

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: **BAS21UKEX0473**

4 Product: **MTL4575 Temperature Converter**

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)0386/24**

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**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.sgs.com/SGSBaseefa/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**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](mailto:baseefa@sgs.com) web site  
[www.sgs.co.uk/sgsbaseefa](http://www.sgs.co.uk/sgsbaseefa)  
Registered in England No. 4305578.  
Registered address: Rossmore Business Park, Ellesmere Port, Cheshire,  
CH65 3EN



*R S Sinclair*

R S SINCLAIR  
TECHNICAL MANAGER  
On behalf of SGS Baseefa Limited

13 Schedule

14 Certificate Number BAS21UKEX0473

15 Description of Product

The MTL4575 Temperature Converter is designed to restrict the transfer of energy from unspecified non-hazardous area apparatus to either thermocouples or RTD's 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 MTL4575 Temperature Converter is designed for connection to thermocouples or two, three or four wire RTD's situated in the hazardous area. The apparatus converts the low level d.c. signal from the sensor mounted in the hazardous area into a 4/20mA current for driving a load in the non-hazardous area. An optional cold junction compensation plug can be fitted to the hazardous area connections, which alter the internal connections and affects the output parameters.

The apparatus comprises an isolating transformer, an opto-isolator, duplicated zener diodes chains and current limiting resistors to provide voltage and current limitation. The above, together with other electronic components are mounted on a 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 the connection of a suitably certified data terminal for programming the apparatus.

**Input/Output 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 1 to 6 (forming part of the same intrinsically safe circuit)

$$\begin{aligned} U_o &= 6.6V \\ I_o &= 76mA \\ P_o &= 0.13W \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

Hazardous Area Terminals 3 w.r.t. 1 (WITHOUT the Cold Junction Compensation (CJC) plug fitted)

$$\begin{aligned} U_o &= 1.1V \\ I_o &= 7mA \\ P_o &= 2mW \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

Hazardous Area Terminals 3, 2 & 1 (with or without the CJC plug fitted)

$$\begin{aligned} U_o &= 6.6V \\ I_o &= 10mA \\ P_o &= 17mW \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

Programming / Configuration Port (Jack Socket)

$$\begin{aligned} U_o &= 8V & U_i &= 9.1V \\ I_o &= 14.6mA & C_i &= 0 \\ P_o &= 26mW & L_i &= 0 \end{aligned}$$

**Load Parameters**

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the hazardous area load connected to hazardous area terminals 1 to 6 and the programming / configuration port of the apparatus must not exceed the following values:

GROUP	CAPACITANCE ( $\mu\text{F}$ )	INDUCTANCE (mH)	OR	L/R RATIO ( $\mu\text{H}/\text{ohm}$ )
Hazardous Area Terminals 1 to 6				
IIC	22	6.42		288
IIB*	500	25.6		1,057
IIA	1,000	53.0		2,228
I	1,000	77.2		3,402
Programming / Configuration Port (Jack Socket)				
IIC	0.367	153		349
IIB*	2.15	591		1,355
IIA	8.8	1,000		1,453
I	12.32	1,000		1,453

\* 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.
- 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.

**16 Report Number**

21(C)0386/24

**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
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**

<b>Number</b>	<b>Sheet</b>	<b>Issue</b>	<b>Date</b>	<b>Description</b>
CI4575-1	6 of 6	5	8.21	MTL4575 Certification Label Details - BASEEFA

These drawings are held with BAS21UKEX0473 (prime).

For other current drawings not re-submitted for this assessment, see Baseeefa06ATEX0200 - Issue 6