

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: **Baseefa18ATEX0087 – Issue 1**

4 Product: **MTL5553 Foundation Fieldbus Isolator / Power Supply**

5 Manufacturer: **Eaton Electric Limited**

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

7 This re-issued certificate extends EU Type Examination Certificate No. Baseefa18ATEX0087 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 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) 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. **18/0742**

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa18ATEX0087 – Issue 1

15 Description of Product

The MTL5553 Foundation Fieldbus Isolator / Power Supply is designed to restrict the transfer of energy from unspecified non-hazardous area equipment to Fieldbus equipment located in the hazardous area by limitation of voltage and current. Two transformers and an opto-isolator provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The MTL5553 Foundation Fieldbus Isolator / Power Supply is designed for the connection to Fieldbus devices situated in the hazardous area. The equipment provides power and communication to the Fieldbus devices through the signal conductors for connection to a Fieldbus Network located in the non-hazardous area. Terminals are also provided on the hazardous area side of the equipment to permit the connection of a suitably certified Fieldbus Communicator to permit diagnostics of the Fieldbus network.

The equipment comprises two isolating transformers, an 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. An LED is fitted to provide power on indication.

I/O Parameters

Non-Hazardous Area Terminals 8, 9, 11, 12, 13 & 14

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

The circuit connected to non-hazardous area terminals 8, 9, 11, 12, 13 & 14 is designed to operate from a d.c. supply voltage of up to 35V.

Hazardous Area Terminals 2 / 5 w.r.t. 1 / 4

$$\begin{array}{ll} U_o = 22V & C_i = 0 \\ I_o = 216mA & L_i = 0 \\ P_o = 1.2W & \end{array}$$

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to the hazardous area terminals 2/5 w.r.t. 1/4 must not exceed the following values: -

GROUP	CAPACITANCE (μ F)	INDUCTANCE (mH)	OR	L/R RATIO (μ H/ohm)
IIC	0.165	0.26		29
IIB*	1.14	0.79		119
IIA	4.2	2.12		239
I	6.0	9.54		392

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

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.

- 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 $\geq 1\%$ 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 $1\mu\text{F}$ for Groups IIB, IIA & I and 600nF for Group IIC.

The values of L_o and C_o determined by this method shall not be exceeded by the sum of all of the L_i plus cable inductances in the circuit and the sum of all of the C_i plus cable capacitances respectively.

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, 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
CI5553-1	1 of 1	2	11.18	MTL5553 Fieldbus Isolator Power Supply Parts List
CI5553-3	1 of 1	2	11.18	MTL5553 Track Layout

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 18.0060 Iss. 1

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI5553-2	1 of 1	1	08.18	MTL5553 Fieldbus Isolator Power Supply Assembly
CI5553-4	1 of 1	1.0	8.18	MTL5553 Component Layout
CI5553-5	1 of 1	1	10.18	MTL5553 Certification Label Details and DIN Rail Fitting - Baseefa
CI5553-6	1 of 1	1	7.18	MTL5553 Isolator Power Supply Transformer Winding Details
CI4000-1	1 & 2	2	11.92	MTL 4000 Series 2-Core I.S. Transformer
CI5500-100	1 of 1	3	1.13	New 5500 Outline

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 18.0060

20 Certificate History

Certificate No.	Date	Comments
Baseefa18ATEX0087	10 October 2018	The release of the prime certificate. The associated test and assessment against the requirements of EN IEC 60079-0: 2018 & EN 60079-11: 2012 is documented in Certification Report No. GB/BAS/ExTR18.0190/00, held with IECEX Certificate No. IECEX BAS 18.0060 Iss. 0, Project File No. 18/0437.
Baseefa18ATEX0087 Issue 1	10 December 2018	This issue of the certificate permits minor component and PCB changes not affecting the original assessment. The assessment is documented in Certification Report No. GB/BAS/ExTR18.0303/00, held with IECEX Certificate No. IECEX BAS 18.0060 Iss. 1, Project File No. 18/0742.

For drawings applicable to each issue, see original of that issue.