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 Number: **BAS02ATEX1001 – Issue 5**

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, United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. BAS02ATEX1001 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 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by The Electrical Equipment Certification Service (UK Notified Body 0600). It, and any supplements previously issued by SGS Baseefa Ltd (UK Notified Body 1180) have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

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:

Ex II 1 G Ex ia IIC T4 Ga

SGS Fimko Oy Customer Reference No. **7221** Project File No. **23/0601**

SGS Fimko Oy
Takomotie 8
FI-00380 Helsinki, Finland
Telephone +358 9 696 361
www.sgs.com
Business ID 0634247-4 Member of the SGS Group (SGS SA)

FINAS
Finnish Accreditation Service
S003 (EN ISO/IEC 17065)

Mikko Välimäki
SGS Fimko Oy

13 # Schedule

14 ## Certificate Number BAS02ATEX1001 – Issue 5

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, T2, T3 and T4

U_i = 30V C_i = 0.03µF

I_i = 100mA L_i = 0

P_i = 0.653W

Terminals T5, T6, T7 and T8

U_i = 30V C_i = 0

I_i = 100mA L_i = 0

Pi = 0.427W

Output Parameters

Terminals T5, T6, T7 and T8

U_o = 0

16 Report Number

See Certificate History

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
1.2.7	Protection against other hazards (LVD type requirements, etc.)	Standards require manufacturer's declaration, supplied.
1.2.8	Overloading of equipment (protection relays, etc.)	Covered by installation rules and manufacturer's instructions
1.4.1	External effects	The Purchaser should make the manufacturer aware of such issues. Covered in Instructions
1.4.2	Aggressive substances, etc.	The Purchaser should make the manufacturer aware of such issues. Covered in Instructions

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
48-0001	1 of 1	01	13/08/2025	General Arrangement for ATEX Ex i Flame Detectors
A4/1468/03-3	1 to 3	3	13/08/2025	Talentum 16000, IR3 IS Main PCBA circuit Diagram
A4/1468/04	1 of 1	F	02/07/2025	Part Number & Serial Number Label for ATEX I.S. 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)
A4/1468/05	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

Drawings associated and held with ATEX Certificate No. BAS02ATEX1001 Iss. 5

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.
BAS02ATEX1001/3X	19 February 2015	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. 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. All variants of the equipment are now marked: - Ⓔx II 1G Ex ia IIC T4 Ga Project File No. 14/0993
BAS02ATEX1001X Issue 4	22 January 2019	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. This issue of the certificate also permits: - 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. The associated test and assessment is documented in Certification Report No. 18(C)0349, Project File No. 18/0349.
BAS02ATEX1001 Issue 5	10 September 2025	This issue of the certificate permits: 1. electrical component changes. 2. changes in the product label. 3. change in entity parameters. 4. minor mechanical change to remove Specific Conditions of Use. The associated test and assessment is documented in Certification Report No. 23(C)0601, Project File No. 23/0601.
For drawings applicable to each issue, see original of that issue.		