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: **Baseefa04ATEX0251X – Issue 6**

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: **TP**-*-* Series Surge Protection Devices**

5 Manufacturer: **Eaton Electric Limited**

6 Address: **Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa04ATEX0251X 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 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, 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.

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 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 :

Ⓔx II 1G Ex ia IIC T4 / T5 / T6 Ga (-40°C ≤ T_a ≤ See Schedule)

Ⓔx II 1D Ex ia IIIC T135°C / T100°C / T85°C Da (-40°C ≤ T_a ≤ See Schedule)

SGS Baseefa Customer Reference No. **0703** Project File No. **16/0371**

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa04ATEX0251X – Issue 6**

15 Description of Product

The TP**-*-* Series Surge Protection Devices are designed to provide protection for sensitive electronic equipment, and are intended to be mounted within a Hazardous Area.

Within the TP48-*-* Series Surge Protection Devices, three different wiring configurations are available, TP48-2W (2-wire,) TP48-3W (3-wire) and TP48-4W (4-wire). All units have the same safety input parameters for intrinsic safety purposes. Each unit has two, three or four active connections and an earth connection, but all connections must form part of the same intrinsically safe circuit.

The TP32-*-* Series Surge Protection Devices provides a further configuration which has three active connections and an earth connection but all connections must form part of the same intrinsically safe circuit. The TP32-*-* unit has the same safety input parameters as the TP48-*-* for intrinsic safety purposes.

The TP**-*-* Series units comprise various combinations which include three-terminal gas discharge tubes, voltage dependant resistors, silicon avalanche diodes, and a diode bridge circuit mounted on a printed circuit board. Each of these assemblies is encapsulated within a tubular metal enclosure, sealed at one end. The open end is provided with a threaded stub intended for screwing into the wall of other apparatus, which may be a flameproof enclosure. The connection wires emerge from the encapsulation and are intended to be terminated within the enclosure. Various different thread forms are available denoted by the suffix N, I or G, to the type number.

The type number TP	**	-*	-*	
	48/32	-*	-*	Nominal surge protection voltage
	**	- /3/4		Two, three or four wire connections and an earth
	**	-*	-N/I/G	Differing thread forms

For T6 / T85°C the operating ambient temperature range is (-40°C ≤ T_a ≤ 60°C).
For T5 / T100°C the operating ambient temperature range is (-40°C ≤ T_a ≤ 80°C)

TP48-*-* or TP32-*-* Series Surge Protection Devices Parameters

U_i = 60V
P_i = 1.2W
C_i = 0
L_i = 0

U_o = U_i
I_o = I_i
P_o = P_i

The TP32-T-* Series Surge Protection Devices provide a FISCO termination unit within the TP32-*-* Series Surge Protection Devices denoted by the suffix "T", i.e. TP32-T-* with the "*" options of the differing thread forms -N/I/G as above.

The TP32-T-* Series Surge Protection Devices provides a further configuration within the series which has three active connections and an earth connection but all connections must form part of the same intrinsically safe circuit.

The TP32-T-* Surge Protection Device has been designed as a terminator to meet the requirements of **either** the Fieldbus Intrinsically Safe Concept (FISCO) **or** may be used within any other intrinsically safe circuit.

TP32-T-* Surge Protection Device for use within a FISCO System, Parameters:-

U_i = 17.5V
I_i = 380mA
P_i = 5.32W
C_i = 0
L_i = 0

U_o = U_i
I_o = I_i
P_o = P_i
For T4 / T135°C the operating ambient temperature range is ($-40°C \leq T_a \leq 60°C$)

TP32-T-* Surge Protection Device for use within any other intrinsically safe circuit, Parameters:-

U_i = 30V
I_i = 380mA
P_i = 1.2W For T6 / T85°C the operating ambient temperature range is ($-40°C \leq T_a \leq 60°C$)
P_i = 1.2W For T5 / T100°C the operating ambient temperature range is ($-40°C \leq T_a \leq 80°C$)
P_i = 5.32W For T4 / T135°C the operating ambient temperature range is ($-40°C \leq T_a \leq 60°C$)
C_i = 0
L_i = 0

U_o = U_i
I_o = I_i
P_o = P_i

The TP24/7-N-NDI, TP24/7-I-NDI and TP24/7-G-NDI Surge Protection Devices, are based on the Model TP48-4-** and have four wire connections and an earth. The central letter of the model number denoting the different thread forms.

The Models TP24/7-*-NDI are marked as shown in section 12 above.

For T6 / T85°C the operating ambient temperature range is ($-40°C \leq T_a \leq 60°C$).
For T5 / T100°C the operating ambient temperature range is ($-40°C \leq T_a \leq 80°C$)

The Parameters for the Surge Protection Devices Models TP24/7-*-NDI are:-

U_i = 60V
P_i = 1.2W
C_i = 0
L_i = 0

U_o = U_i
I_o = I_i
P_o = P_i

16 Report Number

See Certificate History

17 Specific Conditions of Use

1. The apparatus is to be installed such that the flying leads are afforded a degree of protection of at least IP54.

2. Although all the TP**-*-* Series Surge Protection Devices covered by this certificate will meet the 500V test to the metal case, the electrical circuits within the Series Surge Protection Devices are not capable of withstanding the 500V test to the Green/Yellow wire for one minute without breakdown. This must be taken into consideration in any installation

3. These devices are not provided with an external connection facility for an earthing or bonding conductor. Adequate earth continuity via the mounting arrangement must be ensured.

4. This apparatus is also afforded Flameproof Certification to Baseefa04ATEX0053X and IECEx BAS 15.0056X and is dual marked. On installation the relevant protection concept must be permanently marked on the apparatus in the space provided.

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	Compliance
1.2.7	Protection against other hazards (LVD type requirements, etc.)	Manufacturer responsibility
1.2.8	Overloading of equipment (protection relays, etc.)	User/Installer responsibility
1.4.1	External effects	User/Installer responsibility
1.4.2	Aggressive substances, etc.	User/Installer responsibility

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
1100438*	1 of 6	G	8.16	TP** Certification Drawing for ATEX – Index sheet
1100438**	2 of 6	G	8.16	TP** ATEX Marking
1100438*	3 of 6	G	8.16	TP** Circuit Diagram
1100438*	4 of 6	G	8.16	TP** Internal Components
1100438*	5 of 6	G	8.16	TP** Enclosure
1100438*	6 of 6	G	8.16	TP** Full Assembly

The above drawings marked * are associated and held with IECEx BAS 07.0045X Issue 7, and also associated with IECEx BAS 15.0056X Issue 1 and Baseefa04ATEX0053X Issue 6.

The above drawing marked ** is also associated with Baseefa04ATEX0053X Issue 6.

Current drawings which remain unaffected by this issue:

None

20 Certificate History

Certificate No.	Date	Comments
Baseefa04ATEX0251X	27 September 2004	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997+A1 & A2, EN 50020:2002; EN 50284:1999 is documented in Test Report No. 04(C)0056, held with Baseefa04ATEX0251X.
Baseefa04ATEX0251X/1	20 February 2005	To permit the introduction of three further Surge Protection Devices, Models TP24/7-N-NDI, TP24/7-I-NDI and TP24/7-G-NDI. This change has been reflected in section 15 above.
Baseefa04ATEX0251X/2	2 December 2008	To permit the introduction of an alternative manufacturing location and minor changes to the certification marking.

Certificate No.	Date	Comments
Baseefa04ATEX0251X/3	17 September 2010	To permit minor changes to the specification of the enclosure material which does not affect the original assessment.
Baseefa04ATEX0251X/4	28 February 2012	The range of TP**-*-* Series Surge Protection Devices covered by this certificate have been re-examined against the requirements of IEC60079-0:2011 and EN60079-11:2012 for both Gas hazards and Dust hazards. The associated assessment is documented in Certification Report No. 12(C)0105, held with Baseefa04ATEX0251X.
Baseefa04ATEX0251X/5	13 August 2015	To permit minor changes to the common ATEX/ IECEx drawings which do not affect the original intrinsic safety assessment. The range of TP**-*-* Series Surge Protection Devices covered by this certificate have been re-examined against the requirements of EN60079-0:2012+A11:2013 and EN60079-11:2012 for both Gas hazards and Dust. The associated assessment is documented in Certification Report No. GB/BAS/ExTR15.0172/00, held with IECEx BAS 07.0045X.
Baseefa04ATEX0251X Issue 6	22 November 2017	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current designs meet the requirements of EN 60079-0: 2012 + A11: 2013 & EN 60079-11: 2012. The certificate also permits the manufacturer's name to be changed on page 1 of the certificate and on the equipment marking. The associated assessment is documented in Certification Report No. GB/BAS/ExTR16.0288/00, held with IECEx BAS 07.0045X.
For drawings applicable to each issue, see original of that issue.		