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: **Baseefa15ATEX0034 – Issue 1**

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: **MTL4541YA Single Channel Current Repeater, 4/20mA Passive Input for Smart Transmitters**

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. Baseefa15ATEX0034 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 (1) GD**	**[Ex ia Ga] IIC (-20°C ≤ T_a ≤ +60°C)**
	[Ex ia Da] IIIC (-20°C ≤ T_a ≤ +60°C)
Ⓔx **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
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 # Schedule

14 ## Certificate Number Baseefa15ATEX0034 – Issue 1

15 Description of Product

The MTL4541YA Single Channel Current Repeater, 4/20mA Passive Input for Smart Transmitters is designed to repeat a current signal from a separately powered 4/20mA transmitter located in the hazardous area to unspecified equipment location in the non-hazardous area, whilst restricting the transfer of energy from the unspecified non-hazardous area equipment to the intrinsically safe equipment by means of voltage and current limitation. The equipment also allows bi-directional signal communication between the hazardous and non-hazardous area by connection of a hand-held communicator (HHC).

The equipment comprises two isolating transformers that provide galvanic isolation between the hazardous and non-hazardous area circuitry, fuses, diodes, zener diodes and resistors providing 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 plug and sockets are provided for hazardous and non-hazardous area connections. The equipment is fitted with a power-on LED indication.

Input / Output Parameters

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

U_m = 253V

The apparatus is designed to operate on the above terminals from a d.c. supply voltage of up to 35V.

Hazardous Area Terminals 2 w.r.t. 1

U_o	=	8.6V (Diode)	C_i	=	0
I_o	=	0	L_i	=	0
P_o	=	0			

This output voltage does not contribute to the short circuit spark risk, but must be considered for the calculation of load capacitance.

Although the apparatus does not itself comply with the simple apparatus requirements of Clause 5.7 of IEC 60079-11: 2011, when the hazardous area terminals 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 IEC 60079-11: 2011 to the parameters of the circuit into which it is connected.

The hazardous area terminals are also considered suitable for the connection of an external intrinsically safe source with a U_o = 30V and I_o = 100mA having a source resistance of U_o/I_o connected to hazardous area terminals 2 w.r.t. 1. The capacitance and either the inductance or inductance to resistance ratio (L/R) of the hazardous area cable must not exceed the values as detailed in the original schedule or the certificate relating to the external intrinsically safe source.

Load Parameters

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

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR L/R RATIO (µH/ohm)
IIC	6.2	5.01	1,351
IIB*	55	20.06	5,406
IIA	1,000	40.12	10,813
I	1,000	65.82	17,740

* 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/ExTR16.0237/00

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
CI4541YA-7	1 of 1	2	7.16	MTL4541YA Certification Label Details – Baseefa – Ex i

The above drawing is associated and held with IECEx BAS 15.0016 Iss. 1

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI4500-100	1 of 1	2	1.13	MTL 4500 Case
CI4541YA-1	1 & 2	1	11.14	Certification Diagram for MTL4541YA
CI4541YA-2	1 & 2	1	10.14	MTL4541YA Parts List
CI4541YA-3	1 of 1	1	11.14	Track Layout for MTL4541YA
CI4541YA-4	1 & 2	1	10.14	MTL4541YA Component Layout

Number	Sheet	Issue	Date	Description
CI4541YA-5	1 of 1	1	10.14	PCB Detail for TPL300
CI4541YA-6	1 of 1	1	10.14	PCB Detail for TPL301

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 15.0016

20 Certificate History

Certificate No.	Date	Comments
Baseefa15ATEX0034	24 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/ExTR15.0038/00.
Baseefa15ATEX0034 Issue 1	26 September 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/ExTR16.0237/00.
For drawings applicable to each issue, see original of that issue.		