**

Project File No. **18/0349**

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.

SGS Baseefa Limited

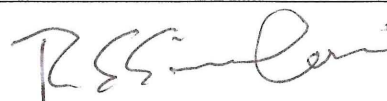
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R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

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Schedule

14

Certificate Number BAS02ATEX1001X – Issue 4

15 Description of Product

The 16XXX Flame Sensor is designed to detect the flicker from a flame or spark. The equipment comprises two printed circuit boards (PCB's), an infra-red detector, light emitting diodes (LED's) and two relays for output signals. All are housed within either a stainless steel or zinc alloy enclosure having a window at the front for the sensor and to permit viewing of the LED's. External electrical connections are made via glands in the enclosure wall and screw type terminals on the main board.

As an option the sensor assembly may be located at the rear of the enclosure by the means of an alternative backplate and a bayonet type fitting which houses the alternative sensor assembly.

The XXX in the equipment title represents characters that describe the different mechanical arrangements of the Flame Sensor and do not affect intrinsic safety.

Input Parameters

Terminals T1 w.r.t. T2 and Terminal T3 w.r.t. T4

$$\begin{aligned}U_i &= 30V & C_i &= 30nF \\I_i &= 100mA & L_i &= 0 \\P_i &= 0.653W\end{aligned}$$

Terminals T5 w.r.t. T6 and Terminal T7 w.r.t. T8

$$\begin{aligned}U_i &= 30V & C_i &= 0 \\I_i &= 100mA & L_i &= 0\end{aligned}$$

Output Parameters

Terminals T5 w.r.t. T6 and Terminal T7 w.r.t. T8

$$U_o = 0$$

16 Report Number

See Certificate History

17 Specific Conditions of Use

1. Model with alloy enclosures must be protected against impact or abrasion if located in an area classified Zone 0.

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, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	Protection against other hazards (LVD type requirements, etc.)
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
A1/1468/01	1 & 2	C	18/12/18	General Arrangement for ATEX Flame Sensor

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
A4/1275/06	1 of 1	A	7/2/97	Series 12500, Dual Cell PCB, Circuit Diagram, Rear Viewing
A2/1468/02	1 of 1	A	August 05, 2002	ATEX – Flame Sensor, Circuit Diagram, (Front PCB)
A4/1468/03	1 of 1	B	07-05-2013	ATEX – Flame Sensor, Circuit Diagram (Main PCB)
A4/1468/04	1 of 1	D	24/09/2014	Part Number & Serial Number Label for ATEX I.S. Sensor
A4/1468/05	1 of 1	A	23.08.02	General Arrangement of Cell Mounting for Rear Viewing ATEX Sensor
1700/099.DRLDWG	1 of 1	A	August 2002	Drilling Diagram, Front PCB
1700/099.TOP	1 of 1	A	August 2002	Artwork, Top, Front PCB
1700/099.SSBOT	1 of 1	A	August 2002	Component Layout, Bottom, Front PCB
1700/099.BOT	1 of 1	A	August 2002	Artwork, Bottom, Front PCB
1700/098.DRLDWG	1 of 1	A	August 2002	Drilling Diagram, Main PCB
1700/098.SSTOP	1 of 1	A	August 2002	Component Layout, Top, Main PCB
1700/098.TOP	1 of 1	A	August 2002	Artwork, Top, Main PCB
1700/098.INNER1	1 of 1	A	August 2002	Artwork, Inner Layer 1, Main PCB
1700/098.PWR	1 of 1	A	August 2002	Artwork, Inner Layer PWR, Main PCB
1700/098.GND	1 of 1	A	August 2002	Artwork, Inner Layer GND, Main PCB
1700/098.INNER2	1 of 1	A	August 2002	Artwork, Inner Layer 2, Main PCB
1700/098.SSBOT	1 of 1	A	August 2002	Component Layout, Bottom, Main PCB
1700/098.BOT	1 of 1	A	August 2002	Artwork, Bottom, Main PCB
GS34	1 to 3	A	07-06-13	PCB Modification for Conventional, 'IS' Flame Sensor

20 Certificate History

Certificate No.	Date	Comments
BAS02ATEX1001	9 September 2002	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 Certification Report No. 01(C)0937.
BAS02ATEX1001/1	9 May 2008	The equipment was reviewed against the requirements of EN 60079-0: 2006, EN 60079-11: 2007 and EN 60079-26: 2007 in respect of the differences from EN 50014: 1997 + Amds. 1 & 2, EN 50020: 1994 and EN 50284: 1999 and none of the differences affect the equipment. The associated test and assessment is documented in Certification Report No. 08(C)0086, Project File No. 08/0086.

Certificate No.	Date	Comments
BAS02ATEX1001/2	10 July 2013	To permit optional modification of the equipment as detailed in controlled document GS34, which details the addition of a wire link and the cutting of another track. The associated test and assessment is documented in Certification Report No. 13(C)0391, Project File No. 13/0391.
BAS02ATEX1001/3 X	19 February 2015	<p>To confirm the equipment has been assessed against the requirements of EN 60079-0: 2012 + A11: 2013 and EN 60079-11: 2012 in respect of the differences from EN 60079-0: 2006, EN 60079-11: 2007 and EN 60079-26: 2007.</p> <p>In accordance with the requirements of EN 60079-0: 2012 + A11: 2013, the equipment is now marked with a 'X' and a Specific Condition of use regarding the protection of models of the equipment with alloy enclosures against impact or abrasion when located in Zone 0 location.</p> <p>All variants of the equipment are now marked: -</p> <p>⊕ II 1G Ex ia IIC T4 Ga</p> <p>Project File No. 14/0993</p>
BAS02ATEX1001X Issue 4	22 January 2019	<p>This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the equipment meets the requirements of EN IEC 60079-0: 2018 and EN 60079-11: 2012.</p> <p>This issue of the certificate also permits: -</p> <ul style="list-style-type: none"> i) The correction of the equipment model number from 016XXX to 16XXX Flame Sensor. ii) The increase of the P_i of the equipment from 0.65W to 0.653W not affecting the previous assessment. iii) To permit the use of alternative enclosure design and materials. The changes to the enclosure are assessed not to affect the previous assessment. <p>The associated test and assessment is documented in Certification Report No. 18(C)0349, Project File No. 18/0349.</p>
For drawings applicable to each issue, see original of that issue.		