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 05.0010 issue No.:4	Certificate history: Issue No. 4 (2016-10-26) Issue No. 3 (2015-12-7) Issue No. 2 (2009-5-6) Issue No. 1 (2005-6-1)
Status:	**Current**	
Date of Issue:	**2016-10-26** Page 1 of 4	

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

Equipment: **MTL5314 Standard I.S. Trip Amplifier Supply**
Optional accessory:

Type of Protection: **Intrinsic Safety**

Marking: **[Ex ia Ga] IIC**
(-20°C ≤ Ta ≤ +60°C)

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

Position: Technical Manager

Signature:
(for printed version)

Date: 26-10-16

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

IECEx ATR:	File Reference:
UK/BAS/04/0866/3	**04/0866**
GB/BAS/ExTR15.0307/00	**15/0695**
GB/BAS/ExTR16.0310/00	**16/0371**

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Schedule

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

The MTL5314 Standard I.S. Trip Amplifier Supply is designed to connect to a 2 or 3-Wire 4/20mA Transmitter or current source in the hazardous area. It supplies two configurable alarm signals via changeover relay to the non-hazardous area.

The MTL5314 Standard I.S. Trip Amplifier Supply comprises an isolating transformer and two opto-isolators providing galvanic isolation between the hazardous and non-hazardous area circuitry and zener diode / resistor combination to provide voltage and current limitation. The above, together with other electronic components are mounted on a printed circuit board and housed in a plastic enclosure. Polarised plugs and sockets are provided for hazardous and non-hazardous area connections to make incorrect inter-connection improbable.

For apparatus parameters see data in Annex.

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/ExTR16.0310/00** File Reference: **16/0371**

Annex: IECEx BAS 05.0010 Annex Iss 1.pdf

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

ANNEX to IECEx BAS 05.0010 Issue No. 1 Date: 2015/12/7

MTL5314 Standard I.S. Trip Amplifier Supply

Non-Hazardous Area Terminals 7 to 9, Terminals 10 to 12 & Terminals 13 & 14)

U_m = 250V r.m.s.

The apparatus is designed to operate from a d.c. supply of up to 35V on Terminals 13 & 14.

Terminals 7 to 9 and Terminals 10 to 12 associated with the relay contacts must be limited to either 250V a.c. or 125V d.c. 100VA maximum.

Hazardous Area Terminals 1, 2 & 3

U_o = 28V C_i = 0
I_o = 93mA L_i = 0
P_o = 0.65W

Hazardous Area Terminal 1 w.r.t. 3

U_o = 1.0V C_i = 0
I_o = 88mA L_i = 0
P_o = 22mW

Although the apparatus does not comply with the simple apparatus requirements of Clause 5.7 of IEC 60079-11: 2011, when terminals 1 w.r.t. 3 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.

Load Parameters

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

GROUP	CAPACITANCE (µF)	INDUCTANCE (mH)	OR	L/R RATIO (µH/ohm)
Hazardous Area Terminals 1, 2 & 3				
IIC	0.083	4.2		54
IIB	0.65	12.6		218
IIA	2.15	33.6		436
Hazardous Area Terminals 1 w.r.t. 3				
IIC	100	5		1,615
IIB	1000	20		6,462
IIA	1000	40		12,925

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.