1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Safety Device, Controlling Device or Regulating Device intended for use outside a potentially explosive atmosphere but required for or contributing to the safe functioning of Equipment and Protective Systems with respect to the risks of explosion**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa08ATEX0082 – Issue 4**

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: **MTL5501-SR Failsafe Switch / Proximity Detector Interface**

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. Baseefa08ATEX0082 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 :

⟨Ex⟩ **II (1) GD** **[Ex ia Ga] IIC (-20°C ≤ T_a ≤ +60°C)**
[Ex ia Da] IIIC (-20°C ≤ T_a ≤ +60°C)

⟨Ex⟩ **I (M1)** **[Ex ia Ma] I (-20°C ≤ T_a ≤ +60°C)**

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

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R S SINCLAIR pp D BRADLEY
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa08ATEX0082 – Issue 4**

15 Description of Product

The MTL5501-SR Failsafe Switch / Proximity Detector Interface is designed to provide an interface between unspecified non-hazardous area apparatus and an intrinsically safe circuit in the hazardous area. The apparatus is intended to provide a galvanically isolated fail-safe safe-area output whilst monitoring a fail-safe proximity switch detector located in the hazardous area. Line Fault Detection (LFD) in the apparatus is provided by volt-free relay contact output on the non-hazardous area side of the apparatus. Two transformers and a relay provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The apparatus comprises two isolating transformers, a relay, fuses, zener diodes and resistors to provide voltage and current limitation. The above, together with other electronic components are mounted on a printed circuit board and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for hazardous and non-hazardous area connections. LED indication is provided for power-on, the output status and line fault detection.

Input / Output Parameters

Non-Hazardous Area Terminals 7, 8, 10, 11, 13 & 14)

U_m = 253V r.m.s.

The circuit connected to non-hazardous area terminals 13 & 14 is designed to operate from a d.c. supply voltage of up to 35V.

The non-hazardous area terminals 10 & 11 are connected to relay contacts which can switch up to 253V r.m.s, 2A r.m.s and 100VA.

Hazardous Area Terminals 1 & 2

U_o = ± 9.7V C_i = 0
I_o = 30mA L_i = 0
P_o = 0.07W

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected must not exceed the following values:

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR L/R RATIO (µH/ohm)
IIC	3.5	39	475
IIB*	24	145	1,829
IIA	170	299	3,093
I	320	501	6,414

* Group IIB parameters also applicable for associated apparatus [Ex ia Da] IIIC

Notes:

1) The above load parameters apply when one of the two conditions below is given:
- the total L_i of the external circuit (excluding the cable) is < 1% of the L_o value or
- the total C_i of the external circuit (excluding the cable) is < 1% of the C_o value.

2) The above parameters are reduced to 50% when both of the two conditions below are given:
- the total L_i of the external circuit (excluding the cable) is ≥ 1% of the L_o value and
- the total C_i of the external circuit (excluding the cable) is ≥ 1% of the C_o value.

The reduced capacitance of the external circuit (including cable) shall not be greater than 1µF for Groups IIB, IIA & I and 600nF for Group IIC.

16 Report Number

GB/BAS/ExTR16.0238/00

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, 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
CI5501-1	1 of 1	3	7.16	MTL5501 Certification Label Details & DIN Rail Fittings - Baseefa

The above drawing is associated and held with IECEx BAS 08.0032 Iss. 5

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI4501-1	1 of 6	2	4.14	Parts List for the MTL4501-SR and MTL5501-SR
CI4501-1	2 of 6	1	03.08	Certification Diagram for MTL4501-SR MTL5501-SR
CI4501-1	3 of 6	1	5.08	MTL4501 Track Layout
CI4501-1	4 of 6	2	1.13	MTL4501 Component Layout
CI4501-1	5 of 6	1	4.08	PCB Detail for TPL308
CI4500-3	1 of 1	1	12.10	MTL4500 & MTL5500 – Alternative Zener Diodes (Panjit)
CI4500-5	1 of 1	1	11.10	MTL5500 – Alternative DIN Rail Mechanism
CI4500-6	1 of 1	1	20.12.10	MTL4500 & MTL5500 – Conformal Coating
CI4500-7	1 of 1	2	1.11	MTL4500 Relay Encapsulant
CI5500-100	1 of 1	3	1.13	New 5500 Outline

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 08.0032

20 Certificate History

Certificate No.	Date	Comments
Baseefa08ATEX0082	16 July 2008	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2006, EN 60079-11: 2007 and EN 61241-11: 2006 is documented in Certification Test Report No. GB/BAS/ExTR08.0065/00.
Baseefa08ATEX0082/1	31 January 2011	To permit: - i) The fitting of alternative relays on the equipment. ii) The alternative fitting of 1SMB3EZ** zener diodes in place of 1SMB59**BT3 components currently fitted. iii) An alternative method of applying the conformal coating to the PCB fitted in the equipment not affecting the original assessment. iv) The use of an alternative DIN rail mechanism not affecting the original assessment. v) To confirm the current design of the MTL5501-SR has been reviewed against the requirements of EN 60079-0: 2009 in respect of the differences from EN 60079-0: 2006, and with exception of the marking, none of the differences affect the equipment. In accordance with the requirements of EN 60079-0: 2009, the equipment markings were revised to include the Equipment Protection Level (EPL) markings. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR11.0001/00.
Baseefa08ATEX0082/2	28 March 2014	i) To permit minor drawing changes not affecting the original assessment. ii) To confirm the current design of the MTL5501-SR has been reviewed against the requirements of EN 60079-0: 2012 and EN 60079-11: 2012 in respect of the differences from EN 60079-0: 2009, EN 60079-11: 2007 & EN 61241-11: 2006 and none of the differences affect the equipment. In accordance with EN 60079-11: 2012, the Group I capacitive load parameters were corrected and the associated load parameter notes were updated. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR14.0065/00.
Baseefa08ATEX0082/3	25 April 2014	To permit a minor component change not affecting the original assessment. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR14.0133/00.
Baseefa08ATEX0082 Issue 4	5 October 2016	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 + 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/ExTR16.0238/00.
For drawings applicable to each issue, see original of that issue.		