

1 **UK-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 Product and Protective Systems with respect to the risks of explosion**  
**UKSI 2016:1107 (as amended) – Schedule 3A, Part 1**

3 UK-Type Examination Certificate Number: **BAS21UKEX0565**

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

5 Manufacturer: **Eaton Electric Limited**

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

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 SGS Baseefa, Approved Body number 1180, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

The examination and test results are recorded in confidential Report No. **21(C)0386/39**

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 UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations 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<sub>a</sub> ≤ +60°C)  
[Ex ia Da] IIIC (-20°C ≤ T<sub>a</sub> ≤ +60°C)

⊕ I (M1) [Ex ia Ma] I (-20°C ≤ T<sub>a</sub> ≤ +60°C)

SGS Baseefa Customer Reference No. **0703**

Project File No. **21/0386**

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R S SINCLAIR  
TECHNICAL MANAGER  
On behalf of SGS Baseefa Limited

**13 Schedule**

**14 Certificate Number BAS21UKEX0565**

**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

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

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	INDUCTANCE	OR	L/R RATIO
	( $\mu\text{F}$ )	(mH)		( $\mu\text{H}/\text{ohm}$ )
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  $600\text{nF}$  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

21(C)0386/39

## 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:

Clause	Subject	Compliance
13	Protection against other hazards (LVD type requirements, etc.)	Manufacturer responsibility
14	Overloading of equipment (protection relays, etc.)	User/Installer responsibility
22(1)	External effects	User/Installer responsibility
22(2)	Aggressive substances, etc.	User/Installer responsibility

## 19 Drawings and Documents

Number	Sheet	Issue	Date	Description
CI5553-5	1 of 1	2	8.21	MTL5553 Certification Label Details and DIN rail fittings - Baseefa

For other current drawings not re-submitted for this assessment see Baseefa18ATEX0087.