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: **Baseefa03ATEX0006X – 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: **MTL831B Analogue Multiplexer**

5 Manufacturer: **Eaton Electric Limited**
(formerly Measurement Technology Limited)

6 Address: **Great Marlings, Butterfield, Luton, Bedfordshire LU2 8DL**
(formerly Luton, Bedfordshire, LU1 3JJ)

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa03ATEX0006X 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 Ga (-20°C ≤ T_a ≤ +60°C)

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

SGS Baseefa Limited
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail baseefa@sgs.com web site www.sgs.co.uk/baseefa
Registered in England No. 4305578.
Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

pp D R EARLEY CERTIFICATION MANAGER

R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa03ATEX0006X – Issue 1**

15 Description of Product

The MTL831B Analogue Multiplexer is designed to simultaneously monitor up to sixteen resistive temperature devices (RTD's), thermocouples or millivolts sensors. The Multiplexer comprises two printed circuit boards housed inside a plastic enclosure which is fitted with terminals for external connection

Terminals H1+, H2+, H1- and H2-

U_i = 30V
I_i = 300mA
P_i = 1.2W
C_i = 0
L_i = 0

Each pair of terminals I1± to I16±, CUR± and 100R± terminals

U_o = 15V
I_o = 16.3mA
P_o = 60mW
C_i = 0
L_i = 0

The above outputs may be considered as separate intrinsically safe circuits

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the output of each pair of I1± to I16±, CUR± and 100R± terminals must not exceed the following values:

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR	L/R RATIO (µH/ohm)
IIC	0.58	127		535
IIB	3.55	486		1087
IIA	14.00	903		1087

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 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 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

None.

17 Specific Conditions of Use

1. The equipment is housed within a plastic enclosure. Suitable precautions must be made to avoid rubbing or cleaning with solvents.

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
1.4.1	External effects	The Purchaser should make the manufacturer aware of such issues.
1.4.2	Aggressive substances, etc.	The Purchaser should make the manufacturer aware of such issues.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
CI831-2	1 of 8	5	1.18	MTL831B Analogue Multiplexer Transmitter Contents Sheet
CI831-2	7 of 8	3	1.18	MTL831B Analogue Multiplexer Transmitter – General Assembly Drawing & Label

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI831-2	2A of 8	3	12.02	MTL831B Analogue Multiplexer Transmitter Parts List
CI831-2	2B of 8	2	10.95	MTL831B Analogue Multiplexer Transmitter Parts List
CI831-2	2C of 8	2	10.95	MTL831B Analogue Multiplexer Transmitter Parts List
CI831-2	3 of 8	2	10.95	MTL831B Digital Multiplexer Transmitter and Power Supply, Circuit Diagram
CI831-2	4 of 8	3	02.01	MTL831B Analogue Multiplexer Transmitter Circuit Diagram
CI831-2	5 of 8	4	2.01	MTL831B Analogue Multiplexer Transmitter Component Layout & Track Pattern
CI831-2	6 of 8	3	02.03	MTL831B Digital Multiplexer Transmitter Component Layout & Track Pattern
CI831-2	8A of 8	1	3.95	MTL831B Analogue Multiplexer Transmitter Transformer Details
CI831-2	8B of 8	1	3.95	3F3 Soft Potted Transformer TFR251

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0006X	14 March 2003	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amds 1 & 2, EN 50020: 2002 & EN 50284: 1999 is documented in Certification Report No. 02(C)0197.

Certificate No.	Date	Comments
Baseefa03ATEX0006X Issue 1	12 February 2018	This issue of the certificate confirms the current design meets the requirements of EN 60079-0: 2012 + A11: 2013 & EN 60079-11: 2012 including the revision of the equipment marking and updating of the load parameters notes in accordance with these standards. This issue of the certificate also permits the changing of the company name and address on the certificate and equipment marking. Project File No. 16/0371.
For drawings applicable to each issue, see original of that issue.		