

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 **Baseefa15ATEX0196 – Issue 1**
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: **MTL5582B Resistance Isolator**

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. Baseefa15ATEX0196 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 :

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

⊕ 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 *PPORREMLEY*
TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

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Schedule

14

Certificate Number Baseefa15ATEX0196 – Issue 1

15 Description of Product

The MTL5582B Resistance Isolator is designed to restrict the transfer of energy from unspecified non-hazardous area equipment to a Resistance Temperature Device (RTD) or other resistance located in the hazardous area by limitation of voltage and current. A transformer and opto-isolator provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The MTL5582B Resistance Isolator is designed for the connection to a 2-wire, 3-wire or 4-wire RTD or other resistance situated in the hazardous area. The equipment repeats the resistance on the non-hazardous area output terminals for connection to a monitoring system.

The equipment comprises an isolating transformer, opto-isolator, duplicated zener diodes and current limiting resistors to provide voltage and current limitation. The above, together with other electronic components are mounted on a single printed circuit board (PCB) and housed in a moulded plastic enclosure. Polarised plugs and sockets are provided for hazardous and non-hazardous area connections. A jack socket is provided for connection of a suitably certified data terminal for programming the equipment. An LED is fitted to provide power on indication.

Input / Output Parameters

Non-hazardous Area Terminals 9, 10, 11, 12, 13 & 14

$$U_m = 253V \text{ r.m.s.}$$

The apparatus is designed to operate on non-hazardous area terminals 9, 10, 11, 12, 13 & 14 from a d.c. supply voltage of up to 35V.

Hazardous Area Terminals 1, 3, 4 & 5

$$\begin{array}{ll} U_o = 6.51V & C_i = 0 \\ I_o = 10mA & L_i = 0 \\ P_o = 16.1mW & \end{array}$$

Hazardous Area Terminals 1, 3 & 4

$$\begin{array}{ll} U_o = 6.51V & C_i = 0 \\ I_o = 6mA & L_i = 0 \\ P_o = 9.2mW & \end{array}$$

Hazardous Area Terminals 3 w.r.t. 1

$$\begin{array}{ll} U_o = 1.2V & U_i = 5V \\ I_o = 4mA & C_i = 0 \\ P_o = 1.2mW & L_i = 0 \end{array}$$

Although the apparatus does not comply with the simple apparatus requirements of Clause 5.7 of EN 60079-11: 2012, when terminals 3 w.r.t. 1 are connected in an intrinsically safe circuit the internal stored energy, voltage and current of the interface will not add more than the values specified in Clause 5.7 of EN 60079-11: 2012 to the parameters of the circuit into which it is connected.

Programming / Configuration Port (Jack Socket)

$U_o = 6.68V$	$U_i = 9.1V$
$I_o = 12mA$	$C_i = 0$
$P_o = 17.7mW$	$L_i = 0$

Load Parameters

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

GROUP	CAPACITANCE (μF)	INDUCTANCE (mH)	OR	L/R RATIO ($\mu H/\Omega$)
Hazardous area terminals 1, 3, 4 & 5				
IIC	22.0	61.2		894
IIB*	500	244.8		3,576
IIA	1,000	489.7		3,651
I	1,000	803.4		3,651
Hazardous area terminals 1, 3 & 4				
IIC	22.0	71.4		966
IIB*	500	285.9		3,378
IIA	1,000	571.9		3,378
I	1,000	938.4		3,378
Hazardous area terminals 3 w.r.t. 1				
IIC	100	1,000		3,333
IIB*	1,000	1,000		3,333
IIA	1,000	1,000		3,333
I	1,000	1,000		3,333
Programming / Configuration Port (Jack Socket)				
IIC	0.478	79.4		448
IIB*	2.88	317.9		1,412
IIA	11.6	635.8		1,412
I	15.8	1,000		1,412

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

Notes:

- 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.
- 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 $\geq 1\%$ of the L_o value and
 - the total C_i of the external circuit (excluding the cable) is $\geq 1\%$ of the C_o value.

The reduced capacitance of the external circuit (including cable) shall not be greater than $1\mu F$ 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
CI5582B-5	1 of 1	2	7.16	MTL5582B Certification Label Details & DIN Rail Fittings – Baseefa – Ex i

The above drawing is associated and held with IECEx BAS 15.0139 Iss. 1

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI4582B-1	1 & 2	1	2.16	Certification drawing for MTL4582B
CI4582B-2	1 to 3	1	2.16	MTL4582B Parts List
CI4582B-3	1 of 1	1	2.16	MTL4582B Track Layout
CI4582B-4	1 of 1	1	2.16	MTL4582B Component Layout
CI4582B-7	1 of 1	1	9.15	PCB Detail for TPL301
CI5500-100	1 of 1	3	1.13	New MTL 5500 Outline

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 15.0139

20 Certificate History

Certificate No.	Date	Comments
Baseefa15ATEX0196	14 March 2016	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2012 + A11: 2013 and EN 60079-11: 2012 is documented in Certification Test Report No. GB/BAS/ExTR15.0300/00.
Baseefa15ATEX0196 Issue 1	5 October 2016	This issue of the certificate 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.		