IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BAS 07.0072 issue No.:4

Status: **Current**

Date of Issue: **2016-10-05** Page 1 of 4

Certificate history:
Issue No. 4 (2016-10-5)
Issue No. 3 (2014-3-28)
Issue No. 2 (2011-1-31)
Issue No. 1 (2009-5-6)
Issue No. 0 (2007-12-20)

Applicant:
Eaton Electric Limited
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

Equipment: **MTL5575 Temperature Converter**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking:
[Ex ia Ga] IIC
[Ex ia Da] IIIC
[Ex ia Ma] I
-20°C ≤ Ta ≤ +60°C

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair PP OBREARLEY

Position: Technical Manager

Signature:
(for printed version)

Date: 7/10/16

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:
SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom

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Manufacturer:

Eaton Electric Limited
Great Marlings
Butterfield
Luton
Bedfordshire
LU2 8DL
United Kingdom

Additional Manufacturing location(s):

MTL Instruments PVT Limited
No 3 Old Mahabalipuram Road
Sholinganallur
Chennai
India

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
GB/BAS/ExTR07.0132/00 GB/BAS/ExTR10.0297/00 GB/BAS/ExTR14.0065/00
GB/BAS/ExTR16.0238/00

Quality Assessment Report:

GB/BAS/QAR06.0022/06 GB/BAS/QAR07.0017/05

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The MTL5575 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-isolators provide galvanic isolation between the hazardous and non-hazardous area circuitry.

The MTL5575 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 alters the internal connections and affects the output parameters.

The apparatus comprises an isolating transformer, opto-isolators, duplicated zener diode 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.

See annex for electrical data.

CONDITIONS OF CERTIFICATION: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 4.1

To permit the manufacturer's name to be changed on the certificate and equipment marking. No other changes are made to the equipment design.

ExTR: **GB/BAS/ExTR16.0238/00**	File Reference: **16/0371**

Annex: IECEx BAS 07.0072 Annex Issue 1.pdf

SGS Baseefa Limited
Rockhead Business Park
Staden lane, Buxton, Derbyshire
SK17 9RZ
United Kingdom

ANNEX to IECEx BAS 07.0072 Issue No. 1 Date: 2014/03/28

MTL5575 Temperature Converter

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

U_m = 253V 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)

U_o = 6.6V C_i = 0
I_o = 76mA L_i = 0
P_o = 0.13W

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

U_o = 1.1V C_i = 0
I_o = 7mA L_i = 0
P_o = 2mW

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

U_o = 6.6V C_i = 0
I_o = 10mA L_i = 0
P_o = 17mW

Programming / Configuration Port (Jack Socket)

U_o = 8V U_i = 9.1V
I_o = 14.6mA
P_o = 26mW
C_i = 0
L_i = 0

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

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR L/R RATIO (µH/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:

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.